PORT EVERGLADES FRANCHISE APPLICATION

An application will not be deemed complete and ready for processing until all required documents and fees are received.

A separate application must be filed for each type of franchise applied for.

FRANCHISE TYPE
CHECK ONE

☐ STEAMSHIP AGENT ☐ STEVEDORE

☐ CARGO HANDLER ☐ TUGBOAT & TOWING ☑ VESSEL BUNKERING

☐ VESSEL OILY WASTE REMOVAL ☐ VESSEL SANITARY WASTE WATER REMOVAL

☐ MARINE TERMINAL SECURITY **FIREARMS CARRYING SECURITY PERSONNEL** ☐ MARINE TERMINAL SECURITY **NON-FIREARMS CARRYING SECURITY PERSONNEL**

Note: Applicant is the legal entity applying for the franchise. If the Applicant is granted the franchise, it will be the named franchisee. All information contained in this application shall apply only to the Applicant, and not to any parent, affiliate, or subsidiary entities.

Applicant's Name Shell NA LNG LLC
(Name as it appears on the certificate of incorporation, charter, or other legal documentation as applicable, evidencing the legal formation of the Applicant)

Applicant's Business Address The Corporation Trust Company, 1209 Orange Street, Corpo
Number / Street City/State/Zip

Phone # ( ) ______ E-mail address ______@______

Fax #: ( ) ______

Name of the person authorized to bind the Applicant (Person's signature must appear on Page 13.)

Name Orlando Alvarado

Title Vice President - Commercial; SNALNG

Business Address 1000 Main Street, 11th Floor, Houston, TX 77002
Number / Street City/State/Zip

Phone # ( ) ______ E-mail address orlando.alvarado@shell.co

Fax #: ( ) ______

Provide the Name and Contact Information of Applicant's Representative to whom questions about this application are to be directed (if different from the person authorized to bind the Applicant):

Representative's Name Cedric Kegels

Representative's Title TL Commercial Operations

Representative's Business Address 1000 Main, 12th Floor, Houston, TX, 77002
Number / Street City/State/Zip

Representative's Phone # ( ) +1 713 230 1916

Representative's E-mail address GX-TR-SNALNG-OPS@shell.com

Representative's Fax # ( ) ______

PLEASE COMPLETE THIS APPLICATION AND LABEL ALL REQUIRED BACKUP DOCUMENTATION TO CLEARLY IDENTIFY THE SECTION OF THE APPLICATION TO WHICH THE DOCUMENTATION APPLIES (I.E...., SECTION A, B, C, etc.).

Section A

1. List the name(s) of Applicant's officers, including, CEO, COO, CFO, director(s), member(s), partner(s), shareholder(s), principal(s), employee(s), agents, and local representative(s) active in the management of the Applicant.

Officers:

Title President and Chief Executive Officer
First Name Jill Middle Name
Last Name Davies
Business Street Address 1000 Main, 12th Floor, 12TH FLOOR, Houston, Harris,
City, State, Zip Code TX, 77002
Phone Number ( ) +1-713-230-4301 Fax Number ( )
Email Address Jill.Davies @ shell.com.

Title Director
First Name Carolyn Middle Name
Last Name Comer
Business Street Address 1000 Main, 12th Floor, 12TH FLOOR, Houston, Harris, Unite
City, State, Zip Code TX, 77002
Phone Number ( ) +17132305189 Fax Number ( )
Email Address Carolyn.Comer @ shell.com.

Title Director
First Name Mitchell B. Middle Name
Last Name Ice,
Business Street Address 1000 Main, 12th Floor, 12TH FLOOR, Houston, Harris, Unite
City, State, Zip Code TX, 77002
Phone Number ( ) +18323372712 Fax Number ( )
Email Address Mitchell.Ice @ shell.com.

Title Director
First Name Eileen Middle Name
Last Name Perillo
Business Street Address 1000 Main, 12th Floor, 12TH FLOOR, Houston, Harris, Unite
City, State, Zip Code TX, 77002
Phone Number ( ) +17132301837 Fax Number ( )
Email Address Eileen.Perillo @ shell.com.

Attach additional sheets if necessary.

2. RESUMES: Provide a resume for each officer, director, member, partner, shareholder, principal, employee, agent, and local representative(s) active in the management of the Applicant, as listed above.Resume already Shared

Additional Officer - Orlando Alvarado, Vice President Commercial.

Section B

1. Place checkmark to describe the Applicant:
   ☐ Sole Proprietorship ☐ Corporation ☐ Partnership ☐ Joint Venture ☑ Limited Liability Company

2. Provide copies of the documents filed at the time the Applicant was formed including Articles of Incorporation (if a corporation); Articles of Organization (if an LLC); or Certificate of Limited Partnership or Limited Liability Limited Partnership (if a partnership). If the Applicant was not formed in the State of Florida, provide a copy of the documents demonstrating that the Applicant is authorized to conduct business in the State of Florida.

Section C

1. Has there been any change in the ownership of the Applicant within the last five (5) years? (e.g., any transfer of interest to another party)
   Yes___ No ✓ If "Yes," please provide details in the space provided. Attach additional sheets if necessary.

2. Has there been any name change of the Applicant or has the Applicant operated under a different name within the last five (5) years?
   Yes___ No ✓ If "Yes," please provide details in the space provided, including: Prior name(s) and Date of name change(s) filed with the State of Florida's Division of Corporations or other applicable state agency. Attach additional sheets if necessary.

3. Has there been any change in the officers, directors, executives, partners, shareholders, or members of the Applicant within the past five (5) years?
   Yes ✓ No___ If "Yes," please provide details in the space provided, including:
   Prior officers, directors, executives, partners, shareholders, members
   Name(s) ______________________________
   New officers, directors, executives, partners, shareholders, members
   Name(s) Jill Davies, Carolyn Comer, Mitchell B. Ice, Eileen Perillo
   Also supply documentation evidencing the changes including resolution or minutes appointing new officers, list of new principals with titles and contact information, and effective date of changes. Attach additional sheets if necessary.

Section D

Provide copies of all fictitious name registrations filed by the Applicant with the State of Florida's Division of Corporations or other State agencies. If none, indicate "None" None.

Section E

1. Has the Applicant acquired another business entity within the last five (5) years?
   Yes___ No ✓ If "Yes," please provide the full legal name of any business entity which the Applicant acquired during the last five (5) years which engaged in a similar business activity as the business activity which is the subject of this Port Everglades Franchise Application.
   If none, indicate "None"_________.

2. Indicate in the space provided the date of the acquisition and whether the acquisition was by a stock purchase or asset purchase and whether the Applicant herein is relying on the background and history of the acquired firm's officers, managers, employees and/or the acquired firm's business reputation in the industry to describe the Applicant's experience or previous business history. Attach additional sheets if necessary.

3. Has the Applicant been acquired by another business entity within the last five (5) years? Yes___
   No ✓ If "Yes," provide the full legal name of any business entity which acquired the Applicant during the last five (5) years which engaged in a similar business activity as the business activity which is the subject of this Port Everglades Franchise Application.
   If none, indicate "None"_________.

4. Indicate in the space provided the date of the acquisition and whether the acquisition was by a stock purchase or asset purchase and whether the Applicant herein is relying on the background and history of the parent firm's officers, managers, employees and/or the parent firm's business reputation in the industry to describe the Applicant's experience or previous business history. Attach additional sheets if necessary.

Section F

Provide the Applicant's previous business history, including length of time in the same or similar business activities as planned at Port Everglades.

Section G

1. Provide a list of the Applicant's current managerial employees, including supervisors, superintendents, and forepersons. Cedric Kegels; Keith Higginbotham

2. List the previous work history/experience of the Applicant's current managerial employees, including their active involvement in seaports and length of time in the same or similar business activities as planned at Port Everglades. No Changes - Already Have CVs

Section H

List all seaports, including Port Everglades (if application is for renewal), where the Applicant is currently performing the services/operation which is the subject of this Franchise application. **Use this form for each seaport listed. Photocopy additional pages as needed (one page for each seaport listed).**

If none, state "None" ________________.

Seaport Port Canaveral / Port Miami Number of Years Operating at this Seaport 3.5

List below all of the Applicant's Clients for which it provides services at the seaport listed above.

Client Name (Company)	Number of Years Applicant has Provided Services to this Client
Carnival Cruise Line	4.5 years
Seaboard Marine	3 years
MSC Cruises S.A	2 months

Section I

1. Provide a description of all past (within the last five (5) years) and pending litigation and legal claims where the Applicant is a named party, whether in the State of Florida or in another jurisdiction, involving allegations that Applicant has violated or otherwise failed to comply with environmental laws, rules, or regulations or committed a public entity crime as defined by Chapter 287, Florida Statutes, or theft-related crime such as fraud, bribery, smuggling, embezzlement or misappropriation of funds or acts of moral turpitude, meaning conduct or acts that tend to degrade persons in society or ridicule public morals.

The description must include all of the following:

a) The case title and docket number

b) The name and location of the court before which it is pending or was heard

c) The identification of all parties to the litigation

d) General nature of all claims being made

If none, indicate "None" None________.

2. Indicate whether in the last five (5) years the Applicant or an officer, director, executive, partner, or a shareholder, employee or agent who is or was (during the time period in which the illegal conduct or activity took place) active in the management of the Applicant was charged, indicted, found guilty or convicted of illegal conduct or activity (with or without an adjudication of guilt) as a result of a jury verdict, nonjury trial, entry of a plea of guilty or nolo contendere where the illegal conduct or activity (1) is considered to be a public entity crime as defined by Chapter 287, Florida Statutes, as amended from time to time, or (2) is customarily considered to be a white-collar crime or theft-related crime such as fraud, smuggling, bribery, embezzlement, or misappropriation of funds, etc. or (3) results in a felony conviction where the crime is directly related to the business activities for which the franchise is sought.

Yes___ No ✓

If you responded "Yes," please provide all of the following information for each indictment, charge, or conviction:

a) A description of the case style and docket number

b) The nature of the charge or indictment

c) Date of the charge or indictment

d) Location of the court before which the proceeding is pending or was heard

e) The disposition (e.g., convicted, acquitted, dismissed, etc.)

f) Any sentence imposed

g) Any evidence which the County (in its discretion) may determine that the Applicant and/or person found guilty or convicted of illegal conduct or activity has conducted itself, himself or herself in a manner as to warrant the granting or renewal of the franchise.

Section J

The Applicant must provide a current certificate(s) of insurance. Franchise insurance requirements are determined by Broward County's Risk Management Division and are contained in the Port Everglades Tariff No. 12 as amended, revised or reissued from time to time. The Port Everglades Tariff is contained in the Broward County Administrative Code, Chapter 42, and is available for inspection on line at: http://www.porteverglades.net/development/tariff.

See attached documents.

Section K

1. The Applicant must provide its most recent audited or reviewed financial statements prepared in accordance with generally accepted accounting principles, or other documents and information which demonstrate the Applicant's creditworthiness, financial responsibility, and resources, which the Port will consider in evaluating the Applicant's financial responsibility.
   https://reports.shell.com/annual-report/2024/consolidated-financial-statements.html
2. Has the Applicant or entity acquired by Applicant (discussed in Section E herein) sought relief under any provision of the Federal Bankruptcy Code or under any state insolvency law filed by or against it within the last five (5) year period?
   Yes___ No ✓
   If "Yes," please provide the following information for each bankruptcy or insolvency proceeding:
   a) Date petition was filed or relief sought
   b) Title of case and docket number
   c) Name and address of court or agency
   d) Nature of judgment or relief
   e) Date entered

3. Has any receiver, fiscal agent, trustee, reorganization trustee, or similar officer been appointed in the last five (5) year period by a court for the business or property of the Applicant?
   Yes___ No ✓
   If "Yes," please provide the following information for each appointment:
   a) Name of person appointed
   b) Date appointed
   c) Name and address of court
   d) Reason for appointment

4. Has any receiver, fiscal agent, trustee, reorganization trustee, or similar officer been appointed in the last five (5) year period by a court for any entity, business, or property acquired by the Applicant?
   Yes___ No ✓
   If "Yes," please provide the following information for each appointment:
   a) Name of person appointed
   b) Date appointed
   c) Name and address of court
   d) Reason for appointment

Section L

List four (4) credit references for the Applicant, one of which must be a bank. Use this format:
Name of Reference ____________________ Nature of Business ______________
Contact Name ______________________ Title _______________
Legal Business Street Address ______________________________
City, State, Zip Code ______________________________
Phone Number (__)_______________
(Provide on a separate sheet.)

Section M

1. Security: Pursuant to Port Everglades Tariff 12, Item 960, all Franchisees are required to furnish an Indemnity and Payment Bond or Irrevocable Letter of Credit drawn on a U.S. bank in a format and an amount not less than $20,000 as required by Broward County Port Everglades Department.

2. Has the Applicant been denied a bond or letter of credit within the past five (5) years?

   Yes___ No ✓

   If "Yes," please provide a summary explanation in the space provided of why the Applicant was denied. Use additional sheets if necessary.

Section N

1. Provide a list and description of all equipment currently owned and/or leased by the Applicant and intended to be used by the Applicant for the type of service(s) intended to be performed at Port Everglades including the age, type of equipment and model number.
   QLNG 4000; ATB; IMO # USCG-1284183; Flag United States
   Clean Everglades ATB IMO# 1339686, Flag United States
2. Identify the type of fuel used for each piece of equipment.
   Fuel type: Diesel
3. Indicate which equipment, if any, is to be domiciled at Port Everglades.
4. Will all equipment operators be employees of the Applicant, on the payroll of the Applicant, with__ges, t ✓ s, benefits, and insurance paid by the Applicant?

   Yes___ No___

   If "No," please explain in the space provided who will operate the equipment and pay wages, taxes, benefits, and insurance, if the franchise is granted. Use additional sheets if necessary. QLNG

Section O

Provide a copy of the Applicant's current Broward County Business Tax Receipt (formerly Occupational License).

Section P

1. Provide a copy of Applicant's safety program.
2. Provide a copy of Applicant's substance abuse policy.
3. Provide a copy of Applicant's employee job training program/policy.
4. Provide information regarding frequency of training.
5. Include equipment operator certificates, if any.

Section Q

1. Has the Applicant received within the past five (5) years or does the Applicant have pending any citations, notices of violations, warning notices, or fines from any federal, state, or local environmental regulatory agencies?
   Yes___ No ✓

2. Has the Applicant received within the past five (5) years or does the Applicant have pending any citations, notices of violations, warning notices, or civil penalties from the U.S. Coast Guard?
   Yes___ No ✓

3. Has the Applicant received within the past five (5) years or does the Applicant have pending any citations, notices of violations, warning notices, or fines from the Occupational Safety and Health Administration?
   Yes___ No ✓

If you responded "Yes" to any of this section's questions 1, 2, or 3 above, please provide a detailed summary for each question containing the following information:
a) Name and address of the agency issuing the citation or notice
b) Date of the notice
c) Nature of the violation
d) Copies of the infraction notice(s) from the agency
e) Disposition of case
f) Amount of fines, if any
g) Corrective action taken
Attach copies of all citations, notices of violations, warning notices, civil penalties and fines issued by local, state, and federal regulatory agencies, all related correspondence, and proof of payment of fines.

4. Provide a statement (and/or documentation) which describes the Applicant's commitment to environmental protection, environmental maintenance, and environmental enhancement in the Port. https://www.shell.com/who-we-are

Section R

Provide written evidence of Applicant's ability to promote and develop growth in the business activities, projects or facilities of Port Everglades through its provision of the services (i.e., stevedore, cargo handler or steamship agent) it seeks to perform at Port Everglades. For first-time applicants (stevedore, cargo handler and steamship agent), the written evidence must demonstrate Applicant's ability to attract and retain new business such that, Broward County may determine in its discretion that the franchise is in the best interests of the operation and promotion of the port and harbor facilities. The term "new business" is defined in Chapter 32, Part II of the Broward County Administrative Code as may be amended from time to time.

https://www.shell.com/what-we-do/oil-and-natural-gas/liquefied-natural-gas-lng/lng-in-shipping.html

If you have checked an Applicant box for VESSEL BUNKERING, VESSEL OILY WASTE REMOVAL, VESSEL SANITARY WASTE WATER REMOVAL, OR MARINE TERMINAL SECURITY, the following additional information is required:

☑ **VESSEL BUNKERING**

Section T- A Letter of Adequacy from the U.S. Coast Guard and a copy of the applicant's operations manual approved by the U.S. Coast Guard.
Section V- A copy of the applicant's Oil Spill Contingency Plan for Marine Transportation Related Facilities approved by the U.S. Coast Guard.
Section W- A Terminal Facility Discharge Prevention and Response Certificate with a copy of an approved Oil Spill Contingency Plan from the Florida Dept. of Environmental Protection.
Section Z- An approved Discharge Cleanup Organization Certificate from the Florida Dept. of Environmental Protection which has been issued to the applicant or to its cleanup contractor with a copy of the cleanup contract showing the expiration date.

☐ **VESSEL OILY WASTE REMOVAL**

Section S - Certificate of Adequacy in compliance with the Directives of MARPOL 73/75 and 33 CFR 158, if applicable.
Section T- A Letter of Adequacy from the U.S. Coast Guard and a copy of the Applicant's operations manual approved by the U.S. Coast Guard.
Section U- A Waste Transporter License from the Broward County Environmental Protection Department identifying the nature of the discarded hazardous (or non-hazardous) material to be transported.
Section V- A copy of the Applicant's Oil Spill Contingency Plan for Marine Transportation Related Facilities approved by the U.S. Coast Guard.
Section W- A Terminal Facility Discharge Prevention and Response Certificate with a copy of an approved Oil Spill Contingency Plan from the Florida Dept. of Environmental Protection.
Section X- A Used Oil Collector, Transporter, and Recycler Certificate from the Florida Dept. of Environmental Protection.
Section Y- An Identification Certificate from the U.S. Environmental Protection Agency.
Section Z- An approved Discharge Cleanup Organization Certificate from the Florida Dept. of Environmental Protection which has been issued to the Applicant or to its cleanup contractor with a copy of the cleanup contract showing the expiration date.

☐ **VESSEL SANITARY WASTE WATER REMOVAL**

Section U- A Waste Transporter License from the Broward County Environmental Protection Department identifying the nature of the discarded hazardous (or non-hazardous) material to be transported.
Section Z1- A copy of the Applicant's operations manual.
Section Z2- A Septage Receiving Facility Waste Hauler Discharge Permit from the Broward County Water and Wastewater Services Operations Division.

☐ **MARINE TERMINAL SECURITY**

Section N1- A list of all metal detection devices, walk-through and hand held, as well as all luggage and carryon x-ray machines owned or leased, to be used or domiciled at Port Everglades. Listing must include brand name and model.
Section N2- A copy of all manufacturers recommended service intervals and name of company contracted to provide such services on all aforementioned equipment.
Section N3- A description of current method employed to assure all equipment is properly calibrated and functioning.

Section N4- current training requirements and training syllabus for employees operating x-ray equipment. Highlight emphasis on weapon and contraband identification. Include equipment operator certificates, if any.

Section O1- Provide copies of all local, state and federal licenses, including:

a. A copy of the Applicant's State of Florida Business License.

b. A copy of security agency's Manager's "M" or "MB" License and a copy of the security agency's "B" or "BB" License issued by the Florida Department of Agriculture and Consumer Services.

Section P3- <u>SECURITY GUARDS / SUPERVISORS</u>

a. Provide Applicant's background requirements, education, training etc., for personnel hired as security guards. Training requirements in 33 CFR 105.210 for marine facilities.

b. Provide historic annual turnover ratio for security guards.

c. Provide a copy of Applicant's job training program/policy including a copy of training curriculum and copies of all manuals and take-home materials made available to security guards. Include information regarding frequency of training.

d. Provide background requirements, experience, licensing and any and all advanced training provided to supervisory personnel.

e. Provide present policy for individual communication devices either required of security guards or supplied by the employer.

f. Provide procurement criteria and source as well as Applicant's certification requirements for K-9 workforce.

g. Provide information on the number of security guards / supervisors currently employed or expected to be employed to provide security services at Port Everglades.

Supervisors _____________
Class D Guards_____________
Class G Guards_____________
K-9 Handlers _____________

Port Everglades Tariff 12

References to the Port Everglades Tariff 12 as amended or reissued: http://www.porteverglades.net/development/tariff

Application Fees

The following fees have been established for franchised businesses at Port Everglades. Initial processing fees are nonrefundable. A franchise is required for each category of business.

Stevedore
Initial processing fee, assignment fee, or reinstatement fee $ 11,550.00
Annual Fee
$ 4,200.00

Cargo Handler
Initial processing fee, assignment fee, or reinstatement fee $ 11,550.00
Annual Fee
$ 4,200.00

Steamship Agent
Initial processing fee, assignment fee, or reinstatement fee $ 4,200.00
Annual Fee
$ 2,360.00

Tugboat and Towing
Initial processing fee, assignment fee, or reinstatement fee $ 27,300.00
Annual Fee
By Contract

Vessel Bunkering, Vessel Oily Waste Removal, Vessel Sanitary Waste Water Removal, Marine Terminal Security Service
Initial processing fee, assignment fee, or reinstatement fee $ 4,200.00
Annual Fee
$ 2,360.00

For first-time franchise Applicants, both the initial application fee and the annual fee must be submitted at time of application. Thereafter, annual franchise fees are due and payable each year on the franchise anniversary date, which is defined as the effective date of the franchise.

Note: Check(s) should be made payable to:
BROWARD COUNTY BOARD OF COUNTY COMMISSIONERS and be mailed with this application to:
Port Everglades Business Development Division
1850 Eller Drive, Fort Lauderdale, FL 33316

Required Public Hearing

Staff review of this application will not commence until such time as all of the above requested information and documentation has been provided and the franchise application has been determined by staff to be complete. All of the above requested information and Sections are required to be completed prior to the scheduling of the public hearing. Staff will request that the Broward County Board of County Commissioners set a public hearing to consider the franchise application and hear comments from the public. The Applicant will be notified of the Public Hearing date and is welcome to attend the Public Hearing.

By signing and submitting this application, Applicant certifies that all information provided in this application is true and correct. Applicant understands that providing false or misleading information on this application may result in the franchise application being denied, or in instances of renewal, a franchise revoked. Applicant hereby waives any and all claims for any damages resulting to the Applicant from any disclosure or publication in any manner of any material or information acquired by Broward County during the franchise application process or during any inquiries, investigations, or public hearings.

Applicant further understands that if there are any changes to the information provided herein (subsequent to this application submission) or to its officers, directors, senior management personnel, or business operation as stated in this application, Applicant agrees to provide such updated information to the Port Everglades Department of Broward County, including the furnishing of the names, addresses (and other information as required above) with respect to persons becoming associated with Applicant after its franchise application is submitted, and any other required documentation requested by Port Everglades Department staff as relating to the changes in the business operation. This information must be submitted within ten (10) calendar days from the date of any change made by the Applicant.

Applicant certifies that all workers performing functions for Applicant who are subject to the Longshore and Harbor Workers' Act are covered by Longshore & Harbor Workers' Act, Jones Act Insurance, as required by federal law.

This application and all related records are subject to Chapter 119, F.S., the Florida Public Records Act.

By its execution of this application, Applicant acknowledges that it has read and understands the rules, regulations, terms and conditions of the franchise it is applying for as set forth in Chapter 32, Part II, of the Broward County Administrative Code as amended, and agrees, should the franchise be granted by Broward County, to be legally bound and governed by all such rules, regulations, terms and conditions of the franchise as set forth in Chapter 32, Part II, of the Broward County Administrative Code as amended.

The individual executing this application on behalf of the Applicant, personally warrants that s/he has the full legal authority to execute this application and legally bind the Applicant.

Signature of Applicant's Authorized Representative DocuSigned by: Orlando Alvarado 6694988313B04AC... Date Signed May 21, 2025

Signature name and title - typed or printed Orlando Alvarado VP- Commercial

Witness Signature (*Required*) DocuSigned by: Maria Perez F82E019B11864DB...

Witness name-typed or printed Maria Perez

Witness Signature (*Required*) DocuSigned by: 07D77B1BB9AE407...

Witness name-typed or printed Cory Baten

If a franchise is granted, all official notices/correspondence should be sent to:

Name ____________________ Title ____________________

Address ____________________ Phone (____)____________________

Keith Higginbotham

Mobile +1 346 306 8840 • khigginbotham00@gmail.com

Education

Maine Maritime Academy **Castine, ME**
Bachelor of Science (Graduated 2000)
Major- Marine Transportation Operations

Certifications

- USA and Republic of Ireland passport holder
- NEBOSH International General Certificate in Occupational Health, Safety (*with Distinction*)
- Qualified ISM, ISPS ISO 9001, and 14001 lead auditor
- Incident Command System (ICS) – 100, 200, 300
- Incident Investigation & Root Cause Training
- Lloyds Maritime Training: LNG Bunkering course

Experience

Shell (STUSCo) – Shipping and Maritime, America **Houston, TX**
Sr. Project Advisor, LNG Marine Fuel **2018 - Present**

- Team Lead for LNG Bunkering projects, delivering technical support and leadership to enable the business to meet its business objectives.
- Project Governance: Establish and maintain project governance structures, ensuring that projects adhere to standardized methodologies and best practices.
- Project Planning: Collaborate and lead the project advisors to deliver Safe projects and create project plans, set objectives, define deliverables, and allocate resources effectively.
- Risk Management: Identify project risks and issues, develop risk mitigation plans, and proactively address challenges to keep projects on track.
- Accountable for ensuring appropriate approvals with all regulatory bodies and stakeholders for new bunkering locations in the Americas region.
- Collaborate with internal teams including business development, short-term trading, and operations teams to maintain transparency and up-to-date project status.
- Performance Monitoring: Monitor project performance, including key performance indicators (KPIs) and milestones, and provide regular status reports to leadership.
- Responsible to act as technical lead for all LNG Bunkering tendering, evaluations, and RfP response work
- Plan and manage stakeholder engagements (e.g., USCG, Port Authorities) including HAZIDS and HAZOPS
- Lead shipyard HSSE assurance audits and ongoing supervision of existing and future LNG Bunkering projects
- Provide compliance of ship construction during the building phase, working with the contractors to ensure the keeping of the agreed Shipbuilding Specification and Charter Parties
- Responsible for project performance by oversight and analysis of monthly performance reports, HSSE, incident investigation reports, Audit and Self-Assessment reports, and other relevant project data
- Stakeholder Communication: Lead communications between internal and external stakeholders, ensuring alignment with project objectives and expectations.
- Ensure remedial actions arising out of all Project Risk Management activities are incorporated into short- and long-term project plans based on their risk rankings.
- Quality Assurance: Establish and enforce project management standards and methodologies, and conduct project audits to ensure compliance.
- Process Improvement: Continuously evaluate and enhance project management processes to increase efficiency and effectiveness.

Keith Higginbotham
Mobile +1 346 306 8840 • khigginbotham00@gmail.com

Shell (STASCo) – Shipping and Maritime — **London, UK**
HSSE Advisor — **2016 to 2018**

- Provide HSSE Governance and Assurance to the Shipping and Maritime business to comply with the Shell HSSE SP Control Framework
- Support the Leadership in delivering the Shipping & Maritime HSSE targets and support the organisation in achieving the agreed goals.
- Responsible for the Assurance of HSSE incident investigation, analysis, and learnings process for the STASCo managed and chartered fleet (oil, chemical, and LNG)
- Analyzing the marine incidents to further understand the deeper learnings that can be extracted and embedded into future S&M Learning Engagement Tools (LETs) and Reflective Learnings. Examples of this include Mooring Operations and Navigation.
- Ensure HSSE performance of the Shipping & Maritime projects by monitoring and improvement planning.
- Review shipyard facilities for New Build, Ship Repair, and Ship Recycling Businesses globally, to ensure HSSE suitability and compliance with the Shell processes and develop improvement plans as appropriate.
- Developed the process for Contractor management pre-qualification HSSE assessments during the tendering process and acted as the HSSE focal point for ongoing contractor management assurance.
- Develop and implement the HSSE Contractor Management Plans, including setting and monitoring of HSSE KPIs and performance.
- Support and lead root cause investigations and ensure follow-up actions are implemented effectively.
- Collaborate and build relationships with the various stakeholders to ensure continuous delivery and improve HSSE performance along with meeting the targets of the HSSE plan.
- Part of the management team which leads the Partner in Safety programme with setting the direction and contents for conference topics, learning material, and programme goals.

BG Group – Global Shipping Business — **Houston/ Singapore**
HSSE Manager/ coordinator (include. EXPATRIATE ASSIGNMENT) — **2007 to 2016**

- BG Global Shipping Business (GSB) HSSE Lead for the Asia region.
- Act as the regional HSSE point of contact during initial shipping casualty events, escalating and assisting the GSB Incident Management Team
- Manage the HSSE interface between the GSB and the internal/ external stakeholders.
- Responsible for the development and successful delivery of the yearly Contractor HSSE forums
- Responsible for the development of the project risk registers during all stages of the project (TECOP process), while engaging with key stakeholders such as the Technical, Commercial, and legal teams
- Operational HSSE focal point for day-to-day LNG operations
- Work with the operations teams to ensure safe, reliable, and environmentally responsible LNG operations
- Monitor regulatory, safety, and environmental compliance of the BG Fleet of LNG carriers.
- Develop and maintain the annual HSSE KPIs for all key contractors.
- Accountable for ensuring HSSE requirements are communicated to all stakeholders and that performance against the requirements is monitored, tracked, and followed up.
- Conduct HSSE audits/ visits - of owned and chartered vessels, third-party facilities, and terminals.
- Nominated Maritime HSSE Technical Authority within the area of expertise.
- Lead the HSSE support to the Singapore Gas Marketing (SGM) teams (tenders, stakeholder engagement and incident management)
- Lead investigations on behalf of GSB and BG and work with internal and external stakeholders to ensure Root Causes and appropriate corrective actions are identified and implemented.
- Accountable for the development of the project specific HSSE Strategy and Plan for implementation at various stages of the project
- Ensure Contractor Safety Management in line with established company goals and objectives.

Keith Higginbotham

Mobile +1 346 306 8840 • khigginbotham00@gmail.com

- Responsible for the HSSE performance of the multiple time-chartered LNG ship operators
- Responsible for establishing the HSSE evaluation and selection criteria for all new contractors.
- Accountable to ensure all accidents and environmental incidents are recorded and investigated with appropriate corrective actions and follow-up to prevent re-occurrence.
- Responsible for ensuring that contractor HSSE plans and HSSE Gap Closing Plans are agreed upon, developed, and implemented with the selected contractors and vendors.
- Responsible for identifying the business risks and generating the right tools for managing those risks.
- Implementing a process for reporting, communicating, and managing all reported incidents.
- Developed incident response bridging documents with internal and external stakeholders.
- Developed and implemented a robust training, exercise, and drill plan for GSB contractors.
- Manage the HSSE interface for Marine Operations partners and operationalize company standards and HSSE procedures with key stakeholders.
- Oversee the administration of the Emergency Response Plans, and business continuity plans. Including the development of participation in drills and training activities.
- Monitor new relevant legislation, standards, and best practices related to HSSE and the LNG industry.

BG Group – Global Shipping **Houston, TX**
Manager, Quality Assurance **2006 to 2007**

- Developed, implemented, and monitor policies and procedures concerning the QMS.
- Achieved ISO 9000 Quality Assurance accreditation from ABS in August 2007
- Develop necessary training schedules to ensure that the required personnel are conversant with the QMS.
- Ensure Incident Response procedures are in place and functioning effectively.
- Confirm that BG staff are prepared and suitably trained to respond to a Marine Incident
- Develop, monitor, and report Asset Integrity performance to Management in both Houston and the UK

Previous related experiences include:

Chevron Shipping Company & CITGO Petroleum **Houston, TX**
Voyage Manager **2004 to 2006**

American Bureau of Shipping **Houston, TX**
Surveyor/ Auditor **2001 to 2004**

Transocean/ Seabulk Tankers **Houston, TX**
Third Mate/ Assist. DPO **2000 to 2001**

CURRICULUM VITAE CEDRIC KEGELS

PERSONAL INFORMATION

Name	Cedric Kegels	
Date of birth	14th of May 1993	
Nationality	Belgian	
Communication	Mobile	+31 6 25 22 62 96
	E-mail	cedric.kegels@gmail.com

PERSONAL STATEMENT

Dedicated and curious team-player with a passion for the LNG industry, eager to drive organizational growth and success. Possessing a strong academic and professional background in the maritime industry, I am a firm believer in safety, compliance and operational excellence.

Seeking to contribute my skills and expertise to lead and develop a team, enabling it to thrive in a challenging environment and flawlessly deliver the growth ambitions of the business.

RELEVANT WORKING EXPERIENCE

August 2024 - present
Team Lead Commercial Operations DLNG US at Shell LNG Marketing and Trading (SLMT)

July 2020 – August 2024
LNG Commercial Operator at Shell LNG Marketing and Trading (SLMT)

Supply of break-bulked LNG from export terminals to end customers (marine, truck and terminal).

December 2018 – July 2020
Fleet Operations Support at Shell Trading and Shipping Company (STASCO)

Overall support of the ship/shore unit team, ensuring that the vessels in the STASCO-managed London Fleet (13 LNG carriers and 6 chemical tankers) are run safely, reliably and economically to the highest professional standards. Charterer's focal point for ship-shore compatibility studies, vetting and Optimoor analyses.

Achievements:
- Delivered optimization/added value around 150.000 USD on Optimoor studies
- Achieved an average lead-time of 7 days for a total turnaround of ship-shore compatibility studies with LNG terminals worldwide

GMSAT Support at Shell Trading and Shipping Company (STASCO)

Key member of the Global Maritime Security Assessment Team, providing maritime security assurance to group-managed and chartered vessels transiting high- risk areas. Organizing the GMSAT inspection program for armed vessels and briefing vessels that are about to commence transit of a high-risk area.

Achievements:
- Emergency response during piracy attack on chartered vessel in Gulf of Guinea
- Organized evacuation of a team member from one oft he bombed hotels during the 2019 Sri Lanka Easter Bombings

August 2016 – December 2018

Deck Officer at Shell International Shipping Services (SISS) and Anthony Veder Rederijzaken

Officer in charge of a navigational watch on LNG and LPG vessels, acting as representative of the vessel's Master and having total responsibility of safe navigation of the vessel during that time. During the period of my watch, I was responsible for the cargo operations, stability, ballast operations, moorings and ship security, as well as the overall safety of the personnel working under me.

Achievements:

- Exceptional Talent Commentary received upon completing first trip at SISS

EDUCATION

2015 – 2016 Master of Science in Nautical Sciences at Antwerp Maritime Academy
Graduated with Honors
First of class of 2016

Core modules included supply chain management, maritime law, ship exploitation, strategic management and maritime economics.

2011 – 2015 Bachelor of Science in Nautical Sciences at Antwerp Maritime Academy
Graduated with Honors

LANGUAGE SKILLS

Dutch	Mother tongue
English	Fluent;
French	Conversational
German	Basic

HOBBIES AND INTERESTS

Sports	Running, fitness, hiking, winter sports, salsa, travelling
Music	Guitar

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D. SCOTT
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APPLICATION BY FOREIGN LIMITED LIABILITY COMPANY FOR AUTHORIZATION TO TRANSACT BUSINESS IN FLORIDA

IN COMPLIANCE WITH SECTION 605.0902, FLORIDA STATUTES, THE FOLLOWING IS SUBMITTED TO REGISTER A FOREIGN LIMITED LIABILITY COMPANY TO TRANSACT BUSINESS IN THE STATE OF FLORIDA:

1. Shell NA LNG LLC
(Name of Foreign Limited Liability Company; must include "Limited Liability Company," "L.L.C.," or "LLC.")

(If name unavailable, enter alternate name adopted for the purpose of transacting business in Florida. The alternate name must include "Limited Liability Company," "L.L.C," or "LLC.")

2. Delaware
(Jurisdiction under the law of which foreign limited liability company is organized)

3. ______________ (FEI number, if applicable)

4. ______________
(Date first transacted business in Florida, if prior to registration.)
(See sections 605.0904 & 605.0905, F.S. to determine penalty liability)

5. 1000 Main, 12th Floor, Houston, TX 77002
(Street Address of Principal Office)

6. Same
(Mailing Address)

7. Name and street address of Florida registered agent: (P.O. Box NOT acceptable)

Name: C T Corporation System

Office Address: 1200 South Pine Island Road

Plantation, Florida 33324
(City) (Zip code)

Registered agent's acceptance:
Having been named as registered agent and to accept service of process for the above stated limited liability company at the place designated in this application, I hereby accept the appointment as registered agent and agree to act in this capacity. I further agree to complywith the provisions of all statutes relative to the proper and complete performance of my duties, and I am familiar with and accept the obligations of my position as registered agent.

C T Corporation System
By: [signature] LAUREN KREATZ VICE PRESIDENT
(Registered agent's signature)

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TALLAHASSEE FLORIDA

8. The name, title or capacity and address of the person(s) who has/have authority to manage is/are:
see attached

9. Attached is a certificate of existence, no more than 90 days old, duly authenticated by the official having custody of records in the jurisdiction under the law of which it is organized. (If the certificate is in a foreign language, a translation of the certificate under oath of the translator must be submitted)

Lynn S. Borgmeier
Signature of an authorized person

This document is executed in accordance with section 605.0203 (1) (b), Florida Statutes. I am aware that any false information submitted in a document to the Department of State constitutes a third degree felony as provided for in s.817.155, F.S.

Lynn S. Borgmeier
Typed or printed name of signee

APPLICATION BY FOREIGN LIMITED LIABILITY COMPANY FOR AUTHORIZATION TO TRANSACT BUSINESS IN FLORIDA

Item #8 - The name, title or capacity and address of the person(s) who has/have authority to manage is/are:

James A. Davitt	Director	1000 Main, Houston, Texas 77002
Tahir Faruqui	Director	1000 Main, Houston, Texas 77002
Nick M. Humphrey	Director	1000 Main, Houston, Texas 77002
Glenn T. Wright	Director	1000 Main, Houston, Texas 77002

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TALLAHASSEE, FLORIDA

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "SHELL NA LNG LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE SEVENTEENTH DAY OF FEBRUARY, A.D. 2017.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.

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TALLAHASSEE, FLORIDA

Jeffrey W. Bullock, Secretary of State

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SHELL FROM 1946 TO THE PRESENT DAY

1946 – 1960

Post-war expansion

The immediate post-war years were some of the toughest Shell had yet faced. Reconstruction was very expensive and the market for oil was changing rapidly. Against this backdrop Shell launched new exploration programmes in Africa and South America and built new refineries in the UK. The company also invested in larger and higher-powered ships – supertankers – in order to carry more oil in bulk.

In 1947, the first commercially viable offshore well was drilled in the Gulf of Mexico and within 8 years the company had over 300 such wells. New discoveries were also made in Borneo and the Niger Delta, and commercial production of oil in Nigeria began in 1958.

A number of scientific advances at this time boosted the demand for oil, including the invention of the jet engine – its architect Sir Frank Whittle even worked for the company for a number of years.

1961 – 1980

New ideas and directions

Shell started the 1960s by strengthening its presence in the Middle East, discovering oil in Yibal, Oman's most prolific field. This discovery was the country's first and would go on to transform Oman's economy. The Groningen gas field in the Netherlands was also discovered at the start of the decade, followed by the discovery of gas in the North Sea. This time was also a golden period of research by Shell Chemicals and the company also took the decision to internationalise, placing local people in top positions to make the most of homegrown talent in each country.

The closure of the Suez Canal in 1967 for eight years confirmed the wisdom of Shell's decision to invest in super tankers. At the same time, Shell was a partner in the first sea transportation of liquefied natural gas (LNG) in 1964 – from the Algeria to the UK – opening up a whole new market for the business.

Instability in the Middle East at the end of the 1960s and the start of the 1970s led to a quadrupling of oil prices and meant that the era of cheap energy came to an end. In response, Shell began to diversify, in particular into coal, nuclear power and metals. Shell also began to look beyond the traditional oil-producing countries for supplies and stepped up exploration in the North Sea and in the USA.

1981 – 2004

Growing and facing challenges

In the 1980s Shell began to grow through acquisitions. In 1986 the oil price collapsed with the price of a barrel of oil falling from $31 to $10 over the winter. To adjust to the lower oil price Shell had to focus on developing projects more cheaply. Intensive research led to huge improvements in drilling techniques and the use of 3D seismic technology to search for new oil sources became widespread. These advances enabled the company to develop offshore projects in much more challenging environments. The Troll field in Norway was one example, another was in the Gulf of Mexico where a new well was drilled at a depth of 2.3 kilometres.

The 1990s saw biomass and gas-to-liquids (GTL) technologies make giant leaps forward. In 1993 Shell opened the world's first commercial GTL plant in Bintulu, Malaysia, a pioneering step that set the stage for the increasing role this fuel would play over the next decade.

This era was not without its challenges, however. While Shell moved into new growth areas such as China and Russia and developed projects of increasing complexity and in harsher environments, it also faced increased external criticism. Environmental concerns were raised in relation to Shell's plans to dispose of the Brent platforms in North Sea storage platform, as well as over Shell's presence and activities in Nigeria. Shell has since strived to work as closely as possible with both local governments and communities. The Shell commitment and policy on Health, Security, Safety, Environment and Social Performance (HSSE & SP) applies across the company and is designed to help protect people, their communities and the environment wherever Shell operates.

2005 – 2016

Record-breaking innovations and new partnerships

In 2005, the Royal Dutch Shell Group underwent a major structural reorganisation as the nearly century-old partnership between Royal Dutch Petroleum and Shell Transport and Trading was dissolved and Shell unified its corporate structure under a single new holding company, Royal Dutch Shell plc.

Shell's innovation has continued at pace into the 21st Century. In 2012, the company completed Pearl GTL, in Qatar, the world's largest source of GTL products. In 2016, production started at Shell's Stones field, the world's deepest oil and gas project. And in 2017, Prelude, the world's biggest floating liquefied natural gas facility, sailed 5,800 kilometres from a shipyard in South Korea to its new home in Western Australia.

The company has also continued to expand. In 2015, Shell announced that it would be buying BG Group, a UK oil and gas production company. The acquisition was completed in February 2016, expanding the company's oil and gas portfolio. And in 2016, Shell created its New Energies business to focus on exploring and developing commercial opportunities in renewable energy, such as wind and solar..

Present day

Looking forward

Looking back over 185 years of Shell history, it has been an amazing journey. Mankind has managed to adapt, time and time again, through a century of rapid change and periodic upheaval; and so has Shell. But there are also big challenges in the century ahead.

Society today faces a challenge on an unprecedented scale: how to meet increasing energy needs while reducing carbon emissions.

Shell is an active player in and has embraced the transformation of the energy system. The company sees commercial opportunity in participating in the global drive to provide more and cleaner energy solutions. Thriving as the world transitions to a lower-carbon energy system is a key focus and Shell's strategy, portfolio and strong financial framework will give the company a source of resilience in the years to come.

Understanding what climate change means for Shell is one of the biggest strategic questions facing company leaders. In answering that question, Shell is determined to continue to work closely with society and its customers as it has done for nearly 200 years.

Noble Assurance Company
(A Company of the Shell plc Group)

150 n. Dairy Ashford Road
Houston, TX 77079
Telephone: +1.802.264.4591
Facsimilie: +1.802.860.0440
Email: chryssa.otoole@aon.com

To whom it may concern

Houston, 02 July 2025

CERTIFICATE OF INSURANCE

This certificate is issued as a matter of information only and confers no rights on the certificate of insurance holder other than those provided by the policy.This certificate does not amend, extend or alter the coverage provided by the policy described below.

NAMED INSURED: SHELL NORTH AMERICA LNG

AOO CODE: 54402

OTHER INSURED: Shell NA LNG LLC

COVER NUMBER: CAS25002039A

PERIOD OF INSURANCE: **From:** 01 Jul 2025 **To:** 30 Jun 2026
Both days inclusive, time of place of insurance

BASIS OF INSURANCE: Occurrences reported during the period of Insurance

TERMS AND CONDITIONS: The cover is always subject to policy terms and conditions. General Third Party Liability Insurance: the coverage provided by the Policy applies to the world-wide operations of the Insured and to claims involving an Insured in any part of the world. Subject to all of the terms, conditions, limitations, insuring agreements, exclusions and endorsements of the Policy, the Insurer indemnifies the Insured for amounts which the Insured is obligated to pay by reason of liability imposed by law upon the Insured for Damages on account of: Personal Injury, Property Damage, Advertising Liability, Wrongful Employment Practices, Product Liability and Industrial Aid Aircraft Use, as defined in the policy

INSURANCE CLASS: THIRD PARTY LIABILITY

LIMIT / SUM INSURED:

AVIATION LIABILITY	0 USD
GENERAL LIABILITY	1,000,000 USD
PROFESSIONAL INDEMNITY	0 USD

ADDITIONAL INSURED: Where any written contract or agreement entered into by an Insured named above with an organization or person (hereinafter called "the counterparty") so requires, the counterparty shall be an additional insured under this policy, but always limited to the extent required by such written contract or agreement, provided the contract or agreement was entered into by the Insured prior to any accident or loss.

NAME AND ADDRESS OF COUNTERPARTY (ADDITIONAL INSURED):

WAIVER OF SUBROGATION:	A waiver of subrogation is granted in favour of any person or organization to the extent required in any written contract or agreement, provided the contract or agreement was entered into by an Insured named above, prior to any accident or loss.

The policy of insurance listed above has been issued to the Named Insured identified above for the policy period indicated. Notwithstanding any requirement, terms or condition of any contract or other document with respect to which this Certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all the terms, conditions, limitations of the respective policy.

We, Noble Assurance Company, herewith confirm that the above mentioned named/other insured has insurance coverage in place as detailed above.

Noble Assurance Company

Chryssa O'Toole

Mitchell Ice Authorized Representative	**Chryssa O'Toole** Authorized Representative

NAME AND ADDRESS
OF COUNTERPARTY (ADDITIONAL INSURED):

WAIVER OF SUBROGATION: A waiver of subrogation is granted in favour of any person or organization to the extent required in any written contract or agreement, provided the contract or agreement was entered into by an Insured named above, prior to any accident or loss.

The policy of insurance listed above has been issued to the Named Insured identified above for the policy period indicated. Notwithstanding any requirement, terms or condition of any contract or other document with respect to which this Certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all the terms, conditions, limitations of the respective policy.

We, Noble Assurance Company, herewith confirm that the above mentioned named/other insured has insurance coverage in place as detailed above.

Noble Assurance Company

Chryssa O'Toole

Bernardo Franco
Authorized Representative

Chryssa O'Toole
Authorized Representative

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MEMORANDUM OF INSURANCE

DATE
15-May-2025

This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via https://marshdigital.marsh.com/marshconnect/viewMOI.action?clientId=3535843. Marsh USA LLC The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.

PRODUCER	COMPANIES AFFORDING COVERAGE
Marsh USA LLC ("Marsh")	Co. **A** National Union Fire Insurance Company of Pittsburgh, Pa.
INSURED Shell USA Inc. AND ITS AFFILIATES & SUBSIDIARIES 150 N. Dairy Ashford Rd. HOUSTON Texas 77079 United States	Co. **B** AIU Insurance Company
	Co. **C**
	Co. **D**
	Co. **E**
	Co. **F**

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS MEMORANDUM MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE	LIMITS (LIMITS IN USD UNLESS OTHERWISE INDICATED)	
	GENERAL LIABILITY				GENERAL AGGREGATE	
					PRODUCTS - COMP/OP AGG	
					PERSONAL AND ADV INJURY	
					EACH OCCURRENCE	
					FIRE DAMAGE (ANY ONE FIRE)	
					MED EXP (ANY ONE PERSON)	
A A	**AUTOMOBILE LIABILITY** Any Auto	CA 7269966 (AOS) CA 8682550 (MA)	01-Jan-2025 01-Jan-2025	01-Jan-2026 01-Jan-2026	COMBINED SINGLE LIMIT	$1,000,000
					BODILY INJURY (PER PERSON)	
					BODILY INJURY (PER ACCIDENT)	
					PROPERTY DAMAGE	
	EXCESS LIABILITY				EACH OCCURENCE	
					AGGREGATE	
B B B B	**WORKERS COMPENSATION / EMPLOYERS LIABILITY** THE PROPRIETOR / PARTNERS / EXECUTIVE OFFICERS ARE Included	WC 16440076 (AOS) WC 16440074 (CA) WC 16440077 (PA,WI) WC 16440075 (MN)	01-Jan-2025 01-Jan-2025 01-Jan-2025 01-Jan-2025	01-Jan-2026 01-Jan-2026 01-Jan-2026 01-Jan-2026	WORKERS COMP LIMITS	Statutory
					EL EACH ACCIDENT	$1,000,000
					EL DISEASE - POLICY LIMIT	$1,000,000
					EL DISEASE - EACH EMPLOYEE	$1,000,000

The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications hereto are not authorized.

MEMORANDUM OF INSURANCE	DATE 15-May-2025

PRODUCER	INSURED
Marsh USA LLC ("Marsh")	Shell USA Inc. AND ITS AFFILIATES & SUBSIDIARIES 150 N. Dairy Ashford Rd. HOUSTON Texas 77079 United States

ADDITIONAL INFORMATION

Waiver of Subrogation clause for the WC and Auto policies:

Waiver of Subrogation **-** subject to the policy terms and conditions, granted in favor of any person or organization to the extent required in any written contract or agreement, provided the contract or agreement was entered into by the Insured prior to any accident or loss.

Additional Insured clause for Auto policies:

Additional Insured **-** subject to the policy terms and conditions, granted to any person or organization to the extent required in any written contract or agreement entered into by the Insured.

Affiliates and Subsidiaries Include but are not limited to:

Shell USA, Inc.
Shell US Hosting Company
Shell Global Solutions (US) Inc.
Shell Downstream Inc.
Equilon Enterprises LLC dba SOPUS dba Shell Oil Products Company
Shell Pipeline Company LP
Shell Offshore Inc. (SOI)
SWEPI LP
Penzoil Quaker-State Company
SOPUS Products
SIEP Overseas Services Inc.
Shell Exploration & Production Co. (SEPCO)
Shell Information Technology International, Inc.
Shell International Exploration & Production Inc.
Shell North America Gas & Power Services Company
Shell Chemical LP
Shell Trading Services Company
Shell Trademark Management Inc.
Shell WindEnergy Services Inc.
Shell Oil Products Company LLC (SOPC)
Shell Expatriate Employment US (SEEUS)
Shell Catalyst & Technologies US LP
Shell Energy Resources Co.

The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications hereto are not authorized.

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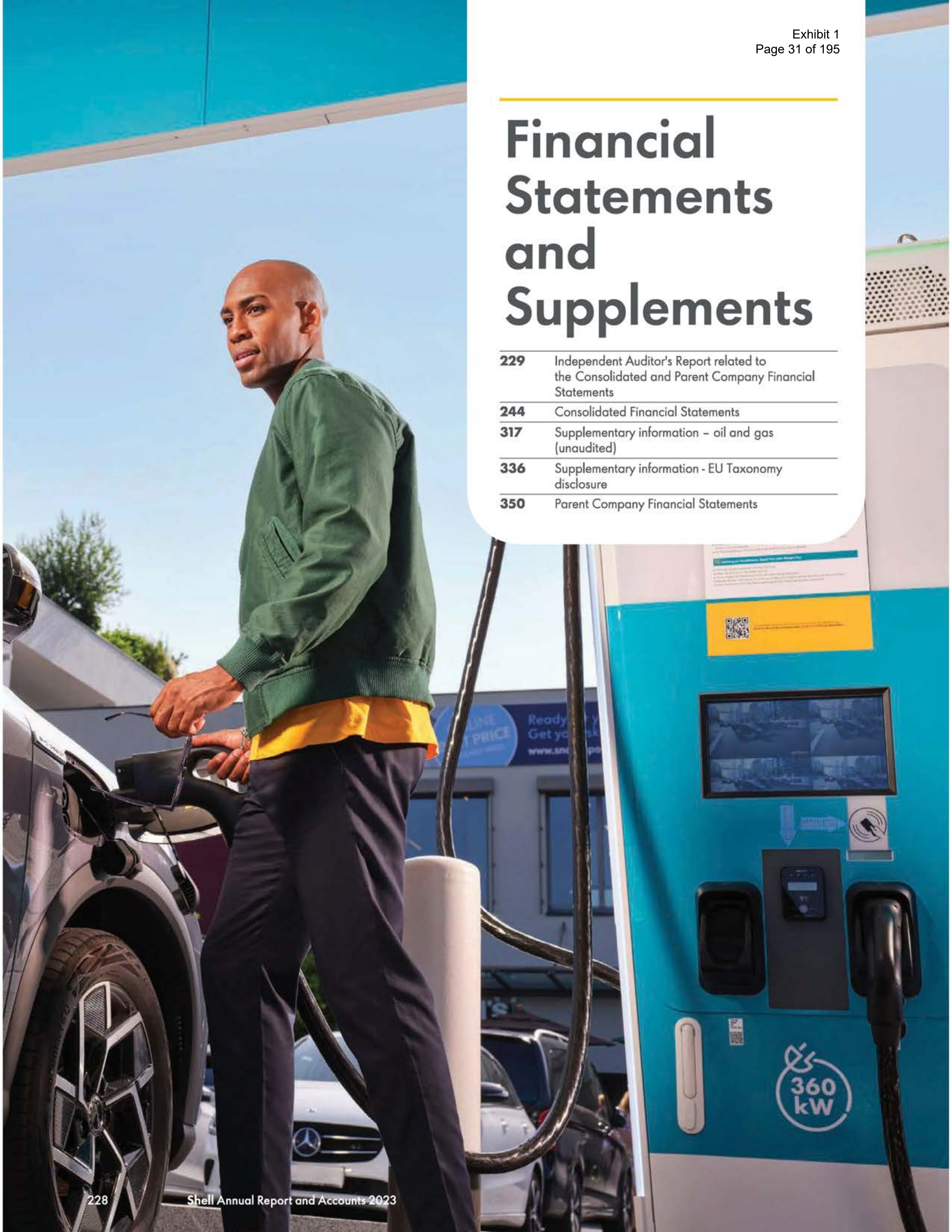


Financial Statements and Supplements

Independent Auditor's Report to the members of Shell plc

1. Opinion

In our opinion, the financial statements of Shell plc (the Parent Company) and its subsidiaries (collectively, Shell or Group):

- give a true and fair view of the state of Shell's and of the Parent Company's affairs as at December 31, 2023 and of Shell's income and the Parent Company's income for the year then ended;
- have been properly prepared in accordance with UK adopted international accounting standards and International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of the Parent Company and the Group for the year ended December 31, 2023, which are included in the Annual Report and comprise:

Group	Parent Company
Consolidated Balance Sheet as at December 31, 2023 Consolidated Statement of Income for the year then ended Consolidated Statement of Comprehensive Income for the year then ended Consolidated Statement of Changes in Equity for the year then ended Consolidated Statement of Cash Flows for the year then ended Related Notes 1 to 35 to the Consolidated Financial Statements, including material accounting policies, judgements and estimates.	Balance Sheet as at December 31, 2023 Statement of Income for the year then ended Statement of Comprehensive Income for the year then ended Statement of Changes in Equity for the year then ended Statement of Cash Flows for the year then ended Related Notes 1 to 16 to the Financial Statements, including material accounting policies.

The financial reporting framework that has been applied in their preparation is applicable law and UK adopted international accounting standards.

2. Basis for our opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISA (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Auditor's responsibilities for the audit of the financial statements' section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

3. Independence

We are independent of the Group and the Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group or the Parent Company and we remain independent of the Group and the Parent Company in conducting the audit.

4. Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. The going concern assessment covered the period to March 31, 2025 (the going concern period). Our evaluation of the directors' assessment of the Group and Parent Company's ability to continue to adopt the going concern basis of accounting included:

- checking the consistency of information used in management's assessment with the operating plan and information obtained through auditing other areas of the business such as impairment assessments;
- assessing the reasonableness of the estimated financial impact of each of the severe but possible scenarios, and the possible mitigation steps and assumptions regarding the availability of future funding options. The scenarios are described by management in the basis of preparation statements in Note 1 to the Consolidated Financial Statements and Note 1 to the Parent Company Financial Statements;
- checking that Shell's operating plan reflects the actions that management intend to take in order to achieve their stated Scope 1 and Scope 2 emissions reductions, as stated in Note 4 to the Consolidated Financial Statements, including confirming that the operating and capital expenditure estimates to deliver the reductions are included in the operating plan. This included evaluating Shell's carbon pricing assumptions;
- conducting severe but plausible independent stress testing to a significantly lower price environment than current prices throughout the going concern period and a reverse stress test to determine the conditions under which Shell could potentially experience a liquidity shortfall; and
- confirming that Shell's going concern disclosures were appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and Parent Company's ability to continue as a going concern until March 31, 2025.

In relation to the Group and Parent Company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the Consolidated Financial Statements and Parent Company Financial Statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant section of this report. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Group's or Parent Company's ability to continue as a going concern.

Independent Auditor's Report to the members of Shell plc continued

5. Overview of our audit approach

Identifying key audit matters (Section 6)	The key audit matters that we identified in the 2023 audit were: ◦ impact of climate change and the energy transition on the Consolidated Financial Statements; ◦ estimation of oil and gas reserves; ◦ impairment assessment of property plant and equipment (PP&E) and joint ventures and associates (JVAs); and ◦ accounting for complex transactions within Shell's trading and supply function and the valuation of financial derivatives.
Assessing materiality (Section 7)	We based materiality on three-year normalised Adjusted Earnings on a pre-tax basis. This approach removes both the effects of changes in oil price on inventory carrying amounts and non-recurring gains and charges disclosed as identified items, which can significantly distort Shell's results in any one particular year. By applying a normalised Adjusted Earnings approach, we concluded that it was appropriate to set planning materiality at $2.0 billion. We adopted the following materiality measures in our 2023 audit: **Assessing materiality** Planning materiality: **$2.0 billion** (2022: $1.2 billion) Performance materiality: **$1.5 billion** (2022: $0.9 billion) Reporting differences: **$100 million** (2022: $60 million)
Our scope of the audit of Shell's Consolidated Financial Statements (Section 8)	Our scope was tailored to the circumstances of our audit of Shell and is influenced by our determination of materiality and our assessed risks of material misstatement. Similar to the prior year, during the course of the 2023 audit, we did not make any substantial changes to our assessment of the components where we performed full or specific scope audit procedures, nor the number of IT applications to test; however, what did change was the nature and emphasis of our testing in response to our significant audit risks and areas of audit focus. By following this approach, our audit effort focused on higher risk areas, such as management judgements.

6. Our assessment of key audit matters

Key audit matters (KAMs) are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit and directing the efforts of the engagement team. These matters were addressed in the context of our audit of Shell's Consolidated and Parent Company Financial Statements as a whole, and in our opinion thereon, and we do not provide a separate opinion on these matters.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements

Description of the key audit matter

The financial statement and audit risks related to climate change and the energy transition remain an area of audit focus given the continuing uncertainty surrounding the impact of climate change and the pervasive impact it has on many areas of accounting judgement and estimation and, therefore, our audit.

The processes by which management is informed about climate-related issues is set out in Our journey to net zero, within the Strategic report, which forms part of the "other information", rather than the audited financial statements. Within Our journey to net zero, Shell have described climate-related risks and opportunities over the short, medium and long term. In this section, they also describe the impact of climate-related risks and opportunities on Shell's business, strategy and financial planning and Shell's process for identifying and assessing climate-related risks and the process for managing these risks.

In Note 4 to the Consolidated Financial Statements, Shell describe how they consider climate-related impacts in key areas of the Consolidated Financial Statements and how this translates into the valuation of assets and measurement of liabilities.

In carrying out our audit, we have focused on the alignment of assumptions adopted by Shell in the preparation of their financial statements with commentary on climate change within their Strategic Report. We also focused on how Shell had reflected material climate change risks in their financial statements, including the impact of the emissions reduction targets on accounting estimates and judgements.

In focusing on how Shell has reflected material climate change risks in Shell's Consolidated Financial Statements, we have considered:

1) how Shell's assumed future commodity price assumptions compare to energy transition scenarios and a range of third party forecasts;
2) the reasonableness of Shell's forecast future carbon costs;
3) the carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects;
4) the incorporation of Shell's stated emissions reduction targets (see Climate-related targets summary within Our journey to net zero in the Strategic Report) within Shell's operating plan;
5) the useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of material stranded assets; and
6) how physical risk considerations have been incorporated into Shell's asset plans.

The critical accounting judgements and estimates that are impacted by climate change and the energy transition are disclosed within Note 4 to the Consolidated Financial Statements.

Our response to the risk

Overall response

To respond to the impact of climate change and the energy transition on our audit, we ensured that we had the appropriate skills and experience within the audit team. Our group engagement team included professionals with significant experience in climate change and energy transition. The audit procedures were performed by the group engagement team and component teams.

In our 2023 audit, as part of our risk assessment, we considered financial and non-financial data to assess six climate risks at a granular level. This covered Shell's higher risk assets, with a net book value of around $120 billion. We considered the carbon intensity of the assets and products sold and where there could be a higher degree of management judgement and bias. This included considering the execution risks of certain abatement projects.

For the assets that we assessed as most susceptible to climate change and energy transition risks, we performed sensitivity analysis and read management's climate scenario analysis to assess whether there were indicators of impairment.

Further procedures performed to address the climate risks included:

Alignment of statements made in Strategic Report with the financial statements

- in connection with our audit of the financial statements, we read the other information in the Annual Report and Accounts (as defined in section 9 below) and, in doing so, considered whether the other information, which includes Shell's climate targets, are materially consistent with the financial statements or our knowledge obtained in the audit;
- evaluated whether the effects of material climate risks, as disclosed within Our journey to net zero, within the Strategic report, had been appropriately reflected in asset values and associated financial statement disclosures, and the timing, nature and measurement of liabilities recognised are in accordance with IFRS, which is discussed further below;
- read and challenged the completeness of management's disclosures in Note 4. We audited the sensitivity disclosures in Note 4 of the carrying value of Shell's Upstream and Integrated Gas PP&E assets to a range of future oil and gas price assumptions, reflecting reduced demand scenarios due to climate change and the energy transition, including the IEA Net Zero Emissions (NZE) by 2050 scenario and Announced Pledges Scenarios (APS). This included considering whether the downside sensitivities could have reduced the level of Shell's distributable profits such that their 2023 shareholder distributions would not have been in compliance with the Companies Act 2006. For Upstream, Integrated Gas and Chemicals and Products assets, we also considered the carrying amounts and their sensitivity to IEA NZE 2050 carbon price scenario and the discount rate sensitivity considering Upstream, Integrated Gas, Chemicals and Products and Renewables and Energy Solutions carrying amounts; and
- assessed whether the climate change litigation described in Note 31 was complete and whether it represented obligations where the likelihood of a cash outflow was probable and therefore requiring provision. Also, we considered the appropriateness of the climate change litigation disclosures within Note 31, Legal proceedings and other contingencies, by comparing the disclosures to our understanding of the claims and allegations and to the most recent disclosures provided by other oil and gas companies.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements continued

Our response to the risk continued

The reflection of material climate change risks and the impact of Shell's emissions reduction target in the material judgements and estimates

- tested management's internal controls over the identification and estimation of costs of the potential impacts associated with energy transition and climate change, and related financial statement disclosures in Note 4;
- held discussions with Group Planning, Group Reporting, Shell's Carbon Strategy group and, where necessary, individual asset managers to understand and challenge management on how the following five transition and one physical risks of climate change were being factored into Shell's financial statements:

1) The comparison of commodity price assumptions to energy transition scenarios and a range of third party forecasts

- engaged oil and gas valuation specialists to assess the reasonableness of Shell's short and long-term pricing assumptions. This included benchmarking Shell's assumptions against a range of third party forecasts (including other oil and gas companies, consultants, banks, brokers and other external outlooks such as International Energy Agency ('IEA'));
- considered specifically the extent to which management's forecast price assumptions incorporated the potential impact of climate change and the energy transition. This included consideration of assumed hydrocarbon and renewables demand and the impacts of such demand movements and supply constraints on future prices; and
- evaluated the reasonableness of Shell's refining and petrochemical margin assumptions, by comparing Shell's assumptions to external benchmarks. We also considered the expected impact on demand for oil products and chemicals in a transition to a net zero economy. Refining margin and petrochemical assumptions underpin the recoverable amount of refineries and petrochemical plants respectively.

2) The reasonableness of Shell's forecast future carbon costs

- we engaged our climate change specialists to assist in evaluating Shell's carbon price methodology, including how price and free allowance assumptions are applied in different jurisdictions. At a country level, we compared Shell's forecast carbon prices to those presented under the IEA NZE scenario. Our procedures were focused on assets with high scope 1 and 2 emissions and which are geographically located in high carbon price jurisdictions; and
- we independently calculated Shell's forecast carbon cost included in their operating plan, based on carbon price, free allowance and emission assumptions. We performed sensitivity analysis on the mid-point carbon price and free allowance assumptions in the operating plan to the independently determined outlooks identified by our climate change and energy transition specialists to determine whether deviations are material to Shell's operating plan and respective assets.

3) The carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects

- we considered the scope 1 and 2 and lifecycle emissions of the products sold by Shell's assets (net carbon intensity), to identify potential impairment triggers. For Shell's high carbon intensive assets, we considered the abatement plans included in their operating plan. We obtained an understanding of the planned strategies and the basis for associated costs with projects related to carbon capture and storage, energy efficiency and renewables growth. We challenged the associated opex and capex included in the operating plan. We also performed sensitivity analysis by removing all in-plan abatement projects at high carbon intensive assets to determine whether the incremental carbon cost that would need to be incurred on emissions would trigger an impairment.

4) The incorporation of emissions reductions into Shell's operating plan

- we confirmed that Shell's operating plan, included costs associated with Shell's plans to achieve Scope 1 and 2 emission reduction targets and their net carbon intensity ('NCI') targets. We challenged management's ability to accurately forecast their scope 1 and 2 emissions assumptions included in the operating plan to meet their 2030 absolute emissions targets through the performance of lookback analysis; and
- for abatement projects, we considered the degree to which Shell is relying on these projects to meet their reduction targets. We also considered additional abatement levers outside of the operating plan, which Shell has optionality to execute in order to meet their climate targets. We confirmed whether the carbon credits and associated costs were included in the operating plan to meet Shell's 2030 NCI targets.

5) The useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of stranded assets

- considering Shell's long-term target to achieve net zero emissions by 2050, we have assessed Upstream and Integrated Gas assets which are expected to be producing beyond 2030 and 2050. We also verified that the oil, gas and carbon price sensitivity disclosures in Note 4 incorporated life of field assumptions.

6) Whether physical risk considerations have been incorporated into the asset plans

- evaluated management's disclosures around physical risk in the Our journey to net zero section of the Annual Report to ensure compliance with the Task Force on Climate-Related Financial Disclosures;
- using our data analytics and climate change specialists, we performed a physical risk assessment that considered Shell's asset-level mitigation and adaptation measures for the assets that we viewed as being exposed to the highest physical risks, such as hurricanes, flooding, rising temperatures, drought and water dredging. For assets assessed to be high risk, we evaluated the mitigation and adaption measures, and ensured that where relevant, the costs have been appropriately reflected in the operating plan; and
- assessed whether the risk exposure represents an impairment trigger for the associated asset through consideration of the severity of the physical risk, likely time horizon, historical ability to manage physical risk and headroom of the asset.

Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Philippines, Poland, Singapore, UK and the USA.

Key observations communicated to the Shell Audit and Risk Committee

We reported to the Audit and Risk Committee the key procedures that we had performed and the results of those procedures, which are set out below:

Alignment of statements made in Strategic Report with the financial statements

- we reported that we had not identified any material inconsistencies between Shell's disclosures in Note 4 to the Consolidated Financial Statements, which covers the material impacts of climate-related matters, and the disclosures included within the other information; and
- we reported that the various climate change litigations as detailed in Note 31 were consistent with the requirements of IAS 37. We also reported that based on our understanding of the claims and allegations, the disclosures within Note 31, are appropriate.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements continued

Key observations communicated to the Shell Audit and Risk Committee continued

The reflection of material climate change risks and the impact of Shell's emissions reduction target in the critical accounting estimates and judgments

1) the comparison of Shell's assumed future commodity price assumptions to energy transition scenarios

- we reported that Shell's best estimate assumptions are within our range when compared against a range of third party forecasts and EY's independent consideration of an acceptable range. Overall, Shell's assumptions are reasonable, albeit for oil price assumptions towards the bottom end of these ranges. We are satisfied Shell's assumptions represent current best estimates, as required by IFRS;
- IEA's Announced Pledges Scenario (APS) price assumptions, which assumes that all climate commitments made by governments around the world to date, are aligned with Shell's oil price assumptions. Shell's Henry Hub gas price assumption are higher than the APS scenario; however, Henry Hub is not a significant input to the recoverable amount of the of the assets that are expected to be producing beyond 2030 and 2050;
- IEA's NZE price scenarios are lower than Shell's Brent and Henry Hub price assumptions and represent an aspirational target reflecting governmental, societal and regulatory responses to climate change risks that are still developing; however, as IFRS requires preparers to base the financial statements on current best estimates of future oil and gas prices, we are satisfied Shell's assumptions are within a range of benchmarks that reflect the current best estimates of future oil and gas prices; and
- we reported that Shell's refining and petrochemical margin assumptions are reasonable and materially aligned with external benchmarks that consider the impact on demand for oil products and chemicals in a transition to a net zero economy.

2) the reasonableness of Shell's forecast future carbon costs

- we concluded that Shell had adopted an appropriate methodology to forecast carbon prices and through our independent testing, we verified that Shell's forecast carbon price assumptions were within our independently determined ranges. Where assumed carbon prices were at the bottom end of our ranges, we were satisfied that applying our range did not represent an impairment trigger for the impacted assets. Also, we are satisfied that the changes to carbon costs in the operating plan versus the prior year plan are a result of changes to planned actions or to changes in allowances that could not have been previously forecast or that do not have a material impact. Our sensitivity analysis indicated that applying the IEA NZE50 carbon prices would have an additional operating cost of 2% of forecast operating expenses in the operating plan over a 10 year period, which does not represent a material increase in the overall forecast costs.

3) the carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects

- for the assets that we assessed as highly carbon intensive, we were satisfied that the planned abatement opex and capex costs related to carbon capture and storage, energy efficiency and renewables growth were included in the operating plan and that the headroom on the high carbon intensive assets is not sensitive to additional carbon costs that would be incurred should abatement activities not be successful;

4) the incorporation of Shell's stated climate targets within Shell's operating plan

- we reported that Shell's operating plan reflected the expected financial impact of management's current planned actions to address the identified climate change risks. Where impairment assessments were performed, we were satisfied that the climate change factors had been reflected in the assessments throughout the field life of the asset.

5) the useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of stranded assets

- we reported that, of the SEC proved reserves currently recognised at the end of 2023, 54% are expected to be produced by 2030 and only an immaterial amount (3%) will be produced beyond 2050. Shell's Integrated Gas and Upstream assets and Canadian mines are mainly depreciated over SEC proved reserves. This means that the current carrying amount of these assets will be substantially depreciated by 2050, with around $0.7 billion remaining, which is not material;
- we concluded that there was a low risk of Shell's current refineries being stranded as the assets are expected to be fully depreciated in the next 11 years. We also concluded there was a low risk of Shell's Chemical assets being stranded as petrochemical demand is expected to be resilient to energy transition, as noted in the IEA Net Zero 2050 scenario on World Energy Consumption; and
- we were satisfied that the reserves recognised that are expected to be extracted post 2050 were consistent with Shell's NZE commitments and that the estimated carrying value of these assets in 2050 is not material.

6) whether physical risk considerations have been incorporated into the asset plans

- for the assets that we assessed as susceptible to higher physical risk, we were satisfied that assets included mitigation and adaptation plans and the associated costs in the operating plan. Where mitigation and adaptation plans were not included in the operating plan, we have identified other factors, such as annual risk assessments, preparation and insurance plans, that reduce the risk of impairment on these assets.

Other observations

- with regards to the sensitivity analyses provided by Shell in Note 4 to the Consolidated Financial Statements, including commodity prices, carbon prices, refining and chemical margins and the discount rate, we were satisfied that the descriptions of the sensitivities reflected the sensitivities performed. Also, the prices and assumptions applied by Shell in their calculations were agreed to the scenarios as described. We reperformed the sensitivities and were satisfied that the ranges disclosed by Shell in Note 4 were materially correct, including the illustrative disclosures on the impact of commodity prices averaged from three 1.5-2 degrees Celsius external climate change scenarios and from the IEA NZE50 scenario; and
- we reported that we had considered Shell's dividend resilience statement in Note 4. Had Shell applied the IEA NZE50 scenario, and had this impairment of $25 billion directly reduced the carrying value of investments within the Parent Company, Shell plc, this would not have impacted the distributable reserves available to Shell from which to pay dividends and buyback shares in 2023. This is on the basis that Shell plc had a merger reserve of $234 billion and under Companies Act 2006, the adverse impact from an impairment would be on the merger reserve as opposed to distributable reserves.

See the "Audit and Risk Committee Report" on page 185 for details on how the Audit and Risk Committee reviewed climate change and energy transition. See "Powring Progress strategy" on pages 6-13 and "Energy transition strategy" on pages 89-99 for more details. Also, see Notes 2, 4, 11, 12, and 31 to the "Consolidated Financial Statements".

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Estimation of oil and gas reserves

Description of the key audit matter

This is a forecast-based estimate. Oil and gas reserves estimates are used in the calculation of depreciation, depletion and amortisation (DD&A) and impairment testing. The risk is the inappropriate recognition of proved reserves that impacts these accounting estimates. Given the current environment, there may be a heightened risk of proved reserves with a high carbon intensity not ultimately being produced (also see climate change and energy transition key audit matter).

As described in Notes 11 and 13 to the Consolidated Financial Statements, at December 31, 2023, production assets amounted to $110.7 billion and had an associated DD&A charge of $18.2 billion. Joint ventures and associates (JVAs) amounted to $24.5 billion. As further described in Note 12, exploration and production impairment losses of $4.8 billion and exploration and production impairment reversals of $0.5 billion were recorded during the year.

If proved reserves are recognised that are not ultimately produced, DD&A will be understated, and the recoverable amount of assets may be overstated. In-year reserve movements are driven by revisions of previous estimates resulting from reclassifications, changes to recovery assumptions, extensions and discoveries and purchases and sales of reserves in place. Revisions generally arise from new information, for example additional drilling results, changes in production patterns and changes to development plans.

Auditing the estimation of oil and gas reserves is complex. There is significant estimation uncertainty in assessing the quantities of reserves and resources in place. The estimates are based on the Company's central group of experts' assessments of petroleum initially in place, production curves and certain other inputs, including prices, license expiration date, capex and opex. Estimation uncertainty is further elevated given the transition to a low-carbon economy, which increases the risk of underutilised or stranded oil and gas assets.

Our response to the risk

We obtained an understanding of the controls over Shell's oil and gas reserves estimation process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested management's review controls over changes to year-on-year estimated oil and gas reserves volumes.

We involved professionals with oil and gas reserves audit experience in evaluating the key assumptions and methodologies applied by management.

Our procedures included, amongst others:
- evaluated the professional qualifications and objectivity of management's experts who performed the detailed preparation of the reserve estimates and those who are primarily responsible for providing independent review and challenge, and ultimately endorsement of, the reserve estimates. This covered around 24 individuals involved in the process;
- tested that significant additions or reductions in reserves had been made in the period in which the new information became available, by understanding the change in circumstance that drove the change. Our most experienced oil and gas team members, which included a reservoir engineer, reviewed the documentation and approvals of all changes greater than 50 mmboe (seven fields);
- verified that reserve movements were in compliance with Shell's reserves and resources guidance and SEC regulations;
- evaluated management's estimation of the point at which the operating cash flow from a project becomes negative (the economic limit), as this impacts DD&A and impairment. Where relevant, we assessed whether the economic limit test incorporated Shell's estimate of future carbon costs to reflect the potential impact of climate change and the energy transition;
- assessed the completeness and accuracy of the inputs used by management in estimating the oil and gas reserves by agreeing the inputs to source documentation. This included obtaining an understanding of the non-financial information used by the specialists when estimating the reserves. We also performed procedures around the completeness and accuracy of this information;
- performed back-testing of historical data to identify indications of optimism bias over time;
- performed sensitivity analysis on the impact of changes in oil and gas reserves;
- attended all of Shell's Upstream Reserves Committee meetings to observe the internal review and endorsement process. These meeting are part of Shell's proved reserves assurance process, which is described in Supplementary Information – Oil and gas section;
- we focused our audit procedures on those assets that are currently forecast to be producing beyond 2050 and the carbon intensity of the post 2050 production from those fields to identify assets that are carbon intensive, where there may be a higher risk of the reserves not ultimately being produced. The purpose of performing such analysis was to identify assets that were at higher risk of the current net book value being overstated; and
- we also included unpredictability in our testing by selecting a field that did not meet our selection criteria.

Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Malaysia, Nigeria, Poland, Qatar, UK and the USA.

Key observations communicated to the Shell Audit and Risk Committee

We reported to the Audit and Risk Committee in January 2024 that, in our view, Shell follows a robust process for recognising oil and gas reserves. There are no indications that the recognition of the reserve volumes beyond 2030 and 2050 results in any impairment triggers or that the carrying amounts of the related assets are overstated.

We reported to the Committee that the sensitivity analysis that we performed indicated that, at portfolio level with all other assumptions remaining unchanged, reserves would have to be overestimated by 18% for DD&A to be misstated by a material amount ($2 billion).

The inputs and assumptions used to estimate proved reserves and resources are appropriate such estimates. For the reserves and resources that were expected to be produced post 2050, we were satisfied that this was not inconsistent with Shell's NZE ambitions and that it remains appropriate to recognise these reserves on the basis that they are expected to be recovered.

Please see key audit matter on the impact of climate change and the energy transition on the financial statements for details of our considerations on the carbon intensity associated with reserves expected to be produced beyond 2030.

See the "Audit and Risk Committee Report" on pages 179-190 for details on how the Audit and Risk Committee reviewed assurances for oil and gas reserves. Also, see Notes 2, 4 and 11 to the "Consolidated Financial Statements" and "Supplementary information – oil and gas (unaudited)".

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA)

Description of the key audit matter

This is a forecast-based estimate. The risk is that potential impairments are not identified on a timely basis, including whether the impacts of climate change and the energy transition have been considered in Shell's impairment trigger assessments (also see climate change and energy transition key audit matter).

As described in Notes 11, and 13 to the Consolidated Financial Statements, at December 31, 2023 Shell recognised $110.7 billion of production assets, $49.2 billion of manufacturing, supply and distribution assets (primarily refineries and petrochemical plants) and $24.5 billion of joint ventures and associates (JVAs). As disclosed in Note 12, in 2023, Shell recognised $8.2 billion impairment losses and $0.6 billion impairment loss reversals.

The recoverable amount of PP&E and JVAs can be sensitive to small changes in key assumptions, which increases the risk of indicators of impairment or impairment reversal not being identified. Our audit effort has focused on the completeness and timely identification of indicators of impairment charges or impairment reversals.

Assumptions underpinning the impairment assessments include:
- changes in future oil and gas prices, in particular over the mid-to-long term, which are more uncertain than short term forecasts;
- changes in refining margin assumptions;
- expected production volumes;
- the assumed weighted average cost of capital (WACC) and asset-specific risks; and
- individual asset impairment assessments.

As described in Note 2, the most complex of these judgements relate to management's view on the long-term oil and gas price outlook. Forecasting future prices is inherently difficult, as it requires forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, on the supply side, consideration of investment and resource potential, cost of development of new supply and behaviour of major resource holders. These judgements are particularly difficult because of increased demand uncertainty and pace of decarbonisation due to climate change and the energy transition.

Our response to the risk

We obtained an understanding of the controls over Shell's asset impairment process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested the controls over management's identification of indicators of impairment and reversals of impairment and the approval of oil and gas prices and petrochemical and refining margins.

Our procedures included, amongst others:

Oil and gas prices
- we have included observations on oil and gas prices in our key audit matter above on climate (The impact of climate change and the energy transition on the Consolidated Financial Statements).

Petrochemical and refining margins
- we involved our valuations specialists to assess the reasonableness of Shell's margin estimation methodologies and assumptions; and
- evaluated the reasonableness of Shell's refining margin assumptions by comparing these to independent market and consultant forecasts.

Oil and gas reserves
- we have included observations in our key audit matter above on oil and gas reserves.

WACC
- with the assistance of valuation specialists, we independently assessed a range of reasonable input assumptions for calculating Shell's WACC; and
- assessed whether Shell's risking in their impairment assessments, through both a discount rate and individual asset cash flows, adequately reflects the appropriate level of risking for the asset.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA) continued

Our response to the risk continued

Individual asset assessments

- evaluated Shell's assessment of impairment losses and impairment reversal triggers, including changes in the forecast commodity price assumptions, movements in oil and gas reserves, changes in asset performance, changes in Shell's operating plan assumptions, including those relating to Shell's carbon emissions reductions targets, and whether these are indicators of impairment or impairment reversal. We also considered whether potential disposals meet the held for sale criteria;
- separately from management, for material assets, we also assessed independently whether or not indicators of impairment or reversal triggers exist and considered the existence of contradictory evidence such as external commentary on asset performance, which could indicate a significant increase or decrease in the recoverable amount of the assets;
- where triggers were identified, we assessed the inputs to the impairment assessment by comparing forecasts to the operating plan and life of field plans, historical actuals and other independent expectations. We also performed a consistency check on the assumptions to other assumptions applied by the group;
- tested the model integrity of material impairment assessments;
- evaluated the assumptions used in the preparation of the operating plan at a group, segment and asset level and compared the actual performance of assets to the forecasts made in the prior year;
- considered the existence of other contradictory evidence, such as the results of any comparable market transactions that could indicate a material increase or decrease in the recoverable amount of any of the assets, public comments or commitments made by Shell and whether these could impact the future potential value of any assets; and
- assessed potential operational changes that have or are expected to have a significant adverse effect on an asset, such unplanned shutdowns, and whether they should be considered as impairment triggers.

The audit procedures were performed primarily by our group engagement team as well as our local audit teams in Australia, Canada, Nigeria, Poland, UK and USA.

Key observations communicated to the Shell Audit and Risk Committee

In January 2024, we reported to the Audit and Risk Committee that:

Oil and gas prices

- see the key matter above on impact of climate change and the energy transition on the Consolidated Financial Statements.

Petrochemical and refining margins

- we reported to the Committee that Shell's refining and petrochemical margin assumptions are reasonable and sit comfortably within EY's ranges and relative to the external benchmarks. Also, Shell's petrochemical margin assumptions are within the benchmark ranges, other than for North America. Shell's assumptions for North America are conservative; however, this has not impacted any financial reporting judgements as no impairment assessments were performed in this region. The regions that we considered were Europe, North America and Asia.

Oil and gas reserves

- see key matter above on oil and gas reserves.

WACC

- Shell applied a post-tax WACC of 7.5% (2022: 6.5%) to all impairment assessments, other than for the Power business, where a post-tax WACC of 6% (2022: 5%) has been used. We reported to the Committee that Shell's methodology used in estimating the groupwide WACC was reasonable. Shell increased the rate during 2023 and reassessed the rate at the end of the year; and
- in addition to applying a discount rate to risk cash flows, Shell also applied asset-specific risks directly in their cash flows. We reported that our valuation specialists estimated an asset specific discount rate (the WACC and additional cash flow risking) for the most significant impairment assessments performed and that the implicit discount rates were within our ranges.

Individual asset assessments

- we reported that Shell's impairment assessment process is in line with IFRS. We reported to the Committee that we were satisfied with the outcomes of the individual impairment assessments, including the timing of the assessments. We provided the Committee with our observations on asset impairment trigger assessments where we spent the most audit effort, which included assessments where no charge was deemed necessary. Our observations included areas such as held for sale classification, cash flow phasing, cash flow risking and alignment with the operating plan;
- we reported that there was substantial headroom supporting the goodwill within Upstream, IG and Marketing and that there are no material goodwill impairment judgements relating to RE&S.

See the Audit and Risk Committee Report on page 185 for details on how the Audit and Risk Committee considered impairments. Also, see Notes 2, 4, 11, 12 and 13 to the Consolidated Financial Statements.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Accounting for complex transactions within Shell's Trading and Supply (T&S) function and the valuation of financial derivatives

Description of the key audit matter

The recognition of complex deals require accounting and valuation judgement. There is a risk of error in revenue due to the increased complexity of trades that are executed by Shell's T&S function.

Additionally, there is a higher inherent risk of unauthorised trading associated to Shell's wider portfolio of over-the-counter traded position.

As described in Note 25, Shell recognised derivative financial instrument assets of $15.9 billion and derivative financial instrument liabilities of $11.8 billion. As described in Note 7 of the Consolidated Financial Statements, at December 31, 2023 Shell recognised $317 billion of revenue. A subset of the consolidated revenue relates to T&S transactions, where there is a risk of unrealised revenues being inappropriately recorded. Shell has identified trading in the risk factors section of the Strategic Report, which form part of the other information, rather than the audited financial statements.

Shell's trading and supply function is integrated within the Integrated Gas, Upstream, Marketing, Chemicals and Products, and Renewables and Energy Solutions segments. The function executes and settles both standard and non-standard complex trades. The IT environment supporting the function is complex and involves a large number of systems, resulting in a high-level of manual intervention being required.

Auditing complex trades is challenging because of the significant judgement used in determining the appropriate accounting treatment, and the key assumptions used in valuing the trades. Also, trading is not always carried out in active markets where prices are readily available, increasing subjectivity used in determining the pricing curve and volatility assumptions, which are key inputs to valuing the trades and in determining unrealised gains and losses.

Unauthorised trading may occur on Shell's portfolio of over-the-counter positions because of trader incentives and the high volume of transactions that Shell executes.

Our response to the risk

We obtained an understanding of the controls over Shell's process for the recognition of revenue relating to unrealised trading gains and losses, including controls over management's complex deal accounting and valuations. We then evaluated the design of these controls and tested their operating effectiveness.

We involved audit professionals with experience auditing large commodity trading organisations. Our audit procedures focus on the appropriateness of the accounting treatment and the valuation of complex contracts.

To respond to the risk of inappropriate accounting for complex deals we:
- assessed the completeness of the list of complex deals by performing an independent search considering non-standard contractual terms, multiple commodity-based transactions, long-term contracts, unobservable inputs and complex valuation models;
- directly confirmed with the counterparty a sample of new or amended complex deals;
- obtained an understanding of the commercial rationale of complex deals by analysing the executed agreements and through discussions with management. Also, we performed an independent assessment of the accounting treatment of a sample of the complex deals, challenging management on contract terms and previous accounting judgement;
- assessed the reasonableness of Shell's derivative valuation methodology by comparing it to market practice, analysing whether a consistent framework was applied and checked the consistency of inputs used in deal valuations and other assumptions;
- involved valuation specialists to assist us in performing independent testing of complex deals, checking that the appropriate valuation model, accounting method, and liquidity window has been applied. Our valuations were established using independent externally sourced inputs, where available;
- tested the forward pricing curve and volatility assumptions in management's valuation models, including comparing to external broker quotes, market consensus providers, and our independent assessments and further reviewed valuation reserve adjustments for a sample of material complex contracts;
- we specifically challenged management's accounting consideration of whether forward physical contracts to buy and sell LNG are in the scope of IFRS 9 and should be fair valued.

To respond to the risk of unauthorised trading, we:
- performed external confirmation procedures for the existence and completeness of recorded forward positions. Our tests included, amongst other procedures, requesting Shell's counterparties to confirm their entire position with Shell and asking counterparties to provide details of individual trades;
- performed additional procedures over the post year-end tradebook to identify material additions, deletions or amendments from the balance sheet date procedures over late deal entries post year-end, corroborating the reasons for the late entry, and validating the impact on the balance sheet date;
- analysed material post-balance sheet date cash receipts/disbursements and assessed the completeness of the associated derivative recorded as of the balance sheet date;
- performed testing of deals that were unconfirmed or excluded from the management's confirmation process at the balance sheet date. We obtained evidence of the trade's existence at the year-end and validating their exclusion respectively, for a sample of deals; and
- performed procedures to assess the appropriateness of Shell's forward price estimates.

The audit procedures were performed principally by the group engagement team and the UK and US component teams.

Key observations communicated to the Shell Audit and Risk Committee

In January 2024, we reported to the Audit and Risk Committee that:
- the valuation of complex derivative contracts were materially correct and the related unrealised gains and losses have been recorded appropriately in the financial statements;
- we were satisfied with Shell's key accounting judgments and the application of their accounting policies, including the accounting treatment of non-standard contractual terms, were appropriate;
- we highlighted that the accounting judgement around LNG liquidity was a significant judgement. We stated that it was appropriate that Shell do not account for their LNG contracts as derivatives and therefore do not reflect these at fair value. This was based on Shell's net settlement history (there is no significant past practice of net settlement within Shell's LNG portfolio) and market liquidity (indicators do not demonstrate any increase in liquidity in 2023 mid/long term contracts continue to dominate the market); and
- we did not identify instances of unauthorised trading as of the balance sheet date.

See the "Audit and Risk Committee Report" on pages 179-190 for details on how the Audit and Risk Committee reviewed the Trading and Supply's control framework. Also see Note 25 to the "Consolidated Financial Statements".

There were no changes from the prior year as to the Key Audit Matters included in our auditor's report.

Independent Auditor's Report to the members of Shell plc continued

7. Our application of materiality

We apply the concept of materiality both in planning and performing the audit and in evaluating the effect of identified misstatements on our audit and in forming our audit opinion.

Overall materiality

What we mean

We define materiality as the magnitude of an omission or misstatement that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of the financial statements. Materiality provides a basis for determining the nature and extent of our procedures.

Level set

Group materiality

We set our preliminary overall materiality for Shell's Consolidated Financial Statements at $2.0 billion (2022: $1.2 billion). We kept this under review throughout the year and reassessed the appropriateness of our original assessment in the light of Shell's results and external market conditions. We did not find it necessary to revise our level of overall materiality.

Parent Company materiality

We determined materiality for the Parent Company to be $2.0 billion (2022: $1.2 billion), which is 0.7% of equity (2022: 1.0%). We concluded that equity remains an appropriate basis to determine materiality for an investment holding company. The range we normally apply when determining materiality on an equity measurement basis is 1- 2%.
We applied a lower percentage to align the materiality of the Parent Company with that of the Group.

Our basis of determining materiality

Our assessment of overall materiality that we applied throughout the year was $2.0 billion, which represented 4.7% of the three-year normalised Adjusted Earnings pre-tax (see table below). Our approach is the same as that applied in 2022 other than the period over which we normalise. In 2022, we changed our approach and normalised over a two-year period (rather than a three-year period) to reflect structural changes to Shell following significant disposals. Applying a shorter period in 2022 did not increase the materiality that we applied in 2022. In 2023, we reverted to a three-year period as Shell's underlying business in 2021, 2022 and 2023 are structurally more comparable.

Where we measure materiality on a pre-tax earnings basis, we normally apply 5% of the measure. Applying this to the three-year normalised Adjusted pre-tax earnings would indicate materiality of $2.1 billion. In deciding on an appropriate planning materiality to apply in the Shell audit, we judgementally selected $2.0 billion. In 2022, we applied a lower planning materiality ($1.2 billion); however, we could have applied a level similar to that in 2023. We selected a lower level in 2022 on the basis that there was more uncertainty over long term prices.

Our materiality was derived from an average of Shell's earnings for 2021-2023, including an initial estimate of the 2023 result, on an Adjusted Earnings basis, which we then adjusted for an average effective tax rate. At the end of the year, we reassessed materiality based on the actual results for 2023. As disclosed within Non-GAAP measures reconciliations within Additional Information, the "Adjusted Earnings" measure aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items. Shell's identified items are disclosed within Additional Information, Non-GAAP measures reconciliations, in the section Identified items.

Our key criterion in determining materiality remains our perception of the needs of Shell's stakeholders. We consider which earnings, activity or capital-based measure aligns best with their expectations. In so doing, we apply a 'reasonable investor perspective', which reflects our understanding of the common financial information needs of the members of Shell as a group.

In our view these needs are best met by basing materiality on normalised Adjusted Earnings on a pre-tax basis. Through applying a normalised earnings approach, large year-on-year swings in materiality are minimised. These swings would be driven primarily by price fluctuations rather than specific structural changes to Shell's business. In addition, an Adjusted Earnings approach is consistent with the presentation of Shell's segment earnings, which is the earnings measure used by the CEO for the purposes of making decisions about allocating resources and assessing performance.

We have considered alternative benchmarks to Adjusted Earnings, including profit before taxation and EBITDA. These indicate a range of $1.4 billion to $2.1 billion.

By applying a normalised Adjusted Earnings approach, we have concluded that it is appropriate to apply a materiality of $2.0 billion (2022: $1.2 billion).

The Adjusted Earnings were as follows:

$ billion	2023	2022	2021
Adjusted Earnings*	28.2	39.9	19.3
Estimated tax impact based on the average effective tax rate	13.7	18.5	8.5
Adjusted Earnings pre-tax	41.9	58.4	27.8
Materiality percentage on the average Adjusted Earnings pre-tax - 2021-2023		4.7%	

* Non-GAAP measure (see page 365).

Independent Auditor's Report to the members of Shell plc continued

7. Our application of materiality continued

Performance materiality

What we mean

Having established overall materiality, we determined 'performance materiality', which represents our tolerance for misstatement in an individual account. It is calculated as a percentage of overall materiality in order to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality of $2.0 billion for Shell's financial statements as a whole. We assigned performance materiality to our various in-scope operating units. The performance materiality allocation is dependent on the size of the operating unit, measured by its contribution of earnings to Shell, or other appropriate metric, and the risk associated with the operating unit.

Level set

In our assessment for 2023, we considered the nature, number and impact of the audit differences identified in 2022. We also noted the way in which management navigated the financial statement close throughout 2022, and the fact that we did not experience any notable increase in control deficiencies in the prior year audit. Based on our assessment of these factors, our judgement was that performance materiality for the 2023 audit should be 75% (2022: 75%) of our overall materiality or $1.5 billion (2022: $0.9 billion).

The level of materiality that we applied in undertaking our audit work at the operating unit level, for the purpose of obtaining coverage over significant financial statements accounts, was determined by applying a percentage of our total performance materiality. This percentage is based on the significance of the operating unit relative to Shell as a whole and our assessment of the risk of material misstatement at that operating unit. In 2023 the range of materiality applied at the operating unit level was $225 million to $975 million (2022: $135 million to $585 million).

The performance materiality was kept under ongoing review, but the conclusion remained unchanged at our year-end re-assessment of materiality.

Audit difference reporting threshold

What we mean

This is the amount below which identified misstatements are clearly trivial. The threshold is the level above which we collate and report audit differences to the Audit and Risk Committee. We also report differences below that threshold that, in our view, warrant reporting on qualitative grounds. We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in the light of other relevant qualitative considerations in forming our opinion.

Level set

We agreed with the Audit and Risk Committee that we would report to the Committee all audit differences more than $100 million (2022: $60 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. This represents 5% of our planning materiality (2022: 5%).

Independent Auditor's Report to the members of Shell plc continued

8. Our scope of the audit of Shell's financial statements

What we mean

We are required to establish an overall audit strategy that sets the scope, timing, and direction of our audit. Audit scope comprises the physical locations, operating units, activities, and processes to be audited that, in aggregate, are expected to provide sufficient coverage of the financial statements for us to express an audit opinion.

Criteria for determining our audit scope and selection of in-scope operating units

Our assessment of audit risk, our evaluation of materiality and our allocation of performance materiality determined our audit scope for each operating unit within Shell which, when taken together, enabled us to form an opinion on the consolidated financial statements. Our audit effort was focused towards higher risk areas, such as management judgements and on operating units that we considered significant based upon size, complexity or risk.

We assessed our 2023 audit scope following the completion of our 2022 audit. We identified those Areas of Operation (AoOs or operating units) that were significant by virtue of their contribution to Shell's results or significant by virtue of their associated risk or complexity. In doing this we considered the history or expectation of unusual or complex transactions, potential for or history of material misstatements, the previous effectiveness of controls, our forensic assessment in relation to fraud, bribery or corruption, and internal audit findings. We then considered the adequacy of account coverage and remaining audit risk of AoOs not directly covered by audit procedures. Finally, we sense checked our scope to the prior year; ensured that there was appropriate unpredictability in our scope and made the necessary changes where appropriate. We applied our Risk Scan analytics techniques, which consolidate internal and external data to inform us on higher risk components to be included in scope. This allowed us to risk rate the group's operating units. We identified 94 operating units where we believed that it was appropriate to carry out targeted testing.

By following this approach, our audit effort focused on higher risk areas, such as management judgements. Our group wide procedures enabled us to obtain audit evidence over the AoOs that were not full, specific or specified procedure scope.

We did not make substantial changes to our 2022 assessment of the components where we performed full or specific scope audit procedures. Also, there were no significant changes to the number of IT applications we tested.

We kept our audit scope under review throughout the year to reflect changes in Shell's underlying business and risks; however, no significant changes were required.

The table below illustrates the scope of work performed by our audit teams:

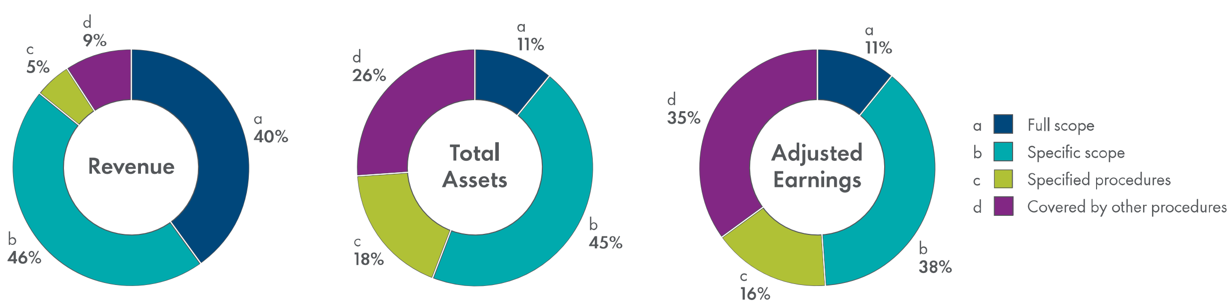
Operating units	2023	2022	No. of countries	Basis of inclusion	Extent of procedures
Full scope	7	9	6	Size	Complete financial information
Specific scope	34	35	11	Significant risk or higher risk estimates	Individual account balances
Specified procedures[1]	53	54	26	Other risk factors	Individual transactions or processes
Other procedures	818	698	100	Residual risk of error	Supplementary audit procedures[2]
Total	912	796			

1 These procedures were performed by components and at the group level, to address specified risks of the audit or for audit coverage purposes.
2 We performed supplementary audit procedures in relation to Shell's centralised group accounting and reporting processes. These included, but were not limited to, addressing the implications of significant and complex accounting matters across all operating units, procedures over revenue to cash process analytics, review of impairment or impairment reversal indicators by segments, procedures over the forecasts as they relate to deferred tax asset recoverability and review of pension scheme assumptions, procedures over unusual accounting transactions including trading mark-to-market valuations, acquisitions, divestments and redundancies, addressing the appropriate elimination of intercompany balances and the completeness of provisions for litigation and other claims, including those related to non-compliance with laws and regulations. We performed testing of both manual and consolidation journal entries throughout the year, homogenous processes, and controls at the Business Service Centres (BSCs) and testing of group wide IT systems. We performed a disaggregated analytical review on each financial statement line item and also tested Shell's analytical procedures performed at a group, segment and function level.

Coverage

Our coverage by full, specific, specified and group procedures is illustrated below. The summary is by Total Assets, Adjusted Earnings and Revenue. Overall, our full, specific and specified procedures accounted for 65% of Shell's absolute Adjusted Earnings reported by Shell in its quarterly results announcements and adjusted for an effective tax rate. The remaining Adjusted Earnings were covered by Group wide procedures.

The Parent Company is located in the United Kingdom and audited directly by the Group engagement team



Independent Auditor's Report to the members of Shell plc continued

8. Our scope of the audit of Shell's financial statements continued

Group evaluation, review and oversight of component teams

The group engagement partner and Senior Statutory Auditor, Gary Donald, has overall responsibility for the direction, supervision and performance of the Shell audit engagement in compliance with professional standards and applicable legal and regulatory requirements. He is supported by segment and function partners, who are based in the Netherlands and the UK, and who together with related staff comprise the integrated group engagement team. This group engagement team established the overall group audit strategy, communicated with component auditors, performed work on the consolidation process, and evaluated the conclusions drawn from the audit evidence as the basis for forming EY's opinion on the group financial statements.

The group engagement team is responsible for directing, supervising, evaluating and reviewing the work of EY global network firms operating under their instruction (local EY teams) to assess whether:
- the local EY audit team had the appropriate level of experience;
- the work was performed and documented to a sufficiently high standard;
- the local EY audit team demonstrated that they had challenged management sufficiently and had executed their audit procedures with an appropriate level of scepticism; and
- there is sufficient appropriate audit evidence to support the conclusions reached.

Members of the group engagement team provide direct oversight, review, and coordination of our BSC audit teams. Our BSC teams performed centralised testing in the BSCs for certain accounts, including revenue, cash and payroll. In establishing our overall approach to the group audit, we determined the type of work that needed to be undertaken at each of the operating units or BSCs by the group engagement team or by auditors from other local EY teams.

For the operating units where the work was performed by local EY auditors, we determined the appropriate level of involvement of the group engagement team to enable us to conclude that sufficient appropriate audit evidence had been obtained, as a basis for our opinion on the Group as a whole.

The group engagement team provided detailed instructions to our component teams to drive the audit strategy and execution in a coordinated manner. Group audit partners physically visited India, Philippines Poland, Singapore and the USA, covering operating units, functions and BSCs. The Group audit partners also performed virtual site visits in Australia, Brazil and Nigeria. Our visits covered all of the T&S component teams and Shell's trading locations. The Senior Statutory Auditor physically visited India, Poland and the USA and virtually visited Australia and Nigeria. During the USA site visit, the Senior Statutory Auditor accompanied the Audit and Risk Committee on their visit to a number of operations, including Shell Polymers Monaca, the Shell Norco facility, the Shell – operated Vito floating production facility in the Gulf of Mexico (virtual visit from New Orleans) and the Houston trading floor.

During our visits, we exercised direction, supervision, oversight and review of our overseas EY audit teams. We were satisfied that we have had adequate involvement in their work and that we exercised sufficient and appropriate direction to the component teams.

Our oversight of component teams included maintaining a continuous and open dialogue with our global component teams, as well as holding formal closing meetings quarterly, to ensure that we were fully aware of their progress and results of their procedures.

9. Other information

The other information comprises the information included in the Annual Report including the Strategic Report, Governance, Supplementary Information and Additional Information sections, other than the financial statements and our auditor's report thereon. The Directors are responsible for the other information contained within the Annual Report.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

10. Opinions on Other matters prescribed by the Companies Act 2006

In our opinion, the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:
- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

Independent Auditor's Report to the members of Shell plc continued

11. Matters on which we are required to report by exception

In the light of the knowledge and understanding of the Group and the Parent Company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

12. Corporate Governance Statement

We have reviewed the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance Statement relating to the group and company's compliance with the provisions of the UK Corporate Governance Code specified for our review by the Listing Rules.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance Statement is materially consistent with the financial statements or our knowledge obtained during the audit:

- Directors' statement with regards to **the appropriateness of adopting the going concern basis of accounting** and any material uncertainties identified set out in the "Other regulatory and statutory information" section;
- Directors' explanation as to its **assessment of the company's prospects**, the period this assessment covers and why the period is appropriate set out in the "Other regulatory and statutory information" section;
- Director's statement on whether it has a reasonable expectation that the group will be able to continue in operation and meets its liabilities set out in the "Other regulatory and statutory information" section;
- Directors' statement on **fair, balanced and understandable** set out in the "Other regulatory and statutory information" section;
- Board's confirmation that it has carried out a **robust assessment of the emerging and principal risks** set out in the "Other regulatory and statutory information" section;
- The section of the annual report that describes the **review of effectiveness of risk management and internal control systems** set out in the "Other regulatory and statutory information" section; and;
- The section describing **the work of the audit and risk committee** set out in the "Other regulatory and statutory information" section.

13. Responsibilities of the Directors'

As explained more fully in the statement of Directors' responsibilities set out in the "Other regulatory and statutory information" section, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing Shell and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate Shell or the Parent Company or to cease operations, or have no realistic alternative but to do so.

14. Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud.

The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:

- we obtained an understanding of the legal and regulatory frameworks that are applicable to Shell and determined that the most significant are those that relate to the reporting framework (UK adopted international accounting standards, IFRS as issued by the IASB, Companies Act 2006, the UK Corporate Governance Code, the US Securities Exchange Act of 1934 and the Listing Rules of the UK Listing Authority) and the relevant tax compliance regulations in the jurisdictions in which Shell operates. In addition, we concluded that there are certain significant laws and regulations that may have an effect on the determination of the amounts and disclosures in the financial statements and those laws and regulations relating to health and safety, employee matters, environmental, and bribery and corruption practices.

Independent Auditor's Report to the members of Shell plc continued

15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud continued

- we understood how Shell is complying with those frameworks by making enquiries of management, internal audit, and those responsible for legal and compliance procedures. We corroborated our enquiries through our review of Board minutes, papers provided to the Audit and Risk Committee and correspondence received from regulatory bodies and noted that there was no contradictory evidence.
- we assessed the susceptibility of Shell's financial statements to material misstatement, including how fraud might occur, by embedding forensic specialists into our group engagement team. Our forensic specialists worked with the group engagement team to identify the fraud risks across various parts of the business. In addition, we utilised internal and external information to perform a fraud risk assessment for each of the countries of operation. We considered the risk of fraud through management override and, in response, we incorporated data analytics across manual journal entries into our audit approach. We also considered the possibility of fraudulent or corrupt payments made through third parties, gaining a detailed understanding of the Company's monitoring and compliance activities related to vendor screening and due diligence. Where deemed appropriate we conducted analytical testing on third party vendors in high-risk jurisdictions. We utilised a suite of digital tools in our assessment of fraud and management override including technology that seeks to verify the authenticity of key documents. We also conducted specific audit procedures in relation to the risk of bribery, corruption and sanctions compliance across various countries of operation determined on a risk-based approach.
- based on the results of our risk assessment we designed our audit procedures to identify non-compliance with such laws and regulations identified above. Our procedures involved journal entry testing, with a focus on journals meeting our defined risk criteria based on our understanding of the business; enquiries of legal counsel, group management, internal audit and all full and specific scope management; review of the volume and nature of complaints received by the whistleblowing hotline during the year; review of internal audit reports issued during the year; review of news releases published by external parties; and
- if any instances of non-compliance with laws and regulations were identified, these were communicated to the group engagement team and the relevant local EY teams who performed sufficient and appropriate audit procedures, supplemented by audit procedures performed at the group level.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

16. Other matters we are required to address

Following the recommendation of the Audit and Risk Committee, we were re-appointed by Shell plc's Annual General Meeting (AGM) on May 23, 2023, as auditors of Shell to hold office until the conclusion of the next AGM of the Company, and signed an engagement letter on January 17, 2024. Our total uninterrupted period of engagement is eight years covering periods from our appointment through to the period ending December 31, 2023.

Our audit opinion is consistent with our additional report to the Audit and Risk Committee explaining the results of our audit.

17. Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ Gary Donald (Senior Statutory Auditor)

Gary Donald
Senior Statutory Auditor
for and on behalf of Ernst & Young LLP
London
March 13, 2024

Consolidated Financial Statements

Consolidated Financial Statements continued

Consolidated Statement of Income
for the year ended December 31, 2023

$ million

	Notes	2023	2022	2021
Revenue	7	316,620	381,314	261,504
Share of profit of joint ventures and associates	13	3,725	3,972	4,097
Interest and other income	8	2,838	915	7,056
Total revenue and other income		**323,183**	**386,201**	**272,657**
Purchases		212,883	258,488	174,912
Production and manufacturing expenses	7	25,240	25,518	23,822
Selling, distribution and administrative expenses	7	13,433	12,883	11,328
Research and development	7	1,287	1,075	815
Exploration	7	1,750	1,712	1,423
Depreciation, depletion and amortisation	7	31,290	18,529	26,921
Interest expense	9	4,673	3,181	3,607
Total expenditure		**290,556**	**321,386**	**242,828**
Income before taxation		**32,627**	**64,815**	**29,829**
Taxation charge	22	12,991	21,941	9,199
Income for the period	7	**19,636**	**42,874**	**20,630**
Income attributable to non-controlling interest	7	277	565	529
Income attributable to Shell plc shareholders	7	**19,359**	**42,309**	**20,101**
Basic earnings per share ($)	30	2.88	5.76	2.59
Diluted earnings per share ($)	30	2.85	5.71	2.57

Consolidated Statement of Comprehensive Income
for the year ended December 31, 2023

$ million

	Notes	2023	2022	2021
Income for the period	7	19,636	42,874	20,630
Other comprehensive income/(loss) net of tax				
Items that may be reclassified to income in later periods:				
Currency translation differences	28	1,397	(2,986)	(1,413)
Debt instruments remeasurements	28	41	(78)	(28)
Cash flow hedging gains/(losses)	28	71	(232)	21
Net investment hedging (losses)/gains	28	(44)	180	295
Deferred cost of hedging	28	(148)	200	(39)
Share of other comprehensive income/(loss) of joint ventures and associates	13	18	274	(109)
Total		**1,335**	**(2,642)**	**(1,273)**
Items that are not reclassified to income in later periods:				
Retirement benefits remeasurements	28	(1,083)	5,466	7,198
Equity instruments remeasurements	28	(99)	(491)	145
Share of other comprehensive (loss)/income of joint ventures and associates	13	(201)	(253)	3
Total		**(1,383)**	**4,722**	**7,346**
Other comprehensive (loss)/income for the period		(48)	2,080	6,073
Comprehensive income for the period		**19,588**	**44,954**	**26,703**
Comprehensive income attributable to non-controlling interest		312	621	468
Comprehensive income attributable to Shell plc shareholders		**19,276**	**44,333**	**26,235**

Consolidated Financial Statements continued

Consolidated Balance Sheet
as at December 31, 2023

$ million

	Notes	Dec 31, 2023	Dec 31, 2022
Assets			
Non-current assets			
Goodwill	10	16,660	16,039
Other intangible assets	10	10,253	9,662
Property, plant and equipment	11	194,835	198,642
Joint ventures and associates	13	24,457	23,864
Investments in securities	14	3,246	3,362
Deferred tax	22	6,454	7,815
Retirement benefits	23	9,151	10,200
Trade and other receivables	15	6,298	6,920
Derivative financial instruments	25	801	582
		272,155	**277,086**
Current assets			
Inventories	16	26,019	31,894
Trade and other receivables	15	53,273	66,510
Derivative financial instruments	25	15,098	24,437
Cash and cash equivalents	17	38,774	40,246
		133,164	**163,087**
Assets classified as held for sale	18	951	2,851
		134,115	**165,938**
Total assets		**406,270**	**443,024**
Liabilities			
Non-current liabilities			
Debt	20	71,610	74,794
Trade and other payables	19	3,103	3,432
Derivative financial instruments	25	2,301	3,563
Deferred tax	22	15,347	16,186
Retirement benefits	23	7,549	7,296
Decommissioning and other provisions	24	22,531	23,845
		122,441	**129,116**
Current liabilities			
Debt	20	9,931	9,001
Trade and other payables	19	68,237	79,357
Derivative financial instruments	25	9,529	23,779
Income taxes payable		3,422	4,869
Decommissioning and other provisions	24	4,041	2,910
		95,160	**119,916**
Liabilities directly associated with assets classified as held for sale	18	307	1,395
		95,467	**121,311**
Total liabilities		**217,908**	**250,427**
Equity			
Share capital	26	544	584
Shares held in trust		(997)	(726)
Other reserves	28	21,145	21,132
Retained earnings		165,915	169,482
Equity attributable to Shell plc shareholders		**186,607**	**190,472**
Non-controlling interest		1,755	2,125
Total equity		**188,362**	**192,597**
Total liabilities and equity		**406,270**	**443,024**

Signed on behalf of the Board

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 13, 2024

Consolidated Financial Statements continued

Consolidated Statement of Changes in Equity
for the year ended December 31, 2023

$ million

	Equity attributable to Shell plc shareholders						
	Share capital (see Note 26)	Shares held in trust	Other reserves (see Note 28)	Retained earnings	Total	Non-controlling interest	Total equity
At January 1, 2023	**584**	**(726)**	**21,132**	**169,482**	**190,472**	**2,125**	**192,597**
Comprehensive income for the period	–	–	(83)	19,359	19,276	312	19,588
Transfer from other comprehensive income	–	–	(112)	112	–	–	–
Dividends (see Note 29) [A]	–	–	–	(8,389)	(8,389)	(764)	(9,153)
Repurchases of shares [B]	(40)	–	40	(14,571)	(14,571)	–	(14,571)
Share-based compensation	–	(271)	168	(85)	(188)	–	(188)
Other changes	–	–	–	7	7	82	89
At December 31, 2023	**544**	**(997)**	**21,145**	**165,915**	**186,607**	**1,755**	**188,362**
At January 1, 2022	**641**	**(610)**	**18,909**	**153,026**	**171,966**	**3,360**	**175,326**
Comprehensive income for the period	–	–	2,024	42,309	44,333	621	44,954
Transfer from other comprehensive income	–	–	(34)	34	–	–	–
Dividends (see Note 29) [A]	–	–	–	(7,283)	(7,283)	(206)	(7,489)
Repurchases of shares	(57)	–	57	(18,547)	(18,547)	–	(18,547)
Share-based compensation	–	(116)	176	131	191	–	191
Other changes	–	–	–	(188)	(188)	(1,650)	(1,838)
December 31, 2022	**584**	**(726)**	**21,132**	**169,482**	**190,472**	**2,125**	**192,597**
At January 1, 2021	**651**	**(709)**	**12,752**	**142,616**	**155,310**	**3,227**	**158,537**
Comprehensive income for the period	–	–	6,134	20,101	26,235	468	26,703
Transfer from other comprehensive income	–	–	(45)	45	–	–	–
Dividends (see Note 29) [A]	–	–	–	(6,321)	(6,321)	(348)	(6,669)
Repurchases of shares	(10)	–	10	(3,513)	(3,513)	–	(3,513)
Share-based compensation	–	99	58	93	250	–	250
Other changes	–	–	–	5	5	13	18
At December 31, 2021	**641**	**(610)**	**18,909**	**153,026**	**171,966**	**3,360**	**175,326**

[A] The amount charged to retained earnings is based on prevailing exchange rates on payment date.
[B] Includes shares committed to repurchase under irrevocable contracts and repurchases subject to settlement at the end of the year. (See Note 26)

Consolidated Financial Statements continued

Consolidated Statement of Cash Flows
for the year ended December 31, 2023

$ million

	Notes	2023	2022	2021
Income before taxation for the period		32,627	64,815	29,829
Adjustment for:				
Interest expense (net)		2,360	2,135	3,096
Depreciation, depletion and amortisation		31,290	18,529	26,921
Exploration well write-offs	11	868	881	639
Net gains on sale and revaluation of non-current assets and businesses		(246)	(642)	(5,995)
Share of profit of joint ventures and associates		(3,725)	(3,972)	(4,097)
Dividends received from joint ventures and associates		3,674	4,398	3,929
Decrease/(increase) in inventories		6,325	(8,360)	(7,319)
Decrease/(increase) in current receivables		12,401	(8,989)	(20,567)
(Decrease)/increase in current payables		(10,888)	11,915	17,519
Derivative financial instruments		(5,723)	(2,619)	5,882
Retirement benefits		(37)	417	16
Decommissioning and other provisions		(473)	35	(76)
Other		(550)	2,991	803
Tax paid		(13,712)	(13,120)	(5,476)
Cash flow from operating activities		**54,191**	**68,414**	**45,104**
Capital expenditure	7	(22,993)	(22,600)	(19,000)
Investments in joint ventures and associates	7	(1,202)	(1,973)	(479)
Investment in equity securities	7	(197)	(260)	(218)
Proceeds from sale of property, plant and equipment and businesses		2,565	1,431	14,233
Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans		474	511	584
Proceeds from sale of equity securities		51	117	296
Interest received		2,124	906	423
Other investing cash inflows		4,269	2,060	2,928
Other investing cash outflows		(2,825)	(2,640)	(3,528)
Cash flow from investing activities		**(17,734)**	**(22,448)**	**(4,761)**
Net (decrease)/increase in debt with maturity period within three months		(211)	318	14
Other debt:				
New borrowings		1,029	269	1,791
Repayments		(10,650)	(8,459)	(21,534)
Interest paid		(4,441)	(3,677)	(4,014)
Derivative financial instruments		723	(1,799)	(1,165)
Change in non-controlling interest		(22)	(1,965)	19
Cash dividends paid to:				
Shell plc shareholders		(8,393)	(7,405)	(6,253)
Non-controlling interest		(764)	(206)	(348)
Repurchases of shares		(14,617)	(18,437)	(2,889)
Shares held in trust: net purchases and dividends received		(889)	(593)	(285)
Cash flow from financing activities		**(38,235)**	**(41,954)**	**(34,664)**
Effects of exchange rate changes on cash and cash equivalents		306	(736)	(539)
(Decrease)/increase in cash and cash equivalents		(1,472)	3,276	5,140
Cash and cash equivalents at beginning of year		40,246	36,970	31,830
Cash and cash equivalents at end of year	17	**38,774**	**40,246**	**36,970**

Notes to the Consolidated Financial Statements

1. Basis of preparation

The Consolidated Financial Statements of Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Consolidated Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Consolidated Financial Statements were approved and authorised for issue by the Board of Directors on March 13, 2024.

Going concern

These Consolidated Financial Statements have been prepared on the going concern basis of accounting. In assessing the appropriateness of the going concern assumption over the period to March 31, 2025 (the "going concern period"), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, further potential downside pressures on commodity prices and long-term demand, and cash preservation measures, including reduced future capital expenditure and shareholder distributions. This assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the audited Consolidated Financial Statements.

2. Material accounting policies, judgements and estimates

This Note describes Shell's material accounting policies. It allows for an understanding as to how material transactions, other events and conditions are reported. It also describes: (a) judgements, apart from those involving estimations, that management makes in applying the policies that have the most significant effect on the amounts recognised in the Consolidated Financial Statements; and (b) estimations, including assumptions about the future, that management makes in applying the policies. The sources of estimation uncertainty that have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year are specifically identified as a significant estimate.

The accounting policies applied are consistent with those of the previous financial year except for the adoption as from January 1, 2023, of IFRS 17 Insurance contracts (IFRS 17) and IAS 12 Income taxes (IAS 12) amendments.

The transition to the accounting pronouncements as listed below has no material impact on Shell's financial reporting.

IFRS 17 Insurance contracts

IFRS 17 as issued in 2017, with amendments published in 2020 and 2021, was adopted as from January 1, 2023. The IFRS 17 model combines a current balance sheet measurement of insurance contracts with recognition of profit over the period that services are provided. The general model in IFRS 17 requires insurance contract liabilities to be measured using probability-weighted current estimates of future cash flows, an adjustment to reflect the time value of money and financial and non-financial risk, and a contractual service margin representing the profit expected from fulfilling the contracts. Effects of changes in the estimates of future cash flows and the risk adjustment relating to future services are recognised over the period services are provided rather than immediately in profit or loss.

The adoption of IFRS 17 has no significant impact on Shell's financial reporting.

Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12)

IAS 12 amendments, published in May 2021, were adopted as from January 1, 2023 (see Note 22). These amendments require companies to recognise deferred tax on particular transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The amendments typically apply to transactions where assets and liabilities are recognised from a single transaction, such as leases for the lessee and decommissioning and restoration provisions.

The adoption of these IAS 12 amendments has no significant impact on Shell's financial reporting.

International Tax Reform — Pillar Two Model Rules (Amendments to IAS 12)

In May 2023, amendments to IAS 12 were published and adopted from that date. The amendments introduce a temporary mandatory relief from accounting for deferred taxes arising from the jurisdictional implementation of the Organisation for Economic Co-operation and Development (OECD)/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) Pillar Two Model Rules (Pillar Two or Pillar Two income taxes). On June 20, 2023, the UK substantively enacted Pillar Two. The adoption of Pillar Two by the jurisdictions in which Shell operates is not expected to have a significant impact (see Note 22). As required by the amendments to IAS 12, Shell has applied the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Nature of the Consolidated Financial Statements

The Consolidated Financial Statements are presented in US dollars (dollars) and comprise the financial statements of the Company and its subsidiaries, being those entities over which the Company has control, either directly or indirectly, through exposure or rights to their variable returns and the ability to affect those returns through its power over the entities. Information about subsidiaries at December 31, 2023, can be found in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases, using consistent accounting policies. All inter-company balances and transactions, including unrealised profits arising from such transactions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interest represents the proportion of income, other comprehensive income and net assets in subsidiaries that is not attributable to the Company's shareholders.

Currency translation

Foreign currency transactions are translated using the exchange rate at the dates of the transactions or valuation where items are remeasured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at quarter-end exchange rates of monetary assets and liabilities denominated in foreign currencies (including those in respect of inter-company balances, unless related to loans of a long-term investment nature) are recognised in income unless when recognised in other comprehensive income in respect of cash flow or net investment hedges. Foreign exchange gains and losses in income are presented within interest and other income or within purchases where not related to financing. Share capital issued in currencies other than the dollar is translated at the exchange rate at the date of issue.

On consolidation, assets and liabilities of non-dollar entities are translated to dollars at year-end rates of exchange, while their statements of income, other comprehensive income and cash flows are translated at monthly average rates. Prior to January 1, 2023, these currency translations were performed at quarterly average rates. This change has no significant impact on Shell's financial reporting. The resulting translation differences are recognised as currency translation differences within other comprehensive income. Upon sale of all or part of an interest in, or upon liquidation of, an entity, the appropriate portion of cumulative currency translation differences related to that entity is generally recognised in income.

Revenue recognition

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the transaction price to which Shell expects to be entitled, after deducting sales taxes, excise duties and similar levies. For contracts that contain separate performance obligations, the transaction price is allocated to those separate performance obligations by reference to their relative stand-alone selling prices.

Revenue is recognised when control of the products has been transferred to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when the product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when the product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's volumes lifted and sold. Revenue resulting from the production of oil and natural gas under production-sharing contracts (PSCs) is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held primarily for the purpose of being traded are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for the refinery operations are presented net in the Consolidated Statement of Income.

Revenue resulting from arrangements that are not considered contracts with customers is presented as revenue from other sources.

Research and development

Development costs that are expected to generate probable future economic benefits are capitalised as intangible assets. All other research and development expenditure is recognised in the Consolidated Statement of Income as incurred.

Exploration costs

Hydrocarbon exploration costs are accounted for under the successful efforts method: exploration costs are recognised in the Consolidated Statement of Income when incurred, except that exploratory drilling costs, including in respect of the recapitalisation of depreciation, are included in property, plant and equipment pending determination of proved reserves. Exploration costs capitalised in respect of exploration wells that are more than 12 months old are written off unless: (a) proved reserves are booked; or (b) (i) they have found commercially producible quantities of reserves; and (ii) they are subject to further exploration or appraisal activity in that either drilling of additional exploratory wells is under way or firmly planned for the near future or other activities are being undertaken to sufficiently progress the assessing of reserves and the economic and operating viability of the project.

Property, plant and equipment and intangible assets other than goodwill

Recognition

Property, plant and equipment comprise assets owned by Shell, assets held by Shell under lease contracts, and assets operated by Shell as contractor in PSCs. They include rights and concessions in respect of properties with proved reserves ("proved properties") and with no proved reserves ("unproved properties"). Property, plant and equipment, including expenditure on major inspections, and intangible assets are initially recognised in the Consolidated Balance Sheet at cost where it is probable that they will generate future economic benefits. This includes capitalisation of decommissioning and restoration costs associated with provisions for asset retirement (see "provisions"), certain development costs (see "research and development") and the effects of associated cash flow hedges (see "financial instruments") as applicable. Interest is capitalised as an increase in property, plant and equipment, on major capital projects during construction. The accounting for exploration costs is described separately (see "exploration costs"). Intangible assets other than goodwill include liquefied natural gas (LNG) off-take and sales contracts, environmental certificates, power purchase agreements, software costs, retail customer relationships and trademarks.

Property, plant and equipment and intangible assets other than goodwill are subsequently carried at cost less accumulated depreciation, depletion and amortisation (including any impairment). Gains and losses on sale are determined by comparing the proceeds with the carrying amounts of assets sold and are recognised in the Consolidated Statement of Income, within interest and other income.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

An asset is classified as held for sale if its carrying amount will be recovered principally through sale rather than through continuing use, which is when the sale is highly probable, and it is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets. Assets classified as held for sale are measured at the lower of the carrying amount upon classification and the fair value less costs to sell. Assets classified as held for sale and the associated liabilities are presented separately from other assets and liabilities in the Consolidated Balance Sheet. Once assets are classified as held for sale, property, plant and equipment and intangible assets other than goodwill are no longer subject to depreciation or amortisation.

Depreciation, depletion and amortisation

Property, plant and equipment related to hydrocarbon production activities are in principle depreciated on a unit-of-production basis over the proved developed reserves of the field concerned, other than assets whose useful lives differ from the lifetime of the field which are depreciated applying the straight-line method. For certain Integrated Gas and Upstream assets, the use of proved developed reserves, which are determined using the Securities and Exchange Commission (SEC) mandated yearly average oil and gas prices, could result in depreciation charges for these assets which do not reflect the pattern in which their future economic benefits are expected to be consumed as, for example, it may result in assets with long-term expected lives having accelerated or being fully depreciated within one year. Therefore, in these instances, other approaches are applied to determine a reserves base for the purpose of calculating depreciation, such as using management's expectations of future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 11)

Rights and concessions in respect of proved properties are depleted on the unit-of-production basis over the total proved reserves of the relevant area. Where individually insignificant, unproved properties may be grouped and depreciated based on factors such as the average concession term and past experience of recognising proved reserves.

Property, plant and equipment held under lease contracts, capitalised LNG off-take and sales contracts and power purchase agreements are depreciated or amortised over the term of the respective contract. Other property, plant and equipment and intangible assets other than goodwill are depreciated or amortised on a straight-line basis over their estimated useful lives. They include energy and chemicals parks (for which the useful life is generally 20 years), retail service stations (for which the useful life is generally 15 years), onshore power infrastructure (for which the useful life is generally 30-35 years), offshore wind assets (for which the useful life is generally 25-30 years) and major inspection costs, which are depreciated over the estimated period before the next planned major inspection (three to five years).

On classification of an asset as held for sale, depreciation ceases.

Estimates of the useful lives and residual values of property, plant and equipment and intangible assets other than goodwill are reviewed annually and adjusted if appropriate.

Impairment

Intangible assets other than goodwill and assets other than unproved properties (see "Exploration costs") are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those assets may not be recoverable. If any such indication of impairment exists, the carrying amounts of those assets are written down to their recoverable amount, which is the higher of fair value less costs of disposal (see "Fair value measurements") and value in use.

Value in use is determined as the amount of estimated risk-adjusted discounted future cash flows. For this purpose, assets are grouped into cash-generating units based on separately identifiable and largely independent cash inflows. Estimates of future cash flows used in the evaluation of impairment of assets are made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational greenhouse gas (GHG) emissions, mainly related to CO_2, and forecast product, refining and chemical margins. In addition, management takes into consideration the expected useful lives of the manufacturing facilities, exploration and production assets, and expected production volumes. The latter takes into account assessments of field and reservoir performance and includes expectations about both proved reserves and volumes that are expected to constitute proved reserves in the future (unproved volumes), which are risk-weighted utilising geological, production, recovery and economic projections. Cash flow projections are based on management's most recent Operating Plan that represents management's best estimate and are risked as appropriate. The discount rate is based on a nominal post-tax weighted average cost of capital (WACC). Using a
post-tax discount rate to calculate value in use does not result in a materially different outcome than using a pre-tax discount rate. (See Note 12).

Impairments are reversed as applicable to the extent that the events or circumstances that triggered the original impairment have changed.

Impairment losses and reversals are reported within depreciation, depletion and amortisation.

Upon classification of an asset as held for sale, the carrying amount is impaired if this exceeds the fair value less costs to sell.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Judgements and estimates

Proved oil and gas reserves

Unit-of-production depreciation, depletion and amortisation charges are principally measured based on management's estimates of proved developed oil and gas reserves. Also, exploration drilling costs are capitalised pending the results of further exploration or appraisal activity (successful efforts method), which may take place for several years before the final investment decision on a development project is taken and before any related proved reserves can be booked.

Proved reserves are estimated by internal qualified professionals. The proved reserves are estimated with reasonable certainty by analysis of available geological and engineering data at the time of the estimation, and only include volumes for which access to market is assured with reasonable expectation. Yearly average oil and gas prices are used for the estimation of proved reserves unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Proved reserves are subject to regular revision, both upward or downward, based on new information from the drilling of additional wells, observation of long-term reservoir performance under producing conditions, updates of development plans and changes in economic factors, including product prices, contract terms, legislation or development plans.

Changes to estimates of proved developed reserves affect prospectively the amounts of depreciation, depletion and amortisation charged and, consequently, the carrying amounts of exploration and production assets. Generally, in the normal course of business the diversity of the asset portfolio will limit the net effect of such revisions. The outcome of, or assessment of plans for, exploration or appraisal activity may result in the related capitalised exploration drilling costs being recognised in the Consolidated Statement of Income in that period.

Judgement is involved in determining when to use an alternative reserves base in order to appropriately reflect the expected utilisation of the assets concerned (see "Depreciation, depletion and amortisation").

Information about the carrying amounts of exploration and production assets and the amounts charged to the Consolidated Statement of Income, including depreciation, depletion and amortisation and the quantitative impact of the use of an alternative reserves base, is presented in Note 11.

Impairment

For the purposes of determining whether impairment of assets has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value in use measures are future oil and gas prices and product margins including refining and chemical margins. In addition, management uses other assumptions such as potential costs associated with operational GHG emissions, market supply and demand, expected production volumes and forecast expenditure. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Changes in assumptions could affect the carrying amounts of assets, and any impairment losses and reversals will affect income. Changes in economic conditions can affect the rate used to discount future cash flow estimates or the risk adjustment in the future cash flows. Judgement is applied to conclude whether changes in assumptions or economic conditions are an indicator that an asset may be impaired or that an impairment loss recognised in prior periods may no longer exist, or may have decreased.

Expected production volumes, which comprise proved reserves and unproved volumes, are used for impairment testing because management believes this to be the most appropriate indicator of expected future cash flows. Reserves estimates are inherently imprecise. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than that available for mature reservoirs.

Estimation is involved with respect to the expected life of energy and chemicals parks, including management's view on the future development of refining margins.

The determination of cash-generating units requires judgement. Changes in this determination could impact the calculation of value in use and therefore the conclusion on the recoverability of assets' carrying amounts when performing an impairment test.

Judgement, which is subject to change as new information becomes available, can be required in determining when an asset is classified as held for sale. A change in that judgement could result in impairment charges affecting income, depending on whether classification requires a write-down of the asset to its fair value less costs to sell.

In assessing the value in use, the estimated risk-adjusted future post-tax cash flows are discounted to their present value using a post-tax discount rate that reflects Shell's post-tax WACC. (See Note 12). The level of risking reflected in the cash flow assumptions is a consideration in management's assessment of the discount rate to be applied in order to avoid duplication of systemic and asset-specific risking in calculating value in use, and to ensure the discount rate applied is commensurate with risks included in forecast cash flows.

Significant estimates

Assumptions about future commodity prices and refining and chemical margins used in the impairment testing in, respectively, Integrated Gas and Upstream and Chemicals and Products (see Note 12) are regularly assessed by management, noting that management does not necessarily consider short-term increases or decreases in prices as being indicative of long-term levels.

The price methodology applied is based on Shell management's understanding and interpretation of demand and supply fundamentals in the near term, taking into account various other factors such as industry rationalisation and energy transition in the long term.

Future commodity prices and refining margins used in impairment testing provide a source of estimation uncertainty as referred to in paragraph 125 of IAS 1 Presentation of Financial Statements (IAS 1.125).

Information about the carrying amounts of assets and impairments and their sensitivity to changes in significant estimates is presented in Note 12.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Goodwill

Goodwill is initially measured as the excess of the aggregate of the consideration transferred and the amount recognised for any non-controlling interest over the fair value of the identifiable assets acquired and liabilities assumed in a business combination at the acquisition date. The amount recognised for any non-controlling interest is measured as a percentage of the identified net assets of the acquiree based on the present ownership's proportionate share. At the acquisition date, acquired goodwill is allocated to each cash-generating unit (CGU), or groups of CGUs, expected to benefit from the combination's synergies. The CGU to which goodwill is allocated represents the lowest level at which the goodwill will be monitored and managed.

Goodwill is not amortised and is subsequently measured at the initial amount recognised less any accumulated impairment losses. (See Note 12).

Impairment

The carrying amount of goodwill is tested for impairment at least annually. Impairment is determined for goodwill by assessing the recoverable amount of each CGU to which the goodwill relates. An impairment loss is recognised when the CGU's recoverable amount is lower than its carrying amount.

Previously recognised impairment losses of goodwill are not reversed subsequently.

Leases

A contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for payments to be made to the owners (lessors) is accounted for as a lease. Contracts are assessed to determine whether a contract is, or contains, a lease at the inception of a contract or when the terms and conditions of a contract are significantly changed. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised.

At the commencement of a lease contract, a lease liability and a corresponding right-of-use asset are recognised, unless the lease term is 12 months or less. The commencement date of a lease is the date on which the underlying asset is made available for use. The lease liability is measured at an amount equal to the present value of the lease payments during the lease term that are not paid at that date. The lease liability includes contingent rentals and variable lease payments that depend on an index, rate, or where they are fixed payments in substance. The lease liability is remeasured when the contractual cash flows of variable lease payments change due to a change in an index or rate when the lease term changes following a reassessment.

Lease payments are discounted using the interest rate implicit in the lease. If that rate is not readily available, the incremental borrowing rate is applied. The incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment.

In general, a corresponding right-of-use asset is recognised for an amount equal to each lease liability, adjusted by the amount of any pre-paid lease payment relating to the specific lease contract. The depreciation on right-of-use assets is recognised in the Consolidated Statement of Income unless capitalised as exploration drilling cost (see "exploration cost") or capitalised when the right-of-use asset is used to construct another asset.

Where Shell is the lessor in a lease arrangement at inception, the lease arrangement will be classified as a finance lease or an operating lease. Classification is based on the extent to which the risks and rewards incidental to ownership of the underlying asset lie with the lessor or the lessee.

Where Shell, usually in its capacity as operator, has entered into a lease contract on behalf of a joint arrangement, a lease liability is recognised to the extent that Shell has primary responsibility for the lease liability. A finance sublease is subsequently recognised if the related right-of-use asset is subleased to the joint arrangement. This is usually the case when the joint arrangement has the right to direct the use and obtains substantially all of the economic benefits from using the asset.

Impairment of the right-of-use asset

Right-of-use assets are subject to existing impairment requirements as set out in "Property, plant and equipment", above, and as presented in Note 12.

Judgements and estimates

A lease term includes optional lease periods where it is reasonably certain Shell will exercise the option to extend or not exercise the option to terminate the lease. Determination of the lease term is subject to judgement and has an impact on the measurement of the lease liability and related right-of-use asset. When assessing the lease term at the commencement date, Shell takes into consideration the broader economics of the contract. Reassessment of the lease term is performed upon changes in circumstances that may affect the probability that an option to extend or to terminate the lease will be exercised.

Where the rate implicit in the lease is not readily available, an incremental borrowing rate is applied. This incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment. Determination of the incremental borrowing rate requires estimation.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Joint arrangements and associates

Arrangements under which Shell has contractually agreed to share control (see "Nature of the Consolidated Financial Statements" for the definition of control) with another party or parties are joint ventures where the parties have rights to the net assets of the arrangement, or joint operations where the parties have rights to the assets and obligations for the liabilities relating to the arrangement. Investments in entities over which Shell has significant influence but neither control nor joint control are classified as associates. Information about incorporated joint arrangements and associates at December 31, 2023, can be found in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

Investments in joint ventures and associates are accounted for using the equity method, under which the investment is initially recognised at cost and subsequently adjusted for the Shell share of post-acquisition income less dividends received and the Shell share of other comprehensive income and other movements in equity, together with any loans of a long-term investment nature. Where necessary, adjustments are made to the financial statements of joint ventures and associates to bring the accounting policies used into line with those of Shell. In an exchange of assets and liabilities for an interest in a joint venture, the non-Shell share of any excess of the fair value of the assets and liabilities transferred over the pre-exchange carrying amounts is recognised in the Consolidated Statement of Income. Unrealised gains on other transactions between Shell and its joint ventures and associates are eliminated to the extent of Shell's interest in them; unrealised losses are treated similarly but may also result in an assessment of whether the asset transferred is impaired.

Shell recognises its assets and liabilities relating to its interests in joint operations, including its share of assets held jointly and liabilities incurred jointly with other partners.

Inventories

Inventories are stated at cost or net realisable value, whichever is lower. Cost comprises direct purchase costs (including transportation), and associated costs incurred in bringing inventories to their present condition and location, and is determined using the first-in, first-out (FIFO) method for oil, gas and chemicals and by the weighted average cost method for materials.

Taxation

The charge for current tax is calculated based on the income reported by the Company and its subsidiaries, as adjusted for items that are non-taxable or disallowed and using rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is determined, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the Consolidated Balance Sheet and on unused tax losses and credits carried forward.

Deferred tax assets and liabilities are calculated using the enacted or substantively enacted rates that are expected to apply when an asset is realised or a liability is settled. They are not recognised where they arise on the initial recognition of goodwill or of an asset or liability in a transaction (other than in a business combination) that, at the time of the transaction, affects neither accounting nor taxable profit, or in respect of taxable temporary differences associated with subsidiaries, joint ventures and associates where the reversal of the respective temporary difference can be controlled by Shell and it is probable that it will not reverse in the foreseeable future.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised.

Income tax receivables and payables as well as deferred tax assets and liabilities include provisions for uncertain income tax positions/treatments.

Income taxes are recognised in income except when they relate to items recognised in other comprehensive income, in which case the tax is recognised in other comprehensive income. Income tax assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a right of offset within fiscal jurisdictions and an intention to settle such balances on a net basis.

Judgements and estimates

Tax liabilities are recognised when it is considered probable that there will be a future outflow of funds to a taxing authority. In such cases, provision is made for the amount that is expected to be settled, where this can be reasonably estimated. Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information. A change in estimate of the likelihood of a future outflow and/or in the expected amount to be settled would be recognised in income in the period in which the change occurs. This requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. Judgements mainly relate to transfer pricing, including inter-company financing, interpretation of PSCs, expenditure deductible for tax purposes and taxation arising on disposal.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Judgements and estimates continued

Deferred tax assets are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to reverse, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets when they do reverse. This requires assumptions regarding future profitability and is therefore inherently uncertain. To the extent assumptions regarding future profitability change, there can be an increase or decrease in the amounts recognised in respect of deferred tax assets as well as in the amounts recognised in income in the period in which the change occurs.

Taxation information, including charges and deferred tax assets and liabilities, is presented in Note 22. Income taxes include taxes at higher rates levied on income from certain Integrated Gas and Upstream activities.

Retirement benefits

Benefits in the form of retirement pensions and health care and life insurance are provided to certain employees and retirees under defined benefit and defined contribution plans.

Obligations under defined benefit plans are calculated annually by independent actuaries using the projected unit credit method, which takes into account employees' years of service and, for pensions, average or final pensionable remuneration, and are discounted to their present value using interest rates of high-quality corporate bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations. Where plans are funded, payments are made to independently managed trusts; assets held by those trusts are measured at fair value. Defined benefit plan surpluses are recognised as assets to the extent that they are considered recoverable, which is generally by way of a refund or lower future employer contributions.

The amounts recognised in income in respect of defined benefit plans mainly comprise service cost and net interest. Service cost comprises principally the increase in the present value of the obligation for benefits resulting from employee service during the period (current service cost) and also amounts relating to past service and settlements or amendments of plans. Plan amendments are changes to benefits and are generally recognised when all legal and regulatory approvals have been received and the effects have been communicated to members. Net interest is calculated using the net defined benefit liability or asset matched against the discount rate yield curve at the beginning of each year for each plan. Remeasurements of the net defined benefit liability or asset resulting from actuarial gains and losses, and the return on plan assets excluding the amount recognised in income, are recognised in other comprehensive income.

For defined contribution plans, pension expense represents the amount of employer contributions payable for the period.

Significant judgements and estimates

Defined benefit obligations and plan assets, and the resulting liabilities and assets that are recognised, require significant estimation as these are subject to volatility as (actuarial) assumptions regarding future outcomes and market values change. Substantial judgement is required in determining the actuarial assumptions, which vary for the different plans to reflect local conditions but are determined under a common process in consultation with independent actuaries. The assumptions applied in respect of each plan are reviewed annually and adjusted where necessary to reflect changes in experience and actuarial recommendations.

Actuarial assumptions applied in determining defined benefit obligations provide a source of estimation uncertainty as referred to in IAS 1.125.

Information about the amounts reported in respect of defined benefit pension plans, assumptions applicable to the principal plans and their sensitivity to changes in significant estimates is presented in Note 23.

Provisions

Provisions are recognised at the balance sheet date at management's best estimate of the expenditure required to settle the present obligation. Non-current amounts are discounted at a rate intended to reflect the time value of money. The carrying amounts of provisions and the discount rate applied are regularly reviewed and adjusted for new facts or changes in law, technology or financial markets.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Provisions for decommissioning and restoration costs, which arise principally in connection with hydrocarbon production facilities, oil products manufacturing facilities and pipelines, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognised (together with a corresponding amount as part of the related property, plant and equipment) once a legal or constructive obligation arises to dismantle an item of property, plant and equipment and to restore the site on which it is located and when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment. However, where there is no related asset, or the change reduces the carrying amount to nil, the effect, or the amount in excess of the reduction in the related asset to nil, is recognised in income.

Shell reviews its energy and chemicals parks on a regular basis to determine whether any changes in assumptions, including expected life, trigger the need to recognise a provision for decommissioning and restoration.

Redundancy provisions are recognised when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs and an appropriate timeline, and the employees affected have been notified of the plan's main features.

An onerous contract provision is recognised when the unavoidable cost of meeting the obligations under the contract exceeds the economic benefits expected to be received under it. The unavoidable cost under a contract is the lower of the cost of fulfilling the contract and any compensation or penalties arising from failure to fulfil it. The cost of fulfilling a contract comprises the costs that relate directly to the contract. Before an onerous provision is recognised Shell first recognises any impairment loss that has occurred on assets dedicated to that contract.

Other provisions are recognised in the Consolidated Statement of Income in the period in which an obligation arises and the amount can be reasonably estimated. Provisions are measured based on current legal requirements and existing technology where applicable. Recognition of any joint and several liability is based on management's best estimate of the final pro rata share of the liability. Provisions are determined independently of expected insurance recoveries. Recoveries are recognised when virtually certain of realisation.

Estimates

Estimates of provisions for future decommissioning and restoration costs are recognised and based on current legal and constructive requirements, technology and price levels. Because actual cash outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take account of such changes.

Significant estimate

The discount rate applied to reflect the time value of money in the carrying amount of provisions requires estimation. The discount rate used in the calculation of provisions is the pre-tax rate that reflects current market assessments of the time value of money. Generally, the market assessments of the time value of money can be reflected in the risk-free rate and given the long-term investment nature of oil and gas business, Shell considers it appropriate to use the 20-year US Treasury bond yield return as the risk-free rate. The discount rate applied is reviewed regularly and adjusted following changes in market rates.

The discount rate applied to determine the carrying amount of provisions provides a source of estimation uncertainty as referred to in IAS 1.125.

Information about decommissioning and restoration provisions and their sensitivity to changes in estimates is presented in Note 24.

Financial instruments

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial assets

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification of financial assets is determined by the contractual cash flows and where applicable the business model for managing the financial assets.

Debt instruments are measured at amortised cost, if the objective of the business model is to hold the financial asset in order to collect contractual cash flows and the contractual terms give rise to cash flows that are solely payments of principal and interest. It is initially recognised at fair value plus or minus transaction costs that are directly attributable to the acquisition or issue of the financial asset. Subsequently, the financial asset is measured using the effective interest method less any impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

All equity instruments and other debt instruments are recognised at fair value. For equity instruments, on initial recognition, an irrevocable election (on an instrument-by-instrument basis) can be made to designate these as at fair value through other comprehensive income instead of fair value through profit or loss. Dividends received on equity instruments are recognised as other income in profit or loss when the right of payment has been established, except when Shell benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case such gains are recorded in other comprehensive income.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Investments in securities

Investments in securities ("securities") comprise equity and debt securities. Equity securities are carried at fair value. Generally, unrealised holding gains and losses are recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are transferred to retained earnings. Debt securities are generally carried at fair value with unrealised holding gains and losses recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are recognised in income.

Impairment of financial assets

The expected credit loss model is applied for recognition and measurement of impairments in financial assets measured at amortised cost or at fair value through other comprehensive income. The expected credit loss model is also applied for financial guarantee contracts to which IFRS 9 applies and which are not accounted for at fair value through profit or loss. The loss allowance for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on the financial asset has increased significantly since initial recognition, the loss allowance for the financial asset is measured at an amount equal to the lifetime expected credit losses. Changes in loss allowances are recognised in profit or loss. For trade receivables, a simplified impairment approach is applied recognising expected lifetime losses from initial recognition.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, including offsetting bank overdrafts, short-term bank deposits, money market funds, reverse repos and similar instruments that generally have a maturity of three months or less at the date of purchase.

Financial liabilities

Financial liabilities are measured at amortised cost, unless they are required to be measured at fair value through profit or loss, such as instruments held for trading, or Shell has opted to measure them at fair value through profit or loss. Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method, and other than interest capitalised, is recognised in income. For financial liabilities that are measured under the fair value option, the change in the fair value related to own credit risk is recognised in other comprehensive income. The remaining fair value change is recognised at fair value through profit or loss.

Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk, commodity price risk, and foreign currency cash balances. Derivatives that are not closely related to the host contract in terms of economic characteristics and risks and the host contract of which is not a financial asset are separated from their host contract and recognised at fair value with the associated gains and losses recognised in income.

Contracts to buy or sell a non-financial item that can be settled net in cash are accounted for as financial instruments, with the exception of those contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with Shell's expected purchase, sale or usage requirements. Gains or losses arising from changes in the fair value of derivatives that are not designated as effective hedging instruments are recognised in income.

Certain derivative contracts qualify and are designated either: as a fair value hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment; or as a cash flow hedge for the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction; or as a net investment hedge of the change in foreign exchange rates associated with net investments in foreign operations with a different functional currency than Shell's functional currency.

A change in the fair value of a hedging instrument designated as a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); a net investment hedge is accounted for similarly to a cash flow hedge. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognised in other comprehensive income while any gains or losses relating to the ineffective portion are recognised in the Consolidated Statement of Income. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in other comprehensive income is reclassified to the Consolidated Statement of Income.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when there is a change in the risk management strategy.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own-use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives that are held primarily for the purpose of trading are presented as current in the Consolidated Balance Sheet.

2. Material accounting policies, judgements and estimates continued

Judgement
Judgement is required to determine whether contracts to buy or sell LNG are capable of being settled on a net basis. Due to the limited liquidity in the LNG market and the lack of net settlement history, contracts to buy or sell LNG are not considered capable of being settled on a net basis. As a result, these contracts are accounted for on an accrual basis and not as a financial instrument.

Fair value measurements
Fair value measurements are estimates of the amounts for which assets or liabilities could be transferred at the measurement date, based on the assumption that such transfers take place between participants in principal markets and, where applicable, taking highest and best use into account.

Estimate
Where available, fair value measurements are derived from prices quoted in active markets for identical assets or liabilities. In the absence of such information, other observable inputs are used to estimate fair value. Inputs derived from external sources are corroborated or otherwise verified, as appropriate. In the absence of publicly available information, fair value is determined using estimation techniques that take into account market perspectives relevant to the asset or liability, in as far as they can reasonably be ascertained, based on predominantly unobservable inputs. For derivative contracts where publicly available information is not available, fair value estimations are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility, price correlation, counterparty credit risk and market liquidity, as appropriate; for other assets and liabilities, fair value estimations are generally based on the net present value of expected future cash flows.

Share-based compensation plans
The fair value of share-based compensation expense arising from the Performance Share Plan (PSP) and the Long-term Incentive Plan (LTIP) - Shell's main equity-settled plans - is estimated using the average Monte Carlo fair values and is recognised in income from the date of grant over the vesting period with a corresponding increase directly in equity. The model projects and averages the results for a range of potential outcomes for the vesting conditions, the principal assumptions for which are the share price volatility and dividend yields for Shell and four of its main competitors using respectively three years and 10 years of historical data.

Shares held in trust
Shares in the Company, which are held by employee share ownership trusts and trust-like entities, are not included in assets but are reflected at cost as a deduction from equity as shares held in trust.

Acquisitions and sales of interests in a business
Assets acquired and liabilities assumed when control is obtained over a business, and when an interest or an additional interest is acquired in a joint operation which is a business, are recognised at their fair value at the date of the acquisition; the amount of the purchase consideration above this value is recognised as goodwill. When control is obtained, any non-controlling interest is recognised as the proportionate share of the identifiable net assets. The acquisition of a non-controlling interest in a subsidiary and the sale of an interest while retaining control are accounted for as transactions within equity. The difference between the purchase consideration or sale proceeds after tax and the relevant proportion of the non-controlling interest, measured by reference to the carrying amount of the interest's net assets at the date of acquisition or sale, is recognised in retained earnings as a movement in equity attributable to Shell plc shareholders.

Emission schemes and related environmental programmes
Emission certificates, biofuel certificates and renewable power certificates (together "environmental certificates") held for trading purposes are recognised at cost or net realisable value, whichever is lower, and classified under inventory.

Emission trading schemes
Emission certificates acquired for compliance purposes are initially recognised at cost and classified under intangible assets. In the schemes where a cap is set for emissions, the associated emission certificates granted are recognised at cost, which may be zero. An emission liability is recognised under other liabilities when actual emissions occur that give rise to an obligation. To the extent the liability is covered by emission certificates held for compliance purposes, the liability is measured with reference to the value of these emission certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "Production and manufacturing expenses". Both the emission certificates and the emission liability are derecognised upon settling the liability with the respective regulator.

Biofuel programmes
Biofuel certificates acquired that are held for compliance purposes are initially recognised at cost under intangible assets. Self-generated biofuel certificates are recognised at nil value, as they primarily offset the obligation. A biofuel liability is recognised under other liabilities when the obligation arises under local regulations. To the extent covered by biofuel certificates held for compliance purposes, the liability is measured with reference to the value of these certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "purchases". Biofuel certificates and the biofuel liability are both derecognised upon settling the liability with the respective regulator.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Renewable power programmes

Renewable power certificates acquired for compliance purposes are initially recognised at cost as an intangible asset. Self-generated renewable power certificates are generally transferred to the customer upon sales of electricity. A renewable power liability is recognised under other liabilities when electricity sales take place that give rise to an obligation to retire renewable power certificates. The associated cost is recognised in "purchases" in the income statement. If the obligation relates to power consumed in business operations, it is presented in other liabilities with cost reflected in "Production and manufacturing expenses". To the extent covered by renewable power certificates held for compliance purposes, the liability is measured with reference to the value of these renewable power certificates and for the remaining uncovered portion at market value. Renewable power certificates and the renewable power liability are derecognised upon settling the liability with the respective regulator.

Consolidated Statement of Income presentation

Purchases reflect all costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products. Production and manufacturing expenses are the costs of operating, maintaining and managing production and manufacturing assets. Selling, distribution and administrative expenses include direct and indirect costs of marketing and selling products.

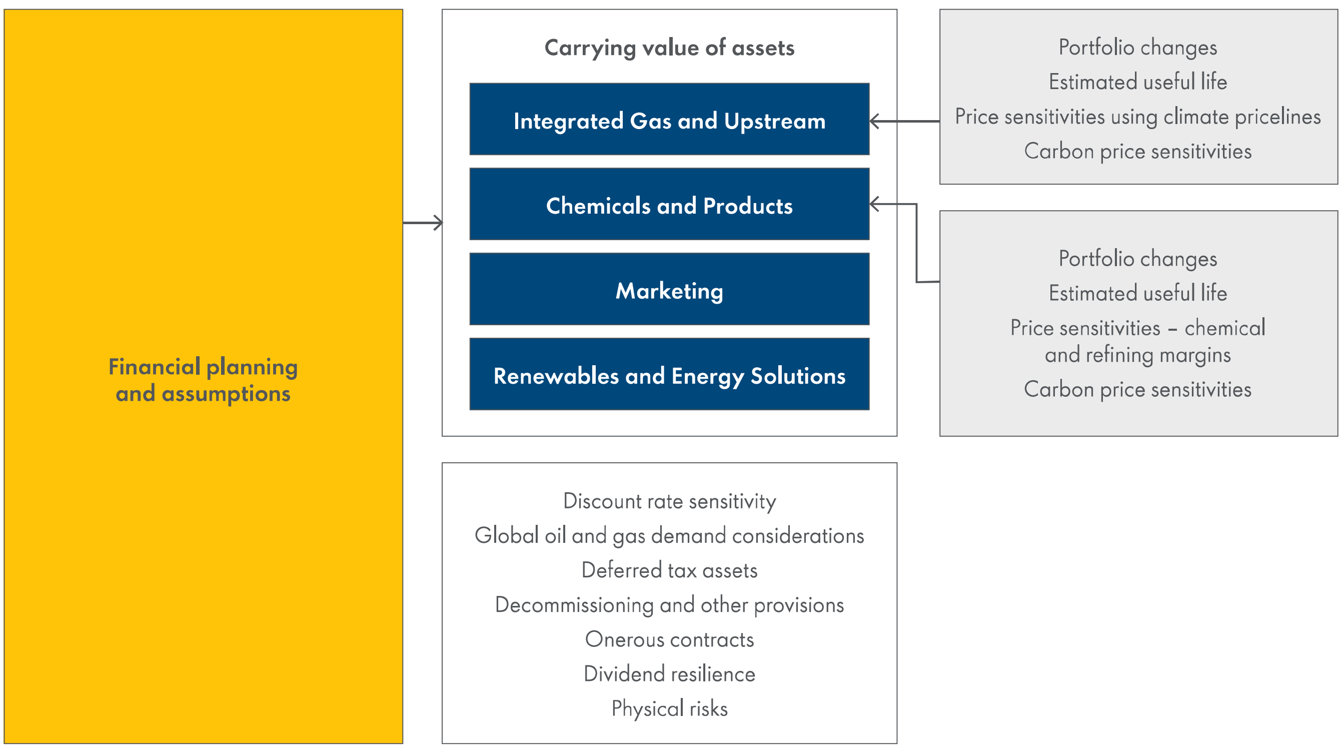
3. Changes to IFRS not yet adopted

As from January 1, 2024, various amendments to IFRS standards will apply that do not have a material impact on Shell.

4. Climate change and energy transition

This note describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities as Shell makes progress in the energy transition. The note is structured as follows:

Climate change and energy transition



Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Note 2 Material accounting policies, judgements and estimates describes uncertainties, including those that have the potential to have a material effect on the Consolidated Balance Sheet in the next 12 months. This note describes the key areas of climate impacts that potentially have short-, medium- and longer-term effects on amounts recognised in the Consolidated Balance Sheet at December 31, 2023. Where relevant, this note contains references to other notes to the Consolidated Financial Statements and aims to provide an overarching summary of the energy transition impact.

In 2021, Shell launched its Powering Progress strategy to become a net-zero emissions energy business by 2050. The strategy aims to deliver more value with less emissions. Targets include reduction of absolute emissions from operations and the energy Shell buys to run them, compared with 2016 baseline. Shell's targets include reducing Scope 1 and 2 emissions on a net basis under operational control by 50% by 2030, compared with 2016 baseline, achieving near-zero methane emissions for operated oil and gas assets by 2030 and eliminating routine gas flaring from Shell's upstream-operated assets by 2025 (subject to the completion of the divestment of Shell's interest in The Shell Petroleum Development Company of Nigeria Limited (SPDC)). Shell's target is to reduce the net carbon intensity of energy products sold by 9-12% by 2024, 9-13% by 2025, 15-20% by 2030 and 100% by 2050, compared to a 2016 baseline. In March 2024, Shell set a new ambition to reduce customer emissions (Scope 3, Category 11) related to the use of oil products sold by 15-20% by 2030, compared with 2021.

Financial planning and assumptions

This section provides an overview of key assumptions used for financial planning related to climate change and the energy transition. These assumptions that underpin the amounts recognised in these financial statements – such as future oil and gas prices, future chemical and refining margins, discount rates, future costs of decommissioning and restoration, carbon emission cost and deferred tax assets - take climate change and energy transition into account and are similarly used for impairment testing of carrying amounts of assets. The areas described focus on those most pertinent to Shell's business and how financial planning and assumptions interact with scenarios. Subsequently, the sensitivity of carrying amounts to commodity prices, carbon emission costs, chemical and refining margins, discount rates and demand, if different assumptions were applied, is described.

There is no one single scenario that underpins the financial statements. Shell scenarios are designed to challenge management's perspectives on the future business environment and stretch management to consider events that may be only remotely possible. As a result, these scenarios are not intended to be predictions of likely future events or outcomes and are not the basis for Shell's financial statements and Operating Plans.

Shell scenarios and the range of possible outcomes inform the development of Shell's strategy and Shell's view on future oil and gas price outlooks, refining margins and chemical margins. The oil and gas price outlooks are one of the key assumptions that underpin Shell's financial statements. Shell's scenarios inform high-, mid- and low-price outlooks. The mid-price outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, Operating Plans and impairment testing. Impairment testing applies management's reasonable best estimates across the full life cycle of assets, which may go beyond the operating plan period.

Shell's targets including to reduce absolute Scope 1 and 2 emissions on a net basis [A] by 50% by 2030, compared with 2016 baseline, and a 15-20% reduction of net carbon intensity [B] by 2030 have been included in Shell's Operating Plan. The Operating Plan also includes expected costs for evolving carbon regulations (see section "Carbon price sensitivities" below) based on a forecast of Shell's equity share of emissions from operated and non-operated assets, also taking into account the estimated impact of free allowances. For impairment testing purposes key assumptions that underpin the amounts recognised in the Consolidated Balance Sheet, such as future oil and gas prices, refining margins, chemical margins, discount rates, future costs of decommissioning and restoration, carbon emission cost and tax rates, all go beyond the planning horizon in the Operating Plan and do take climate change and energy transition into account.

[A] Operational control boundary.
[B] GHG emissions based on the energy product sales included in the net carbon intensity (NCI) using equity boundary.

Goodwill, other intangible assets, property, plant and equipment, and joint ventures and associates

The carrying value of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates by segment as at December 31 was as follows:

2023

$ billion

	Goodwill	Other intangible assets	Property, plant and equipment	Joint ventures and associates	Total
Integrated Gas	4.9	3.2	57.7	6.1	71.9
Upstream	5.4	0.3	70.9	7.6	84.2
Chemicals and Products	0.3	2.4	36.9	4.0	43.6
Marketing	4.4	2.9	22.2	4.7	34.2
Renewables and Energy Solutions	1.7	1.5	4.8	2.0	10.0
Corporate	–	–	2.3	0.1	2.4
Total	16.7	10.3	194.8	24.5	246.3

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

2022

$ billion

	Goodwill	Other intangible assets	Property, plant and equipment	Joint ventures and associates	Total
Integrated Gas	4.9	3.9	60.8	5.6	75.2
Upstream	5.3	0.2	74.5	7.7	87.7
Chemicals and Products	0.3	2.1	38.1	4.2	44.7
Marketing	3.3	1.8	19.1	4.4	28.6
Renewables and Energy Solutions	2.2	1.6	3.2	1.9	8.9
Corporate	–	0.1	2.9	0.1	3.1
Total	16.0	9.7	198.6	23.9	248.2

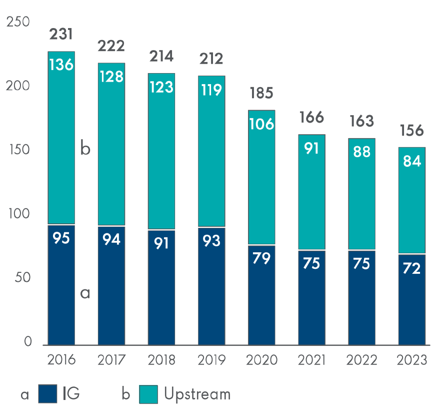
For Integrated Gas and Upstream, sensitivity to commodity prices and carbon prices has been tested (see below) covering the carrying amount of goodwill, other intangible assets, property, plant and equipment, and joint ventures and associates. Sensitivity testing was performed applying alternative price scenarios to the forecasted cash flows for the whole period until the end of life of the asset tested. For Chemicals and Products, sensitivity to chemical margins, refining margins and carbon prices has been tested (see below). Marketing and Renewables and Energy Solutions are expected to be resilient through the energy transition with limited exposure of stranded assets.

In addition, sensitivity to changes in the discount rate applied in impairment testing has also been tested (see below).

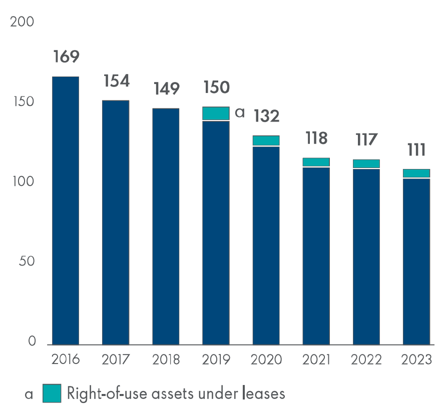
In calculating recoverable value, key assumptions are not determined in isolation, to ensure relevant interdependencies are appropriately reflected. In particular, management considers the relationship between discount rates, forecast commodity prices and cash flow risking to ensure impairment testing assumptions result in an implicit expected return which is balanced and appropriate for the asset under review. Each of the sensitivities described above has been tested under a ceteris paribus assumption where all other factors remain unchanged, and as such do not reflect the potential offsetting effects of corresponding changes in other assumptions.

Carrying value of Integrated Gas and Upstream assets

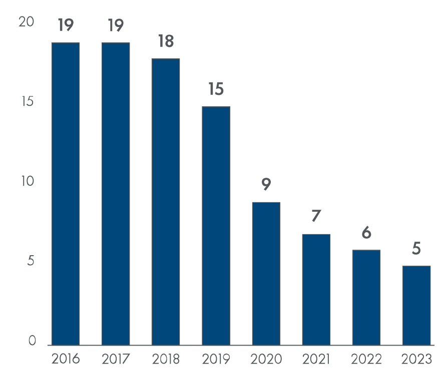
Carrying value of Integrated Gas and Upstream assets
$ billion as at December 31



Carrying value of production assets
$ billion as at December 31



Carrying value of exploration and evaluation assets
$ billion as at December 31



Within Integrated Gas and Upstream, the assets potentially most sensitive to the energy transition are production assets and exploration and evaluation assets. Both production assets of $111 billion and exploration and evaluation assets of $5 billion are recognised within Property, plant and equipment within Integrated Gas and Upstream.

Portfolio composition and changes
Since 2016, the carrying amount of production assets in Integrated Gas and Upstream decreased from $169 billion as at December 31, 2016, to $111 billion as at December 31, 2023. Over this period, depreciation was higher than additions for each year, and disposals of property, plant and equipment with a carrying amount of $26 billion occurred. The carrying amount of capitalised exploration and evaluation expenses decreased from $19 billion as at December 31, 2016, to $5 billion at December 31, 2023. This is the result of final investment decisions, reclassifications to production assets and amounts charged to expenses exceeding additions.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Estimated useful life

The energy transition and the pace at which it progresses may impact the remaining life of assets. Integrated Gas and Upstream assets are generally depreciated using a unit-of-production methodology where depreciation generally depends on production of SEC proved reserves (see Note 2). Based on production plans of existing assets, 43%, 7% and 1% of SEC proved reserves as at December 31, 2023, would currently be left by 2030, 2040 and 2050, respectively. Based on the unit-of-production depreciation methodology applied, carrying amounts for individual assets are depreciated to nil in the same pattern as the depletion of reserves towards nil. An analysis of Integrated Gas and Upstream production assets of $111 billion as at December 31, 2023, based on planned reserves depletion shows that these assets would be significantly further depreciated under the unit-of-production method by 2030 and nearly fully depreciated by 2050. This provides a further perspective on the risk of stranded assets carried in the Consolidated Balance Sheet as at December 31, 2023.

Price sensitivities using climate pricelines

As noted, in accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate of the range of economic conditions that may exist in the foreseeable future. The mid-price outlook informed by Shell's scenario planning represents management's best estimate. A change of -10% or +10% to the mid-price outlook, as an average percentage over the whole life cycle of assets, would result in around $5-8 billion (2022: $2-5 billion) impairment or $2-5 billion (2022: $2-4 billion) impairment reversal respectively in Integrated Gas and Upstream (see Note 12). Compared with the prior year, the higher impact of a 10% decrease in commodity prices is mainly driven by lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

The energy transition will continue to bring volatility and there is significant uncertainty as to how commodity prices will develop over the next decades. Some pricelines see a structurally lower price during the transition period, while other pricelines see structurally higher commodity prices as a result of changes in supply and demand. As the risk of stranded assets is prevalent with downside price risk in energy transition scenarios, sensitivities have only been undertaken for such downside scenarios. If different price outlooks from external and often normative climate change scenarios were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2023. These external scenarios are not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to commodity prices described below is under the assumption that all other factors in the models used – such as cost levels, volumes, mid-price CO_2 assumptions and the discount rate – to calculate recoverability of carrying amounts remain unchanged. Sensitivity testing has been performed by applying the alternative commodity price scenarios to cash flows for the whole period until the end of life of the assets tested, which may extend beyond the operating plan period. The alternative commodity prices were applied in the local cash flow models and thereafter aggregated by segment. Changes to commodity prices are applied because of the significant impact on Shell's business. It should be noted that a significant decrease in long-term forecasted commodity prices would probably lead to further changes, such as in portfolio choices and cost levels.

Sensitivity to changes in commodity prices in value in use calculations has been tested as follows:
Priceline 1 – Average prices from three 1.5-2 degrees Celsius external climate change scenarios: in view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken.

- **IHS Markit/ACCS 2023** – under this scenario oil prices (real terms 2023 (RT23)) gradually decrease towards $25 per barrel (/b) in 2037, gradually recovering to $63/b in 2045 with subsequent levels until 2050 ranging between $62/b and $69/b. Gas prices (RT23) are around $3 per million British thermal units (/MMBtu) until 2050 for Henry Hub. For Europe, prices decrease from $17/MMBtu in 2024 towards around $3/MMBtu in 2030, remaining around that level until 2050. For Asia, prices decrease from $18/MMBtu in 2024 towards around $3/MMBtu in 2031, staying at a level between $3 and $4/MMBtu until 2050.

- **Woodmac WM AET-1.5 degree** – under this scenario oil prices (RT23) gradually decrease towards $28/b in 2050. Gas prices (RT23) are around $3/MMBtu until 2033 and subsequently some $4/MMBtu until 2046, thereafter some $3/MMBtu until 2050 for Henry Hub. For Europe, gas prices (RT23) decrease gradually from around $15/MMBtu in 2024 to some $5/MMBtu in 2050. For Asia, gas prices decrease from $15/MMBtu in 2024 to $7/MMBtu in 2031, subsequently ranging between $6/MMBtu and $10/MMBtu until 2050.

- **IEA NZE50** – under this scenario oil prices (RT23) gradually decrease towards some $26/b in 2050. Gas prices (RT23) decrease from some $5/MMBtu in 2024 to around $2/MMBtu for Henry Hub in 2030, remaining slightly below that level until 2050. For Europe and Asia, gas prices (RT23) decrease from some $26/MMBtu and $14/MMBtu respectively in 2024 to some $4/MMBtu and $6/MMBtu respectively around 2030, staying at that level until 2050.

This average priceline provides an external view of the development of commodity prices under 1.5-2 degrees Celsius external climate change scenarios over the whole period under review.

Applying this priceline to Integrated Gas assets of $72 billion (2022: $75 billion) and Upstream assets of $84 billion (2022: $88 billion) as at December 31, 2023, shows recoverable amounts that are $12-16 billion (2022: $4-6 billion) and $3-5 billion (2022: $1-2 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 reflects lower near-term gas prices applied in the priceline for Europe and Asia, alongside lower headroom for certain assets between carrying value and recoverable value at December 31, 2023. For Upstream the change in sensitivity compared with 2022 reflects lower oil prices applied in the priceline alongside lower headroom for certain assets between carrying value and recoverable value at December 31, 2023

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

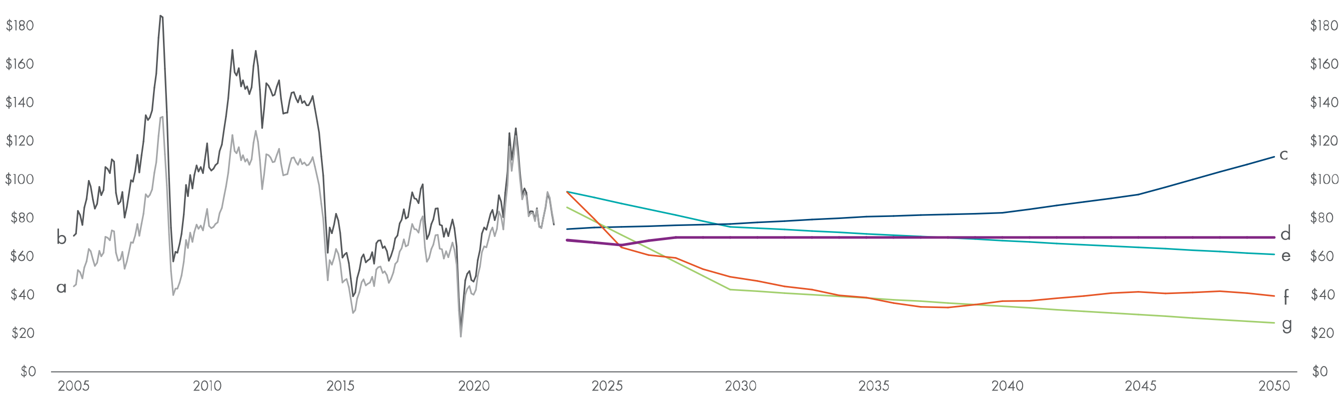
Priceline–2 - Hybrid Shell Plan and IEA NZE50: this priceline applies Shell's mid-price outlook for the next 10 years (see Note 12). Because of the greater uncertainty for the period after 10 years, the International Energy Agency (IEA) normative Net Zero Emissions scenario is applied. This gives less weight to the price-risk uncertainty in the first 10 years reflected in the operating plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of $72 billion (2022: $75 billion) and Upstream assets of $84 billion (2022: $88 billion) as at December 31, 2023, shows recoverable amounts that are $8-10 billion (2022: $4-6 billion) and $1-3 billion (2022: $1-2 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 is largely driven by lower near-term Shell mid-prices applied, an increased differential between the Shell mid-price and the gas prices applied in sensitivity testing for Europe and Asia from 2034 onwards and lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Priceline–3 - IEA NZE50: this priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of $72 billion (2022: $75 billion) and Upstream assets of $84 billion (2022: $88 billion) as at December 31, 2023, shows recoverable amounts that are $15-20 billion (2022: $9-12 billion) and $3-5 billion (2022: $8-11 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 is largely driven by an increased differential between the Shell mid-price and the gas prices applied in sensitivity testing for Europe and Asia from 2030 onwards and lower headroom for certain assets between carrying value and recoverable value at December 31, 2023. For Upstream the change in sensitivity compared with 2022 is largely driven by higher near-term oil prices applied in the priceline, partly offset by lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Oil price assumptions



a — Monthly average price (actual on money of the day basis) b — Monthly average price (actual on real terms basis using US CPI all urban consumers) c — NGFS GCAM NZE 2050 [A]
d — Shell mid-price e — IEA APS f — Average prices from three 1.5-2 degrees Celsius external climate change scenarios g — IEA NZE50

[A] The Network for Greening the Financial System (NGFS) is a group of 127 central banks and supervisors and 20 observers committed to sharing best practices, contributing to the development of climate- and environment-related risk management in the financial sector and mobilising mainstream finance to support the transition toward a sustainable economy. This scenario results from the NGFS GCAM model. This model embodies certain assumptions on the relationships between economic and energy output and climate interactions. This NGFS scenario shows a decline in world oil demand relative to the current policies baseline, in part a response to substitution away from fossil fuels. At the same time prices increase due to supply constraints.
[B] All figures are presented on RT23 basis unless noted differently.

The graph above shows the oil pricelines on a real-terms basis applied for the period until 2050 for Shell's mid-price outlook in comparison with the IEA announced pledges (IEA APS) scenario, the NGFS GCAM NZE 2050 scenario, the average prices from three 1.5-2 degrees Celsius external climate change scenarios (Priceline 1, above) and the IEA Net Zero Emissions by 2050 scenario (IEA NZE50, Priceline 3 above). The development of future oil prices is uncertain and oil prices have been subject to significant volatility in the past. Future oil prices may be impacted by future changes in macroeconomic factors, available supply, demand, geopolitical and other factors. The pricelines as per the scenarios NGFS GCAM NZE 2050, IEA APS, the average prices from three 1.5-2 degrees Celsius external climate change scenarios and IEA NZE50 differ from Shell's best estimate and view of the future oil price.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Sensitivity + 10% to the mid-price outlook

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	2	4	2	3
Upstream	84	88	–	1	–	1
Total	156	163	2	5	2	4

Sensitivity - 10% to the mid-price outlook

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	(4)	(6)	(2)	(4)
Upstream	84	88	(1)	(2)	–	(1)
Total	156	163	(5)	(8)	(2)	(5)

Sensitivity averaged from three below-two-degrees-Celsius external climate scenarios

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	(12)	(16)	(4)	(6)
Upstream	84	88	(3)	(5)	(1)	(2)
Total	156	163	(15)	(21)	(5)	(8)

Sensitivity Hybrid Shell Plan + IEA NZE50

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	(8)	(10)	(4)	(6)
Upstream	84	88	(1)	(3)	(1)	(2)
Total	156	163	(9)	(13)	(5)	(8)

Sensitivity IEA NZE50

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	(15)	(20)	(9)	(12)
Upstream	84	88	(3)	(5)	(8)	(11)
Total	156	163	(18)	(25)	(17)	(23)

Carbon price sensitivities

Carbon costs in the Operating Plan

The Operating Plan includes capital expenditure and operating costs to achieve Scope 1 and 2 emission reduction targets (see above). These include asset level abatement project costs that drive efficiencies and reduce emissions, expected costs for evolving carbon regulations based on a forecast of Shell's equity share of emissions and costs of offsets for any residual amounts.

The total capital expenditure for abatement projects in relation to efficiency improvements, energy and chemicals parks transformations and use of renewable power included in the Operating Plan is in excess of $5 billion (2022: $4 billion). Total yearly carbon emission costs in Shell's Operating Plan gradually increase from $1 billion in 2024 to $4 billion in 2033 using the mid-price scenario. The sensitivity of carrying values of assets to changes in carbon prices is described in the section below.

Methods for estimating costs vary, depending on the nature of the cost. Abatement projects costs to improve efficiencies and reduce emissions are estimated by applying a bottom-up approach where individual opportunities on an asset-level, project-by-project basis are identified.

Costs for evolving carbon regulations are based on a forecast of Shell's equity share of emissions and are included in the Operating Plan at Shell's mid-price outlook on a country-by-country basis and represent management's best estimate. In the short and near term, up to around 2030, costs for carbon emissions estimates are largely policy driven, through emission trading schemes or taxation levied by governments which currently vary significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The estimated costs are trending towards $125 or $170 per tonne (RT23), depending on the country [A], in 2050. This outlook used for the Operating Plan sits within the middle of abatement costs range of $100-200 which incorporates a broad range of technologies.

[A] Except for the Netherlands and Norway where the estimated mid-price assumption is around $220 per tonne in 2050.

Sensitivity to changes in carbon price assumptions

There is significant uncertainty as to how carbon costs will develop over the next decades. These will depend on policies set by countries and the pace of the energy transition. In accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate, which is policy based up to 2030 and then based on the mid-price outlook beyond 2030. As the risk of stranded assets is prevalent with higher carbon emission prices than anticipated, sensitivity analyses have only been undertaken for such a downside scenario. If the IEA NZE 2050 outlook is applied, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2023. This scenario is not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to carbon emission costs as described below is under the assumption that all other factors in the value in use models used to calculate recoverability of carrying amounts remain unchanged. Changes to carbon emission costs are applied for Integrated Gas, Upstream and Chemicals and Products because of the potential impact on Shell's business.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of $72 billion (2022: $75 billion) and Upstream assets of $84 billion (2022: $88 billion), up to the end of life of these assets, shows recoverable amounts that are $2-4 billion (2022: $2-5 billion) lower for Integrated Gas and up to $1 billion lower for Upstream than the carrying amounts as at December 31, 2023.

Applying the IEA NZE 2050 carbon price scenario to Chemicals and Products assets of $44 billion shows recoverable amounts that are $3-4 billion lower than the carrying amounts as at December 31, 2023. For Chemicals and Products, increased carbon cost could however potentially be recovered partially through increased product sale prices.

Sensitivity IEA NZE 2050 carbon price scenario

$ billion

	Carrying amount		Sensitivity			
	Dec 31, 2023	Dec 31, 2022	2023		2022	
Integrated Gas	72	75	(2)	(4)	(2)	(5)
Upstream	84	88	–	(1)	–	–
Chemicals and Products [A]	44		(3)	(4)		
Total	200	163 [A]	(5)	(9)		

[A] Excludes Chemicals and Products for 2022 for which from 2023 sensitivity to IEA NZE 2050 carbon prices has been included.

For the key regions and countries the following carbon prices per tonne (RT23) have been assumed in the Operating Plan:

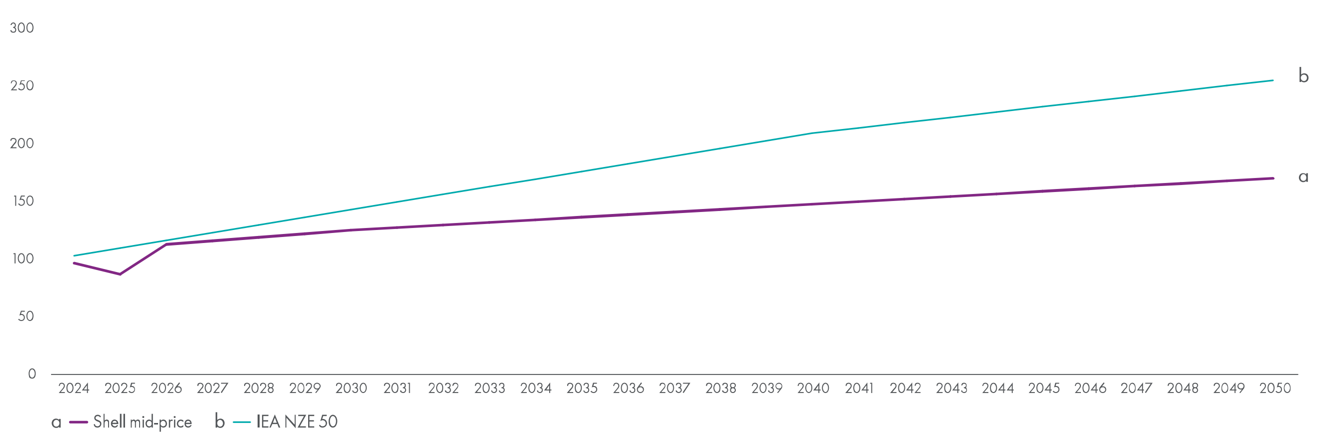
	Operating plan period	Subsequent period
Region	2024-2033	2034-2050
European Union [A]	$87-$132	$134-$170
Norway	$97-$226	$226-$226
United Kingdom	$94-$145	$146-$170
Canada (Federal)	$59-$113	$113-$125
United States of America (Federal)	$0-$42	$47-$125
Australia	$29-$61	$65-$125
All other countries	$0-$55	$25-$125

[A] Except for the Netherlands where the ranges are $87-159 per tonne (2024-2033) and $163-220 per tonne (2034-2050).

The graph below shows the carbon pricelines per tonne for the European Union on an RT23 basis under Shell's mid-price outlook that represents the best estimate as required to be applied under IFRS, in comparison with the IEA NZE 2050 scenario. The IEA NZE 2050 scenario differs from Shell's best estimate and view of future CO_2 prices. Sensitivity of carrying amounts to the IEA NZE 2050 carbon price scenario is provided above.

CO_2 prices - European Union

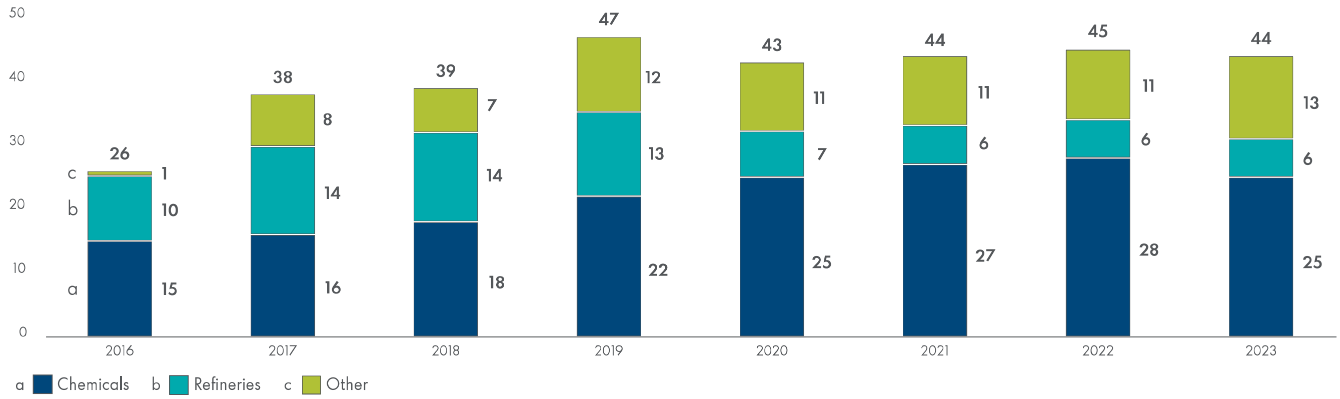
RT23 $/tonne



Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying value of Chemicals and Products assets
$ billion as at December 31



Within Chemicals and Products, the assets potentially most sensitive to the energy transition are refineries.

Portfolio composition and changes

Since 2016, Shell's Chemicals and Products portfolio has evolved, shifting from 15 refineries at the end of 2016 to eight at the end of 2023. During that period, Shell assumed the sole ownership of two refineries through the dissolution of the Motiva joint venture, and disposed of, converted or closed nine refineries. Further, during 2023 Shell agreed to sell one refinery (under assets held for sale at the end of 2023, see Note 18), announced the intention to sell the Singapore refining and chemicals assets and subsequently announced plans to repurpose the Rheinland refinery in Germany into a base oil manufacturing plant. The carrying amount of refineries decreased from $10 billion as at December 31, 2016, to less than $6 billion as at December 31, 2023. In line with Shell's strategy, Shell's refining footprint continues its transformation into energy and chemicals parks that will provide feedstocks for the chemicals and lubricants business, as well as other low-carbon energy products, including biofuels and hydrogen. This transformation will involve investments in assets within these energy and chemicals parks that will be recognised as separate cash-generating units and are expected to be resilient in the energy transition, and hence their carrying amounts may increase.

Estimated useful life

Refineries in the Chemicals and Products segment (carrying amount as at December 31, 2023, $6 billion (2022: $6 billion)) may be impacted under a two-degrees-Celsius or less external climate scenario.

For refineries in Chemicals and Products, depreciation of assets is on a straight-line basis over the life of the assets, starting at the date the asset becomes available for use, over a period of 20 years (see Note 2). Over the course of the energy transition, the current carrying amount of refineries will be fully depreciated, offset by anticipated investments in assets that are expected to be resilient in the energy transition as described above. Based on current depreciation of the carrying amounts as at December 31, 2023, and assuming no further investment, all refineries would be fully depreciated between four and 11 years.

In addition to refineries, further assets of $38 billion include $25 billion of assets in relation to Chemicals. This includes $15 billion for the new Pennsylvania chemical plant, which started operations in November 2022 and being a more efficient plant, it is expected to be more resilient in the energy transition. Chemical products are not produced with the aim to combust and consequently do not generate GHG emissions. Under the IEA NZE 2050 scenario chemical production volumes are not expected to decrease towards 2050, compared with current levels and hence chemical assets are expected to be resilient through the energy transition.

Other assets of $13 billion include $8 billion of assets mainly related to storage tanks, vessels, terminals and depots in trading and supply that are also expected to be resilient in the energy transition. Another $3 billion of assets relates to oil sands. Based on production plans for oil sands assets, 82%, 57% and 32% of SEC proved reserves for oil sands as at December 31, 2023, would currently be left by 2030, 2040 and 2050, respectively. Taking into consideration the carrying amount as at December 31, 2023 and depreciation under the unit-of-production methodology, this provides a further perspective on the risk of stranded oil sands assets carried in the Consolidated Balance Sheet as at December 31, 2023.

Price sensitivities

Where available Shell uses external climate scenarios for sensitivity testing. In relation to chemical and refining margin forecasts, no credible climate scenarios have been identified and consequently sensitivity testing is performed by providing sensitivity to changes in margins.

Chemical margins applied for impairment testing by reference to value in use are at an average of $252/tonne (20-year average). A change of -$30/tonne or +$30/tonne in long-term chemical margins over the entire cash flow projection period would ceteris paribus result in up to $2 billion impairment or no impairment reversal, respectively, in Chemicals and Products (see Note 12).

Refining margins applied for impairment testing by reference to value in use are at an average of $7.6/bbl (20-year). A change of -$1/bbl or + $1/bbl to the refining margin outlook over the entire cash flow projection period would ceteris paribus result in $1-2 billion impairment or up to $1 billion impairment reversal respectively in Chemicals and Products (see Note 12).

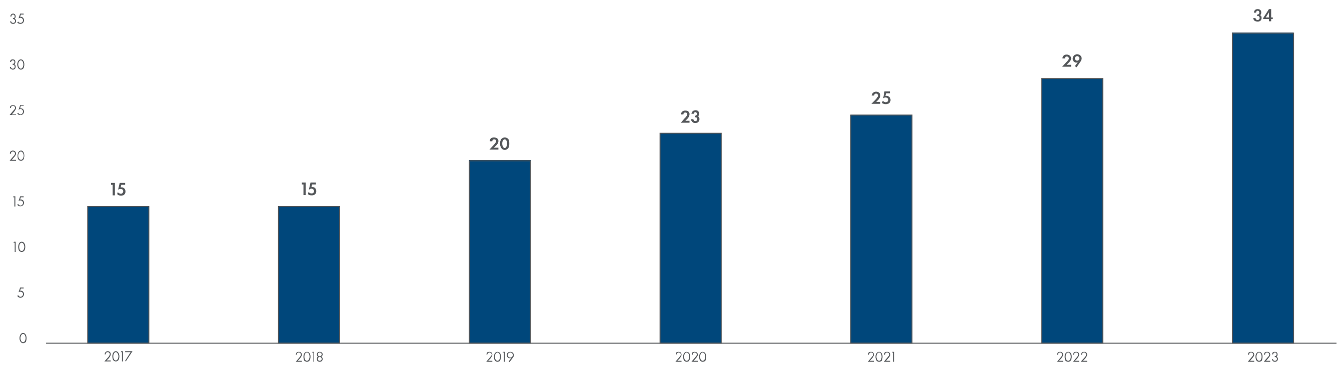
Sensitivities to carbon prices are described in the section above.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying value of Marketing assets

Carrying value of Marketing assets
$ billion as at December 31

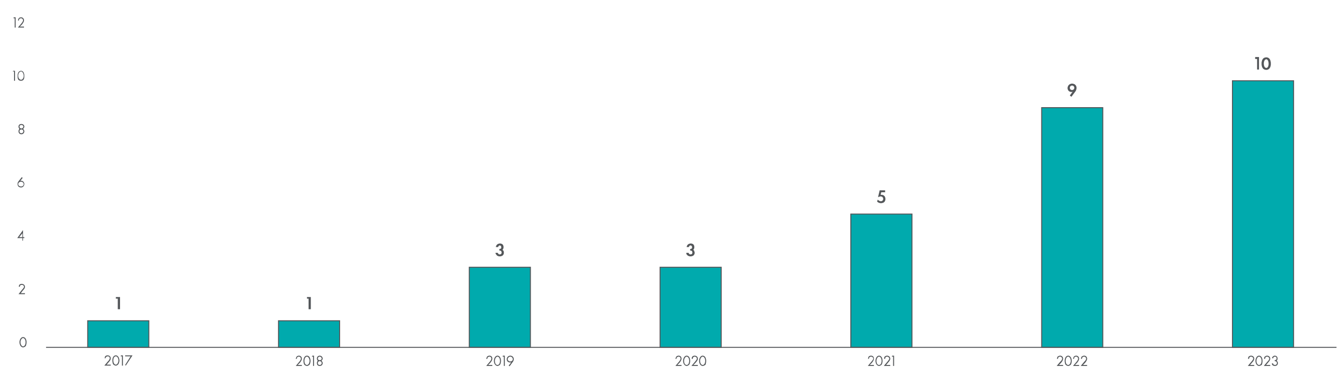


Portfolio composition and changes

Assets in the Marketing segment are expected to be resilient through the energy transition with a change in the product mix as the energy transition progresses. The demand for products sold – such as chemicals, lubricants, biofuels, bitumen, electric vehicle charging and convenience retail – is not expected to decrease and is expected to increase for a variety of these products in many markets. Shell is expanding networks of refuelling stations offering low-carbon fuels, including biofuels and various gaseous fuels, such as LNG and bio-LNG. As a result, the carrying value of these assets is not expected to be impacted by the energy transition or lower commodity price scenarios.

Carrying value of Renewables and Energy Solutions assets

Carrying value of Renewables and Energy Solutions assets
$ billion as at December 31



Portfolio composition and changes

Assets in the Renewables and Energy Solutions segment are expected to be resilient through the energy transition.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Other energy transition considerations

Discount rate sensitivity

The discount rate applied for value in use impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) and is determined at 7.5% except for the power activities in the Renewables and Energy Solutions segment where 6% is applied. The discount rate includes generic systematic risk for energy transition risk. In addition, cash flow projections applied in individual assets include specific asset risks, including risk of transition. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. An increase of the discount rate applied for impairment testing of 1% under the assumption that all other factors (such as commodity prices, product margins and carbon prices) in the models used to calculate recoverability of carrying amounts remain unchanged would lead to a change in the carrying amount of $2-4 billion in Integrated Gas and Upstream, and up to $1 billion in Chemicals and Products, and no significant impairment in other segments.

Global oil and gas demand considerations

A decrease in global demand and unchanged supply of oil and gas would likely lead to a decrease in price (see price sensitivity above). During 2023, Shell's production of oil and gas accounted for 1.5% and 2% of total global production of oil and gas respectively. Changes in global oil and gas demand are therefore not expected to directly impact the ability to sell volumes of oil and gas produced by Shell at market prices.

Deferred tax assets

In general, it is expected that sufficient deferred tax liabilities and forecasted taxable profits within the planning period of 10 years are available for recovery of the deferred tax assets recognised at December 31, 2023. Integrated Gas and Upstream deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of $241 million as at December 31, 2023 (2022: $303 million) this period extends beyond 10 years. Deferred tax assets in Chemicals and Products and in Marketing expected to be recovered in more than 10 years (between 11 and 20 years) are $455 million as at December 31, 2023 (2022: $382 million) for which the forecasted taxable profits to determine recoverability have been risked. (See Note 22).

Decommissioning and other provisions

The energy transition may result in decommissioning and restoration occurring earlier than expected. The risk on the timing of decommissioning and restoration activities for Integrated Gas and Upstream fields is limited, supported by production plans in the foreseeable future (see "Estimated useful life" above). Acceleration of decommissioning and restoration activities has also been reflected in the assessment of the appropriate discount rate. In 2021, the discount rate was revised from a 30-year to a 20-year term in line with the average remaining life of Integrated Gas and Upstream assets. On an undiscounted basis the provision for decommissioning and restoration as at December 31, 2023 was $33 billion (2022: $33 billion), recognised on a discounted basis in the Consolidated Balance Sheet as at December 31, 2023 at $19 billion (2022: $20 billion). Sensitivity to changes in the discount rate is provided in Note 24.

Historically, in Chemicals and Products, it was industry practice not to recognise decommissioning and restoration provisions associated with manufacturing facilities. This was on the basis that these assets were considered to have indefinite lives, so it was considered remote that an outflow of economic benefits would be required. In 2020, Shell considered the changed macroeconomic fundamentals, together with Shell's plans to rationalise the Group's manufacturing portfolio. Shell also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities. Since 2020, decommissioning and restoration provisions are recognised for certain shorter-lived manufacturing facilities (see Notes 24 and 31). The energy and chemicals parks are considered longer-lived facilities that are expected to be resilient in the energy transition, and decommissioning would generally be more than 50 years away.

Onerous contracts

Closure or early termination of activities may lead to supply contracts becoming onerous. Onerous contract provisions (see Note 24) have been recognised as at December 31, 2023, to reflect changes in expected future utilisation of certain assets. These include contracts in relation to unused terminals and refineries. The total carrying amount of the provision for onerous contracts as at December 31, 2023 was $1.1 billion (2022: $1.5 billion) principally related to contracts in relation to unused terminals and refineries.

Dividend resilience

External stakeholders have requested disclosures on how climate change affects dividend-paying capacity. If a further impairment had been recognised in 2023 using any of the climate change scenarios described above, this would not have impacted the ability to pay dividends in this financial year because of strong cash flow generation and financial reserves. Had Shell applied the IEA NZE50 scenario (see above), and if this had led to a decrease in the recoverable amount of Integrated Gas and Upstream assets of $18-25 billion and recognition of an equivalent impairment, this would not have impacted the distributable reserves available to Shell from which to pay dividends in 2023. This is on the basis that such impairment would have resulted in part-realisation of the merger reserve recognised by the Company of $234 billion as at December 31, 2023.

A forward-looking statement regarding future dividend-paying capacity cannot be provided because of unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Physical risks

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of Shell's projects, and/or operation of Shell's assets to minimise the risk of adverse incidents to Shell's employees and contractors, the communities where Shell operates, and Shell's equipment. The potential impact of physical changes comes from both acute and chronic physical risks. Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, and chronic risks, such as rising temperatures and rising sea levels, could potentially impact some of Shell's facilities, operations and supply chains. The frequency of these hazards and impacts is expected to increase in certain high-risk locations. Extreme weather events, whether or not related to climate change, could have a negative impact on Shell's earnings, cash flows and financial condition.

In 2023 Shell carried out a detailed review to assess the impact of a range of changing climatic conditions including changes in temperature, precipitation, wind and sea levels across segments and geographies for our significant assets. Shell used IPCC climate modelling data covering three future climate scenarios (RCP2.6, RCP4.5 and RCP8.5) across the time-horizons 2025, 2030 and 2050. In the short to medium term, the risks were found to be related to factors that Shell is already aware of (whether or not related to climate change) and the assets are actively managing to mitigate, e.g. hurricane impacts in the US Gulf Coast, rising air temperatures in the Middle East and water scarcity in Europe and Asia. As an example, in recent years the Rhine river in Europe has seen historic lows during the summer months leading to challenges in the use of barges for transportation of our products. Dredging of harbours and investment in shallower-draft barges have helped to mitigate the risk. In the long term, the results of the exercise indicated that while we have evaluated against current known risk factors and our current asset portfolio, the frequency and severity of the identified risk factors may increase by 2050. The level of predictability is such that the need for investment in climate adaptation measures at the assets is not immediate and the results mean we are in a position to monitor the assets and determine whether there is any need for adaptation action, e.g. the impact of potential water scarcity on various assets. Shell tested over 70% of the carrying amount of Shell's physical assets as at December 31, 2022, to assess the potential impact of climate-related changes on Shell's significant assets. 13% (based on the carrying value) of physical assets tested are considered to be exposed to climate-related physical risks in the short to medium term which the assets are already actively managing to mitigate. In addition, we reviewed significant acquisitions made in 2023 of which none are considered to be exposed to climate-related physical risks in the short to medium term. Shell's plan reflects the impact of mitigating actions in the short to medium term. Shell will continue to monitor and assess the future exposure of Shell's assets in the longer term to changing climatic conditions to establish the need for any further adaptation actions and related metrics.

Additionally, the impact of physical climate change on Shell's operations is unlikely to be limited to the boundaries of Shell's assets. The overall impact, including how supply chains, resource availability and markets may be affected, also needs to be considered for a holistic assessment of this risk. Shell's assets manage this risk as part of broad risk and threat management processes as required by Shell's HSSE & SP Control Framework part of the wider Shell Performance Framework.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes

Emission trading and related schemes

In general, emission trading schemes (ETS) are mandated governmental schemes to control emission levels and enhance clean energy transition, allowing for the trading of emission certificates. In most ETS, governments set an emission cap for one or more sectors. Generally, entities in scope of the scheme are allowed to buy emission certificates to cover shortages or sell surplus emission certificates. In certain countries, emissions are priced through a carbon tax. For Shell, the most significant carbon pricing mechanisms are established in Europe, Canada and Singapore.

Biofuel programmes

Biofuel programmes are mandated governmental schemes that set binding national targets on the share of renewables in fuel consumption or measures on reducing GHG emissions by fuel suppliers. Biofuels are blended with existing fuels, such as gasoline and diesel, to reduce net emissions. The share of biofuels in the total sales mix of fuel is used to comply with regulatory requirements. This can be achieved by the blending of biofuels in refineries and/or distribution depots (self-blending), through import of biofuels (for jurisdictions that grant biofuels certificates at the point of import) or by the purchasing of certificates from third parties (for jurisdictions that have a tradable biofuel certificates mechanism). Biofuel programmes also include regulatory requirements to pay a levy for the combustion of fossil fuels, based on CO_2 emitted – mainly related to the German Fuel Emissions Trading Act (BEHG) which has applied since January 1, 2021.

Renewable power programmes

Renewable power programmes create a financial incentive to consume power that is sourced from renewable origins or require that a minimum percentage of power sold meets the green definition of the relevant standard. These regulations are typically accompanied by schemes supporting investments in the renewable technology. Renewable power programmes generally use certificates to monitor compliance, where renewable power certificates are granted for each MWh of energy generated that meets the predefined renewable criteria. Shell's compliance obligation under renewable power programmes comes primarily from energy supply and results from regulations applying in Europe, North America and Australia.

Cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income

$ million

	2023	2022	2021
ETS and related schemes	493	493	331
Biofuels [A]	2,581	2,918	2,609
Renewable power	552	594	455
Total	3,626	4,005	3,395

[A] Represents the cost of biofuel certificates required for compliance purposes over and above those generated from self-blending activities.

Purchased environmental certificates (presented under Other intangible assets, see Note 10) [A]

$ million

	ETS and related schemes	Biofuels	Renewable power	Total
At January 1, 2023	440	1,601	160	2,201
Additions	396	2,955	486	3,837
Settlements	(413)	(2,783)	(451)	(3,647)
Other movements	18	32	(50)	–
At December 31, 2023	441	1,805	145	2,391
At January 1, 2022	284	2,362	101	2,747
Additions	385	1,485	468	2,338
Settlements	(256)	(2,142)	(398)	(2,796)
Other movements	27	(104)	(11)	(88)
At December 31, 2022	440	1,601	160	2,201

[A] Relates to environmental certificates held for compliance purposes.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes continued

Obligation (presented under Other payables, see Note 19)

$ million

	ETS and related schemes	Biofuels	Renewable power	Total
At January 1, 2023				
Current	(458)	(3,424)	(350)	(4,232)
Non-current	–	(422)	(56)	(478)
	(458)	(3,846)	(406)	(4,710)
Additions	(1,244)	(2,593)	(597)	(4,434)
Additions covered by government grants	762 [A]			762
Settlements	479	3,386	492	4,357
Other movements	(37)	(64)	80	(21)
	(40)	729	(25)	664
At December 31, 2023				
Current	(498)	(3,012)	(343)	(3,853)
Non-current	–	(105)	(88)	(193)
	(498)	(3,117)	(431)	(4,046)
At January 1, 2022				
Current	(270)	(3,262)	(273)	(3,805)
Non-current	–	(182)	(29)	(211)
	(270)	(3,444)	(302)	(4,016)
Additions	(1,237)	(2,916)	(637)	(4,790)
Additions covered by government grants	776 [A]			776
Settlements	292	2,456	499	3,247
Other movements	(19)	58	34	73
	(188)	(402)	(104)	(694)
At December 31, 2022				
Current	(458)	(3,424)	(350)	(4,232)
Non-current	–	(422)	(56)	(478)
	(458)	(3,846)	(406)	(4,710)

[A] Emission certificates that were allocated free of charge at an equivalent fair value at grant date.

Environmental certificates acquired that are held for compliance purposes are recognised at cost under other intangible assets (see Note 10). In addition, a portfolio of environmental certificates is held for trading purposes and classified under inventory (see Note 2 and Note 16). Environmental certificates held for trading purposes can be redesignated for compliance purposes and then used to settle compliance obligations.

Cost recognised in the Consolidated Statement of Income represents the compliance cost associated with emissions or with products sold during the year. The liability at year-end represents the compliance cost recognised over current and past compliance periods to the extent not settled to date. Liabilities are settled in line with compliance periods, which depend on the scheme and may not coincide with the calendar year.

The figures present compliance schemes only, excluding voluntary activities.

Notes to the Consolidated Financial Statements continued

6. Capital management

Shell manages its businesses to deliver strong cash flows to sustain its strategy and for profitable growth. Management's current priorities for applying Shell's cash are:

Balanced Capital Allocation

Enhanced shareholder distributions [A]

Targeting total shareholder distributions of 30-40% of cash flow from operating activities through the cycle (2022: 20-30%)

Around 4% annual growth in dividend per share, subject to Board approval (2022: 4%)

Strong balance sheet

Targeting AA credit metrics through the cycle

- Continued focus on Net debt reduction in upcycle
- Divest for value
- Invest for value

Disciplined investment

Cash capital expenditure (see Note 7) within $22-25 billion per annum for 2024 and 2025 (2022: $23-27 billion)

- Includes inorganic capex

[A] Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory.

7. Segment information

General information

Shell is an international energy company engaged in the principal aspects of the energy and petrochemicals industries and reports its business through segments: Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions, and Corporate.

The Integrated Gas segment includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver these to market. The segment also includes the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

The Upstream segment includes exploration and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market.

The Marketing segment comprises the Mobility, Lubricants, and Sectors & Decarbonisation businesses. The Mobility business operates Shell's retail network, including electric vehicle charging services. The Lubricants business produces, markets and sells lubricants for road transport, and machinery used in manufacturing, mining, power generation, agriculture and construction. The Sectors & Decarbonisation business sells fuels, speciality products and services, including low-carbon energy solutions, to a broad range of commercial customers, including the aviation, marine, and agricultural sectors.

The Chemicals and Products segment includes chemicals manufacturing plants, with their own marketing network, and refineries, which turn crude oil and other feedstocks into a range of oil products which are moved and marketed around the world for domestic, industrial and transport use. The segment also includes the pipeline business, trading and optimisation of crude oil, oil products and petrochemicals, and oil sands activities (the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil).

The Renewables and Energy Solutions segment includes renewable power generation, the marketing and trading and optimisation of power and pipeline gas, as well as carbon credits, and digitally enabled customer solutions. The segment also includes production and marketing of hydrogen, development of commercial carbon capture and storage hubs, investment in nature-based projects that avoid or reduce carbon emissions, and Shell Ventures, which invests in companies that work to accelerate the energy and mobility transformation.

The Corporate segment covers the non-operating activities supporting Shell, comprising Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions. All finance expense and income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

Notes to the Consolidated Financial Statements continued

7. Segment information continued

Basis of segmental reporting

Sales between segments are based on prices generally equivalent to commercially available prices. Third-party revenue and non-current assets information by geographical area are based on the country of operation of the Group subsidiaries that report this information. Separate disclosure is provided for the UK as this is the Company's country of domicile.

Segment earnings are presented on a current cost of supplies basis (CCS earnings). On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. CCS earnings attributable to Shell plc shareholders is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

Finance expense and income related to core financing activities, as well as related taxes, are included in the Corporate segment earnings rather than in the earnings of the business segments.

Information by segment on a current cost of supplies basis is as follows:

2023

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	37,645	6,475	108,858	118,781	44,819	42	316,620 [A]
Inter-segment	11,560	41,230	624	2,252	4,707	–	60,373
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,951	768	548	590	(96)	(3)	3,758
Interest and other income, of which:	137	671	76	61	75	1,818	2,838
Interest income	6	27	9	57	12	2,202	2,313
Net gains/(losses) on sale and revaluation of non-current assets and businesses	(22)	209	16	(61)	110	5	257
Other	153	435	51	65	(47)	(389)	268
Third-party and inter-segment purchases (CCS basis)	27,356	7,890	94,614	102,396	40,170	15	272,441
Operating expenses, of which:	4,823	9,845	9,336	11,483	3,831	642	39,960
Production and manufacturing expenses	4,529	9,186	949	7,908	2,610	58	25,240
Selling, distribution and administrative expenses	168	163	8,137	3,323	1,058	584	13,433
Research and development expenses	126	496	250	252	163	–	1,287
Exploration expenses	216	1,534	–	–	–	–	1,750
Depreciation, depletion and amortisation charge, of which:	8,903	12,463	2,335	6,411	1,159	19	31,290
Impairment losses	3,472	1,360	420	2,787	908	–	8,947 [B]
Impairment reversals	(324)	(206)	(1)	(90)	(141)	–	(762) [C]
Interest expense	146	507	52	62	4	3,902	4,673
Taxation charge/(credit) (CCS basis)	2,803	8,377	819	(198)	1,303	90	13,194
CCS earnings	7,046	8,528	2,950	1,530	3,038	(2,811)	20,281

[A] Includes $15,607 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior gains of $4,689 million related to sales contracts and prior losses of $2,074 million related to purchase contracts that were previously recognised and where physical settlement has taken place during 2023.
[B] Impairment losses comprise Property, plant and equipment ($8,182 million), Goodwill ($635 million) and Other intangible assets ($130 million). (See Note 12).
[C] Impairment reversals comprise Property, plant and equipment ($627 million) and Other intangible assets ($135 million). (See Note 12).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2022

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	54,751	8,352	120,638	144,342	53,190	41	381,314 [A]
Inter-segment	18,412	52,285	606	2,684	6,791	–	80,778
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,219	2,111	237	374	(7)	(4)	3,930
Interest and other income, of which:	(714)	726	(104)	244	57	706	915
Interest income	43	22	–	24	(2)	959	1,046
Net gains on sale and revaluation of non-current assets and businesses	101	437	(186)	282	8	–	642
Other	(858) [B]	267	82	(62)	51	(253)	(773)
Third-party and inter-segment purchases (CCS basis)	37,785	10,666	108,012	127,521	57,024	(28)	340,980
Operating expenses, of which:	5,237	10,365	8,383	11,362	3,590	539	39,476
Production and manufacturing expenses	4,907	9,676	810	7,583	2,520	22	25,518
Selling, distribution and administrative expenses	218	233	7,351	3,592	972	517	12,883
Research and development expenses	112	456	222	187	98	–	1,075
Exploration expenses	240	1,472	–	–	–	–	1,712
Depreciation, depletion and amortisation charge, of which:	2,211	10,334	1,900	3,289	777	18	18,529
Impairment losses	115	950	480	356	412	–	2,313 [C]
Impairment reversals	(3,449)	(2,504)	(151)	(73)	–	–	(6,177) [D]
Interest expense	84	345	46	22	2	2,682	3,181
Taxation charge/(credit) (CCS basis)	5,899	14,070	903	935	(303)	(7)	21,497
CCS earnings	22,212	16,222	2,133	4,515	(1,059)	(2,461)	41,562

[A] Includes $11,708 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of $9,815 million related to sales contracts and prior gains of $7,201 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2022.
[B] Includes the full write-down of the Nord Stream 2 loan amounting to $1,126 million as a result of the withdrawal from Russian oil and gas activities.
[C] Impairment losses comprise Property, plant and equipment ($1,799 million), Goodwill ($361 million) and Other intangible assets ($153 million). (See Note 12).
[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2021

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	29,922	9,182	83,494	116,448	22,415	43	261,504 [A]
Inter-segment	8,072	35,789	254	1,890	4,675	–	50,680
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,933	632	385	989	(27)	1	3,913
Interest and other income, of which:	1,596	4,592	278	37	200	353	7,056
Interest income	–	37	3	36	4	431	511
Net gains on sale and revaluation of non-current assets and businesses	1,610	4,130	285	(24)	(6)	–	5,995
Other	(14)	425	(10)	25	202	(78)	550
Third-party and inter-segment purchases (CCS basis)	20,188	9,094	70,745	103,294	26,048	(5)	229,364
Operating expenses, of which:	4,526	10,322	7,501	10,347	2,745	524	35,965
Production and manufacturing expenses	4,194	9,797	950	6,815	2,098	(32)	23,822
Selling, distribution and administrative expenses	231	186	6,384	3,375	596	556	11,328
Research and development expenses	101	339	167	157	51	–	815
Exploration expenses	122	1,301	–	–	–	–	1,423
Depreciation, depletion and amortisation charge, of which:	5,908	13,485	1,700	5,485	326	17	26,921
Impairment losses	723	920	129	2,248	45	–	4,065 [B]
Impairment reversals	(204)	(9)	(1)	–	–	–	(214) [C]
Interest expense	71	333	27	44	–	3,132	3,607
Taxation charge/(credit) (CCS basis)	2,648	6,057	903	(210)	(342)	(665)	8,391
CCS earnings	8,060	9,603	3,535	404	(1,514)	(2,606)	17,482

[A] Includes $126 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of $4,824 million related to sales contracts and prior gains of $4,892 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2021.
[B] Impairment losses comprise Property, plant and equipment ($3,894 million), Goodwill ($167 million) and Other intangible assets ($4 million). (See Note 12).
[C] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

Reconciliation of CCS earnings to income for the period

$ million

	2023	2022	2021
Income attributable to Shell plc shareholders	19,359	42,309	20,101
Income attributable to non-controlling interest	277	565	529
Income for the period	19,636	42,874	20,630
Current cost of supplies adjustment:			
Purchases	815	(1,714)	(3,772)
Taxation	(203)	444	808
Share of profit of joint ventures and associates	33	(42)	(184)
Current cost of supplies adjustment	645	(1,312)	(3,148)
Of which:			
Attributable to Shell plc shareholders	650	(1,196)	(3,029)
Attributable to non-controlling interest	(5)	(116)	(119)
CCS earnings	20,281	41,562	17,482
Of which:			
CCS earnings attributable to Shell plc shareholders	20,008	41,113	17,072
CCS earnings attributable to non-controlling interest	273	449	410

Notes to the Consolidated Financial Statements continued

7. Segment information continued

Information by geographical area is as follows:

2023

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	118,135 [A]	99,967	70,291	28,227	316,620
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	48,008 [B]	91,374	57,261	49,562	246,205

[A] Includes $44,815 million that originated from the UK.
[B] Includes $21,478 million located in the UK.

2022

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	135,975 [A]	126,643	87,085	31,611	381,314
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	40,161 [B]	97,019	59,233	51,794	248,207

[A] Includes $50,236 million that originated from the UK.
[B] Includes $20,772 million located in the UK.

2021

$ million

	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	78,549 [A]	87,070	73,647	22,238	261,504
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	38,881 [B]	97,278	58,286	48,595	243,040

[A] Includes $21,846 million that originated from the UK.
[B] Includes $21,974 million located in the UK.

Cash capital expenditure

Cash capital expenditure is a measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

2023

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,491	8,249	5,563	3,106	2,314	270	22,993 [A]
Investments in joint ventures and associates	705	94	49	84	261	9	1,202 [A]
Investments in equity securities	–	–	–	2	106	89	197 [A]
Cash capital expenditure*	4,196	8,343	5,612	3,192	2,681	368	24,392

[A] See Consolidated Statements of Cash Flows.
* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2022

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,433	8,020	4,527	3,835	2,610	175	22,600 [A]
Investments in joint ventures and associates	832	123	304	2	703	9	1,973 [A]
Investments in equity securities	–	–	–	1	156	103	260 [A]
Cash capital expenditure*	4,265	8,143	4,831	3,838	3,469	287	24,833

[A] See Consolidated Statements of Cash Flows.

2021

$ million

	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,306	6,277	2,122	5,091	2,069	135	19,000 [A]
Investments in joint ventures and associates	196	(109)	148	80	154	10	479 [A]
Investments in equity securities	–	–	3	4	136	75	218 [A]
Cash capital expenditure*	3,502	6,168	2,273	5,175	2,359	220	19,697

[A] See Consolidated Statements of Cash Flows.

8. Interest and other income

$ million

	2023	2022	2021
Interest income	2,313	1,046	511
Dividend income (from investments in equity securities)	49	216	91
Net gains on sale and revaluation of non-current assets and businesses	257	642	5,995
Net foreign exchange (losses)/gains on financing activities	(458)	(340)	118
Other	677	(649)	341
Total	2,838	915	7,056

Other includes amounts recognised in respect of sublease income from partners in joint operations (2023: $418 million, 2022: $319 million, 2021: $313 million).

In 2022, Other included the full write-down of the Nord Stream 2 loan amounting to $1,126 million as a result of Shell's withdrawal from Russian oil and gas activities. In 2021, net gains on sale of non-current assets and businesses arose mainly in respect of gains on the sale of Integrated Gas assets in Australia and Norway, and Upstream assets in the USA and Nigeria.

9. Interest expense

$ million

	2023	2022	2021
Interest incurred and similar charges	2,669	1,971	2,086
Interest expense related to leases	1,772	1,724	1,987
Less: interest capitalised	(532)	(950)	(917)
Other net losses/(gains) on fair value and cash flow hedges of debt	45	(71)	1
Accretion expense	719	507	450
Total	4,673	3,181	3,607

The rate applied in determining the amount of interest capitalised in 2023 was 4.0% (2022: 4.0%; 2021: 4.0%).

* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

10. Goodwill and other intangible assets

2023

$ million

	Goodwill	Other intangible assets: LNG off-take and sales contracts	Other intangible assets: Environmental certificates	Other intangible assets: Other	Total
Cost					
At January 1	17,557	9,833	2,201	8,158	20,192
Additions	1,436	–	3,837	1,721 [C]	5,558
Sales, retirements and other movements [A]	(506)	(99)	(3,714)	(376)	(4,189)
Currency translation differences	55	–	67	139	206
At December 31	18,542	9,734	2,391	9,642	21,767
Depreciation, depletion and amortisation, including impairments					
At January 1	1,518	6,060		4,470	10,530
Charge for the year [B]	635	790		442	1,232
Sales, retirements and other movements [A]	(296)	(99)		(222)	(321)
Currency translation differences	25	–		73	73
At December 31	1,882	6,751		4,763	11,514
Carrying amount at December 31	16,660	2,983	2,391	4,879 [D]	10,253

[A] Includes the reclassification of assets classified as held for sale. (See Note 18).
[B] Includes impairment losses and reversals. (See Note 12).
[C] Includes feedstock supply contracts and intellectual property rights ($948 million) from an acquisition in Marketing and software ($357 million) primarily in Integrated Gas and Marketing.
[D] Includes software ($829 million), power purchase agreements, retail customer relationships and trademarks.

2022

$ million

	Goodwill	Other intangible assets: LNG off-take and sales contracts	Other intangible assets: Environmental certificates	Other intangible assets: Other	Total
Cost					
At January 1	16,117	9,833	2,747	6,679	19,259
Additions	1,954	–	2,338	1,263 [C]	3,601
Sales, retirements and other movements [A]	(351)	–	(2,749)	459 [D]	(2,290)
Currency translation differences	(163)	–	(135)	(243)	(378)
At December 31	17,557	9,833	2,201	8,158	20,192
Depreciation, depletion and amortisation, including impairments					
At January 1	1,197	5,267		4,219	9,486
Charge for the year [B]	360	793		532	1,325
Sales, retirements and other movements [A]	–	–		(137)	(137)
Currency translation differences	(39)	–		(144)	(144)
At December 31	1,518	6,060		4,470	10,530
Carrying amount at December 31	16,039	3,773	2,201	3,688 [E]	9,662

[A] Includes the reclassification of assets classified as held for sale. (See Note 18).
[B] Includes impairment losses and reversals. (See Note 12).
[C] Includes other intangible assets ($1,010 million) mainly acquired through acquisitions in Marketing and Renewables and Energy Solutions.
[D] Includes the reclassification from goodwill following the completion of a purchase price allocation in Renewables and Energy Solutions.
[E] Includes software ($583 million), power purchase agreements, retail customer relationships and trademarks.

Goodwill at December 31, 2023, related principally to the acquisition of BG Group plc in 2016, allocated to Integrated Gas ($4,945 million) and Upstream ($5,294 million) at the operating segment level, and to Pennzoil-Quaker State Company ($1,665 million), a lubricants business in the Marketing segment based largely in North America.

Additions to goodwill in 2023 of $1,436 million mainly related to goodwill recognised from acquisitions in Marketing ($1,304 million) and Renewables and Energy Solutions ($132 million).

Notes to the Consolidated Financial Statements continued

11. Property, plant and equipment

2023 [A]

$ million

	Exploration and production				
	Exploration and evaluation	Production	Manufacturing, supply and distribution	Other	Total
Cost					
At January 1	11,565	277,016	106,785	39,595	434,961
Additions	2,161	10,731	5,910	7,029	25,831
Sales, retirements and other movements [B]	(5,164)	(1,153)	(1,016)	(1,387)	(8,720)
Reclassifications [C]	–	(2,779)	527	2,252	–
Currency translation differences	73	1,855	863	207	2,998
At December 31	8,635	285,670	113,069	47,696	455,070
Depreciation, depletion and amortisation, including impairments					
At January 1	5,162	159,662	56,901	14,594	236,319
Charge for the year [D]	731	18,202	8,295	2,687	29,915
Sales, retirements and other movements [B]	(2,609)	(2,000)	(2,083)	(1,394)	(8,086)
Reclassifications [C]	–	(2,217)	63	2,154	–
Currency translation differences	39	1,326	650	72	2,087
At December 31	3,323	174,973	63,826	18,113	260,235
Carrying amount at December 31	5,312	110,697	49,243	29,583	194,835

[A] Includes right-of-use assets under leases. (See Note 21).
[B] Includes the reclassification of assets classified as held for sale. (See Note 18).
[C] Reclassifications of right-of-use assets. (See Note 21).
[D] Includes impairment losses and reversals. (See Note 12).

2022 [A]

$ million

	Exploration and production				
	Exploration and evaluation	Production	Manufacturing, supply and distribution	Other	Total
Cost					
At January 1	12,679	285,903	104,182	34,005	436,769
Additions	1,564	11,954	6,928	7,808	28,254
Sales, retirements and other movements [B]	(2,469)	(14,541)	(2,548)	(242)	(19,800)
Currency translation differences	(209)	(6,300)	(1,777)	(1,976)	(10,262)
At December 31	11,565	277,016	106,785	39,595	434,961
Depreciation, depletion and amortisation, including impairments					
At January 1	5,580	167,530	55,131	13,596	241,837
Charge for the year [C]	397	9,709	5,149	2,055	17,310
Sales, retirements and other movements [B]	(765)	(13,207)	(2,054)	(396)	(16,422)
Currency translation differences	(50)	(4,370)	(1,325)	(661)	(6,406)
At December 31	5,162	159,662	56,901	14,594	236,319
Carrying amount at December 31	6,403	117,354	49,884	25,001	198,642

[A] Includes right-of-use assets under leases. (See Note 21).
[B] Includes the reclassification of assets classified as held for sale. (See Note 18).
[C] Includes impairment losses and reversals. (See Note 12).

Notes to the Consolidated Financial Statements continued

11. Property, plant and equipment continued

The carrying amount of property, plant and equipment at December 31, 2023, included $28,135 million (2022: $27,277 million) of assets under construction. This amount excludes exploration and evaluation assets.

The carrying amount of exploration and production assets at December 31, 2023, included rights and concessions in respect of proved and unproved properties of $6,097 million (2022: $7,662 million). Exploration and evaluation assets principally comprise rights and concessions in respect of unproved properties and capitalised exploration drilling costs.

The total contractual commitments for the purchase and lease of property, plant and equipment at December 31, 2023, amounted to $12,419 million of which $8,594 million related to lease commitments.

Capitalised exploration drilling costs

			$ million
	2023	2022	2021
At January 1	2,911	3,015	3,654
Additions pending determination of proved reserves	1,967	1,298	1,024
Amounts charged to expense	(868)	(881)	(639)
Reclassifications to productive wells on determination of proved reserves	(874)	(531)	(577)
Other movements	–	10	(447)
At December 31	3,136	2,911	3,015

	Projects		Wells	
	Number	$ million	Number	$ million
Between 1 and 5 years	13	721	14	353
Between 6 and 10 years	6	704	22	708
Between 11 and 15 years	2	69	20	390
Between 16 and 20 years	2	124	8	167
Total	23	1,618	64	1,618

Exploration drilling costs capitalised for periods greater than one year at December 31, 2023, analysed according to the most recent year of activity, are presented in the table above. These comprise $273 million relating to five projects where drilling activities were under way or firmly planned for the future, and $1,345 million relating to 18 projects awaiting development concepts.

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets

Impairments

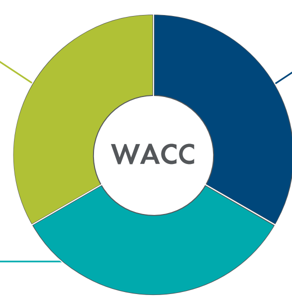
			$ million
	2023	2022	2021
Impairment losses			
Goodwill	635	361	167
Intangible assets other than goodwill	130	153	4
Property, plant and equipment, of which [A]	8,182	1,799	3,894
Exploration and production	4,820	868	1,533
Manufacturing, supply and distribution	2,785	474	2,340
Other	577	457	21
Total [B]	8,947	2,313	4,065
Impairment reversals			
Intangible assets other than goodwill	135	–	–
Property, plant and equipment, of which [A]	627	6,177	214
Exploration and production	528	5,954	213
Manufacturing, supply and distribution	91	72	–
Other	8	151	1
Total [B]	762	6,177	214

[A] Includes right-of-use assets under leases. (See Note 21).
[B] See Note 7.

Discount rate and other assumptions

The discount rates applied in determining value in use reflect a current market assessment of the time value of money, adjusted for risks not included in forecast cash flows. The discount rate applied is based on a nominal post-tax weighted average cost of capital (WACC), derived from the following key assumptions:

Risk-free rate
derived from a range of benchmark US Treasury yields of varying maturities, to reflect the range of useful economic lives of Shell's assets and to appropriately adjust, where relevant, for pricing anomalies and short-term volatility of specific tenors.



Cost of equity [A]
calculated per the capital asset pricing model. Equity risk premiums are derived from a range of published sources, adjusted to reflect a beta derived from a peer group of comparable energy companies, and subsequently calibrated to ensure that total cost of equity is consistent with market practice.

Cost of debt [A]
derived from observable risk premiums on corporate debt issued by a group of comparable energy companies, adjusted for a blended statutory tax rate.

[A] The peer group of comparable energy companies is tailored to reflect relevant integrated power companies (for power activities in the Renewables and Energy Solutions segment) and integrated oil and gas companies (for the rate applied to all other assets). The proportion of debt and equity in the WACC calculation reflects a target gearing ratio, tailored for power activities and oil and gas activities as appropriate.

This rate is reassessed throughout the reporting period, with adjustments made when changes in assumptions applied would lead to a change in an investor's expected rate of return on a portfolio of similar assets. This assessment considers a range of factors, including macroeconomic forecasts, the historical volatility of key assumptions and the level of risking reflected in cash flow forecasts, including the extent to which systemic risks have been reflected in Shell's Operating Plan, which forms the basis of forecast cash flows in determining value in use.

Cash flow projections used in the determination of value in use were made using management's forecasts of commodity prices, market supply and demand, forecast expenditures, potential costs associated with operational GHG emissions, product margins including forecast refining margins, chemical margins and expected production volumes (see Note 2). The level of risking reflected in these assumptions is a consideration in management's assessment of the discount rate to be applied in order to avoid duplication of systemic and asset-specific risking in calculating value in use, and to ensure the discount rate applied is commensurate with risks included in forecast cash flows.

The discount rate increased in 2023, predominantly as a result of sustained increases in US Treasury yields. The discount rate applied was a nominal post-tax WACC of 6% (2022: 5%) for the power activities in the Renewables and Energy Solutions segment and a nominal post-tax WACC of 7.5% (2022: 6.5%) for all other businesses.

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets continued

Recoverable value was predominantly assessed by reference to value in use. The pre-tax discount rates applied for value in use impairment testing vary according to the characteristics of the asset, including its useful life and cash flow profiles. The weighted average pre-tax discount rate applied in the recognition of impairment charges during the year was 9.9% for the Renewables and Energy Solutions segment and 12.9% for all other businesses. Prior year impairment charges were predominantly related to the withdrawal from Russia where value in use calculations were not applicable.

The near-term commodity price assumptions applied in impairment testing were as follows:

Commodity price assumptions [A]

2023	2024	2025	2026	2027
Brent crude oil ($/b)	70	70	70	74
Henry Hub natural gas ($/MMBtu)	4.00	4	4	4
2022	**2023**	**2024**	**2025**	**2026**
Brent crude oil ($/b)	80	70	70	71
Henry Hub natural gas ($/MMBtu)	4.00	3.50	3.50	3.98

[A] Money of the day.

For periods after 2027, the real-terms price assumptions applied were: $70 per barrel (/b) (2022: $65/b) for Brent crude oil, $4.00 per million British thermal units (/MMBtu) (2022: $4.00/MMBtu) for Henry Hub natural gas.

Oil and gas price assumptions applied for impairment testing are reviewed and, where necessary, adjusted on a periodic basis. Reviews include comparison with available market data and forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, in supply, consideration of investment and resource potential, cost of development of new supply, and behaviour of major resource holders.

For certain assets in the Chemicals and Products and Renewables and Energy Solutions segments, the recoverable value was determined by reference to fair value less costs of disposal. In determining fair value, adjustments are made to forecast cash flows to reflect assumptions used by market participants. These adjustments predominantly relate to the discount rate applied and commodity price assumptions. For certain assets in the Renewables and Energy Solutions segment, the valuation methodology incorporates other adjustments to reflect comparable transactions.

The total carrying value of property, plant and equipment, goodwill and other intangible assets at December 31, 2023 for which recoverable value was determined by reference to fair value less costs of disposal was $2.6 billion related to assets in Renewables and Energy Solutions and $2.5 billion in Chemicals and Products. The weighted average post-tax discount rate applied to impairments recognised during the year is 12% for Renewables and Energy Solutions and 10% for Chemicals and Products.

Goodwill

Goodwill impairments of $635 million in 2023 are mainly recognised in Renewables and Energy Solutions primarily related to an asset in North America, triggered by annual goodwill impairment testing reflecting factors including the impact of the deteriorated macro environment.

Property, plant and equipment

Exploration and production

Impairment losses recognised in Exploration and production in 2023 of $4,820 million related to various assets in Integrated Gas ($3,472 million) and Upstream ($1,348 million). Impairments recognised in Integrated Gas mainly related to an asset located in North America, triggered by a change in the discount rate applied, and a project in Australia, triggered by factors including revised production estimates and regulatory changes. Impairment losses recognised in Upstream principally relate to projects in North America, Nigeria and the UK triggered by factors including revised reserves estimates and portfolio choices.

Manufacturing, supply and distribution

Impairment losses recognised in Manufacturing, supply and distribution in 2023 of $2,785 million mainly related to chemical assets in Singapore in Chemicals and Products, triggered by lower expected chemical margins and associated with portfolio choices.

Other

Other impairment losses in 2023 of $577 million related to various assets in Marketing ($292 million) and assets in Renewables and Energy Solutions mainly in Europe ($273 million).

Impairment reversals in 2023 of $627 million are mainly triggered by the reassessment of fair value less costs of disposal in Integrated Gas ($325 million) and revised reserves estimates in Upstream ($203 million).

Impairment losses in 2022 mainly related to the withdrawal from Russia ($854 million), the classification of an Upstream asset as held for sale ($320 million) and an impairment of capital expenditure additions in fully impaired sites in Chemicals and Products ($257 million).

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets continued

The recognition of impairment reversals in 2022 was mainly triggered by the revision of Shell's mid- and long-term commodity price assumptions reflecting the energy market demand and supply fundamentals. They are related to: i) Integrated Gas for $3,449 million, mainly relating to the Queensland Curtis LNG asset; and ii) Upstream for $2,504 million, mainly related to two offshore projects in Brazil and an asset in the US Gulf of Mexico.

Impairment losses in 2021 were predominantly triggered by reclassifications of assets held for sale and portfolio developments. They were mainly related to three refineries in the USA within Chemicals and Products impaired on classification as held for sale ($1,537 million), and exploration and evaluation assets both within Integrated Gas ($600 million) and Upstream ($373 million).

Sensitivities

The main sensitivities in relation to value in use impairment assessment are the commodity price assumptions in Integrated Gas and Upstream, refining and chemical margins in Chemicals and Products, and discount rates in all segments.

Commodity price assumptions

A change of -10% or +10% in the commodity price assumptions over the entire cash flow projection period would ceteris paribus result in $5-8 billion impairments or $2-5 billion impairment reversal, respectively, in Integrated Gas and Upstream.

Refining margins

Refining margins applied for impairment testing by reference to value in use are at an average of $7.6/bbl. A change of -$1/bbl or +$1/bbl in long-term refining margins over the entire cash flow projection period would ceteris paribus result in $1-2 billion impairments or up to $1 billion impairment reversal, respectively, in Chemicals and Products.

Chemical margins

Chemicals margins applied for impairment testing by reference to value in use are at an average of $252/tonne. A change of -$30/tonne or +$30/tonne in long-term chemical margins over the entire cash flow projection period would ceteris paribus result in up to $2 billion impairments or no impairment reversal, respectively, in Chemicals and Products.

Discount rates

A change of +1% in the discount rate would ceteris paribus result in $2-4 billion impairments in Integrated Gas and Upstream, and up to $1 billion in Chemicals and Products, and would have no significant impact in other segments.

Where carrying values have been supported by reference to fair value less costs of disposal, recoverable amounts are less sensitive to Shell's planning assumptions. This is on the basis that key assumptions (including discount rates and commodity prices) have been adjusted to reflect those used by market participants.

In calculating recoverable value, key assumptions are not determined in isolation, to ensure relevant interdependencies are appropriately reflected. In particular, management considers the relationship between discount rates, forecast commodity prices and cash flow risking to ensure impairment testing assumptions result in an implicit expected return which is balanced and appropriate for the asset under review. Each of the sensitivities described above have been tested under a ceteris paribus assumption where all other factors remain unchanged, and as such do not reflect the potential offsetting effects of corresponding changes in other assumptions.

Notes to the Consolidated Financial Statements continued

13. Joint ventures and associates

Shell share of comprehensive income of joint ventures and associates

$ million

	2023			2022			2021		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Income for the period	1,619	2,106	3,725	2,589	1,383 [A]	3,972	1,955	2,142	4,097
Other comprehensive (loss)/income for the period	(183)	–	(183)	21	–	21	(106)	–	(106)
Comprehensive income for the period	1,436	2,106	3,542	2,610	1,383	3,993	1,849	2,142	3,991

[A] Includes an impairment charge of $1,614 million related to Sakhalin-2. (See Note 14).

Carrying amount of interests in joint ventures and associates

$ million

	Dec 31, 2023			Dec 31, 2022		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Net assets	17,382	7,075	24,457	17,056	6,808	23,864

Transactions with joint ventures and associates [A]

$ million

	2023	2022	2021
Sales and charges to joint ventures and associates	10,223	12,230	8,509
Purchases and charges from joint ventures and associates	15,084	22,286	13,584

[A] Includes 25% (2022: 29%) of sales and 19% (2022: 16%) purchases in transactions with one joint venture operating in the oil trading business.

These transactions principally comprise sales and purchases of goods and services in the ordinary course of business. Related balances outstanding at December 31, 2023, and 2022, are presented in Notes 15 and 19.

Other arrangements in respect of joint ventures and associates

$ million

	Dec 31, 2023	Dec 31, 2022
Commitments to make purchases from joint ventures and associates [A]	1,397	1,234
Commitments to provide debt or equity funding to joint ventures and associates	405	567

[A] Commitments to make purchases from joint ventures and associates mainly relate to contracts associated with LNG processing fees and transportation capacity. Shell has other purchase obligations related to joint ventures and associates that are not fixed or determinable and are principally intended to be resold in a short period of time through sales agreements with third parties. These include long-term LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices.

Notes to the Consolidated Financial Statements continued

14. Investments in securities

Investments in securities

		$ million
	Dec 31, 2023	Dec 31, 2022
Equity securities:	1,605	1,533
Equity securities at fair value through other comprehensive income	1,605	1,533
Debt securities:	1,641	1,829
Debt securities at amortised cost	28	21
Debt securities at fair value through other comprehensive income	1,285	1,308
Debt securities at fair value through profit or loss	328	500
Total	3,246	3,362
At fair value		
Measured by reference to prices in active markets for identical assets	1,983	1,884
Measured by reference to other observable inputs	92	158
Measured using predominantly unobservable inputs	1,143	1,299
Total	3,218	3,341
At cost	28	21
Total	3,246	3,362

As at December 31, 2023, investments included equity securities comprising interests in which Shell has no significant influence; debt securities, principally comprising a portfolio required to be held by the Company's internal insurance entities as security for their activities; and assets held in escrow in relation to the Group's UK pension arrangements.

Equity securities at fair value through other comprehensive income include a 27.5% (minus one share) interest in Sakhalin Energy Investment Company Ltd. (SEIC). Up to March 31, 2022, this investment was accounted for as an associate applying the equity method. Significant influence over the Sakhalin-2 investment was lost from April 1, 2022, leading to recognition, without financial impact, of the investment as a financial asset accounted for at fair value from that date, with subsequent changes in fair value recognised in other comprehensive income. The carrying value of the investment is zero as at December 31, 2023 (2022: zero).

Investments in securities measured using predominantly unobservable inputs [A]

		$ million
	2023	2022
At January 1	1,299	1,707
Losses recognised in other comprehensive income	(126)	(206)
Purchases	146	142
Sales	(207)	(37)
Other movements	31	(307)
At December 31	1,143	1,299

[A] Based on expected dividend flows, adjusted for country and other risks as appropriate and discounted to their present value.

Other movements in 2022 includes a reclassification to Property, plant and equipment, as a result of obtaining title to assets in a project in Asia.

Notes to the Consolidated Financial Statements continued

15. Trade and other receivables

				$ million
	Dec 31, 2023		Dec 31, 2022	
	Current	Non-current	Current	Non-current
Trade receivables	36,273	–	39,334	–
Lease receivables	188	1,032	206	1,090
Other receivables	9,642	2,801	9,737	3,247
Amounts due from joint ventures and associates	1,014	278	2,722	423
Prepayments and deferred charges	6,156	2,187	14,511	2,160
Total	53,273	6,298	66,510	6,920

The fair value of financial assets included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other receivables at December 31, 2023, included receivables from certain governments in their capacity as joint arrangement partners of $296 million (2022: $717 million), after provisions for impairments, that are overdue in part or in full. Recoverability and timing thereof are subject to uncertainty, however, the ultimate risk of default on the carrying amount is considered to be low. Other receivables at December 31, 2023, also included current income tax receivables of $558 million (2022: $363 million) and non-current income tax receivables of $568 million (2022: $469 million).

Current prepayments and deferred charges at December 31, 2023, mainly decreased compared to prior year due to lower gas and power prices and a lower outstanding collateral position.

Provisions for impairments deducted from trade and other receivables amounted to $1,251 million at December 31, 2023 (2022: $1,510 million).

Allowance for expected credit losses - trade receivables

Shell uses a provision matrix to calculate expected credit losses (ECLs) for trade receivables. The provision matrix is initially based on Shell's historical observed default rates. Shell calculates the ECL to adjust the historical credit loss experienced with forward-looking information. The ECL at December 31, 2023, was $185 million (2022: $214 million), which represents 0.51-0.54% (2022: 0.45-0.54%) of all trade receivables.

A loss allowance provision of $415 million (2022: $841 million) was established in addition to all other impairments to trade receivables as at December 31, 2023, that are outside of the provision matrix calculations.

Lease receivables

Lease contracts where Shell is the lessor are classified as finance leases or operating leases. Receivables for lease contracts classified as finance leases are as follows:

		$ million
	Dec 31, 2023	Dec 31, 2022
Less than one year	238	257
Between 1 and 5 years	848	792
5 years and later	453	532
Total undiscounted lease payments receivable	1,539	1,581
Unearned finance income	260	270
Net investment in leases	1,279	1,311

In addition, at December 31, 2023, Shell is entitled to future contractual payments under operating leases of $312 million (2022: $389 million).

16. Inventories

		$ million
	Dec 31, 2023	Dec 31, 2022
Oil, gas and chemicals	22,232	27,823
Environmental certificates	2,108	2,557
Materials	1,679	1,514
Total	26,019	31,894

Inventories at December 31, 2023, included write-downs to net realisable value of $1,567 million (2022: $2,705 million).

Notes to the Consolidated Financial Statements continued

17. Cash and cash equivalents

$ million

	Dec 31, 2023	Dec 31, 2022
Cash	5,886	6,608
Short-term bank deposits	6,590	5,147
Money market funds, reverse repos and other cash equivalents	26,298	28,491
Total	38,774	40,246

In 2023, cash continued to be invested with an emphasis on capital preservation. Information about credit risk is presented in Note 25. Included in cash and cash equivalents at December 31, 2023, were amounts totalling $460 million (2022: $156 million) subject to currency controls or other legal restrictions.

18. Assets held for sale

$ million

	Dec 31, 2023			Dec 31, 2022		
	Current	Non-current	Total	Current	Non-current	Total
Intangible assets	–	71	71	–	–	–
Property, plant and equipment	–	250	250	–	2,526	2,526
Joint ventures and associates	–	19	19	–	94	94
Investments in securities	–	–	–	–	128	128
Deferred tax	–	10	10	–	–	–
Retirement benefits	–	1	1	–	–	–
Trade and other receivables	103	34	137	44	51	95
Inventories	463	–	463	8	–	8
Assets classified as held for sale	566	385	951	52	2,799	2,851
Debt	2	82	84	3	1	4
Trade and other payables	94	–	94	256	22	278
Retirement benefits	–	53	53	–	–	–
Decommissioning and other provisions	7	68	75	134	971	1,105
Income taxes payable	1	–	1	8	–	8
Liabilities directly associated with assets classified as held for sale	104	203	307	401	994	1,395

At December 31, 2023, assets held for sale mainly related to an asset in Chemicals and Products in Europe, a Renewables and Energy Solutions project in North America and an asset within Marketing in Asia. All transactions that resulted in the reclassification of assets held for sale at December 31, 2023, are expected to be completed in 2024.

At December 31, 2022, assets held for sale mainly related to three Upstream projects. All transactions that resulted in assets held for sale reclassification at December 31, 2022, were completed in 2023.

19. Trade and other payables

$ million

	Dec 31, 2023		Dec 31, 2022	
	Current	Non-current	Current	Non-current
Trade payables	34,591	–	42,632	–
Other payables [A]	9,887	2,835	10,059	3,148
Sales taxes, excise duties and similar levies	3,105	–	3,270	–
Amounts due to joint ventures and associates	7,519	33	8,441	31
Accruals and deferred income	13,135	235	14,955	253
Total	68,237	3,103	79,357	3,432

[A] Includes obligations under environmental compliance schemes of $4,046 million as at December 31, 2023 (2022: $4,710 million). (See Note 5).

The fair value of financial liabilities included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other payables include amounts due to joint arrangement partners and in respect of other project-related items.

Information about offsetting, collateral and liquidity risk is presented in Note 25.

Notes to the Consolidated Financial Statements continued

20. Debt

Debt

	Dec 31, 2023			Dec 31, 2022		
$ million	Debt (excluding lease liabilities)	Lease liabilities [A]	Total	Debt (excluding lease liabilities)	Lease liabilities [A]	Total
Current debt:	5,288	4,643	9,931	4,620	4,381	9,001
Short-term debt	845		845	1,026		1,026
Long-term debt due within 1 year	4,443	4,643	9,086	3,594	4,381	7,975
Non-current debt	48,544	23,066	71,610	51,532	23,262	74,794
Total	53,832	27,709	81,541	56,152	27,643	83,795

[A] Further analysis of lease liabilities is provided in Note 21.

Net debt is the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge the volatility caused by fluctuations in foreign exchange and interest rates relating to debt, and associated collateral balances. Net debt is a non-GAAP measure, providing additional information to help demonstrate the economic impacts of debt, associated hedges, and cash and cash equivalents.

Net debt

$ million	(Asset)/liability				
	Current debt	Non-current debt	Derivative financial instruments	Cash and cash equivalents (see Note 17)	Net debt*
At January 1, 2023	9,001	74,794	1,288	(40,246)	44,837
Cash flow	(9,617)	(215)	723	1,778	(7,331)
Lease additions [A]	1,021	3,321			4,342
Other movements	9,619	(7,184)	(481)	–	1,954
Currency translation differences and foreign exchange (gains)/losses	(93)	894	(755)	(306)	(260)
At December 31, 2023	9,931	71,610	775	(38,774)	43,542
At January 1, 2022	8,218	80,868	440	(36,970)	52,556
Cash flow	(7,618)	(254)	(1,799)	(4,012)	(13,683)
Lease additions [A]	1,111	4,077			5,188
Other movements	7,560	(7,883)	1,393	–	1,070
Currency translation differences and foreign exchange (gains)/losses	(270)	(2,014)	1,254	736	(294)
At December 31, 2022	9,001	74,794	1,288	(40,246)	44,837

[A] Further analysis of lease liabilities is provided in Note 21.

Borrowing facilities and amounts undrawn

$ million	Facility		Amount undrawn	
	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022
CP programmes	20,000	20,000	20,000	20,000
EMTN programme	unlimited	unlimited	N/A	N/A
US shelf registration	unlimited	unlimited	N/A	N/A
Committed credit facilities	9,920	9,920	9,920	9,920

* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

20. Debt continued

Shell has access to international debt capital markets via two commercial paper (CP) programmes, a Euro medium-term note (EMTN) programme and a US universal shelf (US shelf) registration. Issuances under the CP programmes are supported by a committed credit facility and cash.

Under the CP programmes, Shell can issue debt of up to $10,000 million with maximum maturities ranging between 183 days and 364 days depending on the form of the notes issued; and $10,000 million with maturities not exceeding 397 days.

The EMTN programme is updated each year, most recently in November 2023. During 2023, no debt was issued under this programme (2022: no debt issued).

The US shelf registration provides Shell with the flexibility to issue debt securities, ordinary shares, preferred shares and warrants. The registration is updated once every three years and was last updated in December 2023. During 2023, no debt was issued under the US shelf registration (2022: no debt issued).

On December 13, 2019, Shell refinanced its revolving credit facilities (RCF), which are linked to the Secured Overnight Financing Rate (SOFR), at pre-agreed margins. In December 2023, Shell extended the short-dated tranche of the facility of $1,920 million until December 2024. The facility retains a further one-year bank extension option, taking final maturity to 2025. The additional RCF tranche is $8,000 million expiring in 2026 (2022: $320 million expiring in 2025 and $7,680 million expiring in 2026). The terms and availability are not conditional on Shell's financial ratios nor its financial credit ratings. The interest and fees related to these facilities are linked to Shell's progress towards reaching its short-term Net Carbon Intensity target.

The following tables compare contractual cash flows for debt, excluding lease liabilities at December 31, with the carrying amount in the Consolidated Balance Sheet. Contractual amounts reflect the effects of changes in foreign exchange rates; differences from carrying amounts reflect the effects of discounting, premiums and, where fair value hedge accounting is applied, fair value adjustments. Interest is estimated assuming that interest rates applicable to variable-rate debt remain constant and there is no change in aggregate principal amounts of debt other than repayment at scheduled maturity, as reflected in the table.

2023

$ million

	Contractual payments								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount	Carrying amount
Bonds	4,292	6,194	3,856	2,489	5,442	30,049	52,322	(567)	51,755
EMTN	3,042	3,444	1,106	2,489	3,942	7,649	21,672	(414)	21,258
US shelf	1,250	2,750	2,750	–	1,500	22,400	30,650	(153)	30,497
Bank and other borrowings	1,060	230	73	346	53	316	2,078	(1)	2,077
Total (excluding interest)	5,352	6,424	3,929	2,835	5,495	30,365	54,400	(568)	53,832
Interest	1,569	1,452	1,285	1,207	1,177	13,366	20,056		

2022

$ million

	Contractual payments								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount	Carrying amount
Bonds	3,365	4,184	6,054	3,817	2,400	35,005	54,825	(1,210)	53,615
EMTN	865	2,934	3,304	1,067	2,400	11,105	21,675	(936)	20,739
US shelf	2,500	1,250	2,750	2,750	–	23,900	33,150	(274)	32,876
Bank and other borrowings	1,229	335	64	156	63	704	2,551	(14)	2,537
Total (excluding interest)	4,594	4,519	6,118	3,973	2,463	35,709	57,376	(1,224)	56,152
Interest	1,669	1,574	1,463	1,314	1,233	14,757	22,010		

Interest rate swaps have been entered into against certain fixed rate debt affecting the effective interest rate on these balances (see Note 25). The fair value of debt excluding lease liabilities at December 31, 2023, was $50,866 million (2022: $51,959 million), mainly determined from the prices quoted for those securities. The difference between the fair value of debt and the carrying amount is predominantly related to fixed rate debt.

Notes to the Consolidated Financial Statements continued

21. Leases

Shell has lease contracts in Integrated Gas and Upstream, principally for floating production storage and offloading units, subsea equipment, drilling and ancillary equipment, service vessels, LNG vessels and land and buildings; in Marketing, principally for land and retail sites; in Chemicals and Products, principally for plant pipeline and machinery, tankers and storage capacity; in Renewables and Energy Solutions, principally for power generation assets, storage capacity and land; and in Corporate, principally for land and buildings. Shell's obligations under its leases are secured on the leased assets.

Right-of-use assets

Right-of-use assets are included in property, plant and equipment for the following amounts:

2023

$ million

	Exploration and production		Manufacturing, supply and distribution	Other [D]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	–	14,675	16,463	9,899	41,037
Additions	–	790	2,442	1,308	4,540
Sales, retirements and other movements [A]	–	(116)	29	(1,040)	(1,127)
Reclassifications [B]	–	(2,779)	527	2,252	–
Currency translation differences	–	27	24	(268)	(217)
At December 31	–	12,597	19,485	12,151	44,233
Depreciation, depletion and amortisation, including impairments					
At January 1	–	8,275	6,695	2,950	17,920
Charge for the year [C]	–	1,382	2,428	998	4,808
Sales, retirements and other movements [A]	–	(303)	(1,149)	(1,042)	(2,494)
Reclassifications [B]	–	(2,217)	63	2,154	–
Currency translation differences	–	9	12	(101)	(80)
At December 31	–	7,146	8,049	4,959	20,154
Carrying amount at December 31	–	5,451	11,436	7,192	24,079

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).
[B] Reclassification from Production to Manufacturing, supply and distribution and Other.
[C] Includes impairment losses ($72 million) and reversals ($2 million). (See Note 12).
[D] Other mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

2022

$ million

	Exploration and production		Manufacturing, supply and distribution	Other [C]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	5	14,322	15,748	8,031	38,106
Additions	–	1,088	2,305	2,111	5,504
Sales, retirements and other movements [A]	(5)	(569)	(1,530)	319	(1,785)
Currency translation differences	–	(166)	(60)	(562)	(788)
At December 31	–	14,675	16,463	9,899	41,037
Depreciation, depletion and amortisation, including impairments					
At January 1	–	7,935	5,946	2,273	16,154
Charge for the year [B]	–	1,182	2,223	797	4,202
Sales, retirements and other movements [A]	–	(751)	(1,444)	23	(2,172)
Currency translation differences	–	(91)	(30)	(143)	(264)
At December 31	–	8,275	6,695	2,950	17,920
Carrying amount at December 31	–	6,400	9,768	6,949	23,117

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).
[B] Includes impairment losses ($160 million) and reversals ($206 million). (See Note 12).
[C] Other mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

Notes to the Consolidated Financial Statements continued

21. Leases continued

Lease arrangements

Shell also has certain lease contracts of items with lease terms of 12 months or less. For these lease contracts, Shell applies the short-term lease recognition exemption. Lease expenses not included in the measurement of lease liability are:

Lease expenses not included in the measurement of lease liability

		$ million
	2023	2022
Expense relating to short-term leases	495	552
Expense relating to variable lease payments	1,415	1,251

The total cash outflow in respect of leases representing repayment of principal and payment of interest in 2023 was $7,512 million (2022: $6,280 million), recognised in the Consolidated Statement of Cash Flows within Cash flows from financing activities.

The future lease payments under lease contracts and the carrying amounts at December 31, by payment date are as follows:

2023

			$ million
	Contractual lease payments	Interest	Lease liabilities
Less than 1 year	6,182	1,539	4,643
Between 1 and 5 years	16,105	4,443	11,662
5 years and later	16,794	5,390	11,404
Total	39,081 [A]	11,372	27,709

[A] Future cash outflows in respect of leases may differ from lease liabilities recognised due to future decisions that may be taken by Shell in respect of the use of leased assets. These decisions may result in variable lease payments being made. In addition, Shell may reconsider whether it will exercise extension options or termination options, which are not reflected in the lease liabilities. There is no exposure to these potential additional payments in excess of the recognised lease liabilities until these decisions have been taken by Shell.

2022

			$ million
	Contractual lease payments	Interest	Lease liabilities
Less than 1 year	5,914	1,533	4,381
Between 1 and 5 years	15,624	4,655	10,969
5 years and later	17,935	5,642	12,293
Total	39,473	11,830	27,643

22. Taxation

Taxation charge

	2023	2022	$ million 2021
Current tax:			
Charge in respect of current period	13,066	16,383	7,254
Adjustments in respect of prior periods	(422)	(947)	(719)
Total	12,644	15,436	6,535
Deferred tax:			
Relating to the origination and reversal of temporary differences, tax losses and credits	(305)	5,196	2,971
Relating to changes in tax rates and legislation	242	785	10
Adjustments in respect of prior periods	410	524	(317)
Total	347	6,505	2,664
Total taxation charge	12,991	21,941	9,199

Adjustments in respect of prior periods relate to events in the current period and reflect the effects of changes in rules, facts or other factors compared with those used in establishing the current tax position or deferred tax balance in prior periods.

Adjustments in respect of changes in tax rates and legislation in 2022 principally relate to the introduction of the UK Energy Profits Levy Act 2022 (EPL) on July 14, 2022.

On December 20, 2021, the OECD/G20 Inclusive Framework on BEPS released the Pillar Two Model Rules aimed to address the tax challenges of the digitalisation of the economy. The Pillar Two rules are designed to ensure large multinational enterprises (meeting certain conditions) pay a minimum level of tax on the income arising in each jurisdiction where they operate. On June 20, 2023, the UK substantively enacted Pillar Two. Shell has established a Group-wide Pillar Two Project, with oversight from senior executives, to prepare and implement these new tax rules.

Shell has applied the exception, as set out in the amendments to IAS 12, to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes. The adoption of Pillar Two by the jurisdictions in which Shell operates is not expected to have a significant impact (see also Note 2).

Reconciliation of applicable tax charge at statutory tax rates to taxation charge

	2023	2022	$ million 2021
Income before taxation	32,627	64,815	29,829
Less: share of profit of joint ventures and associates	(3,725)	(3,972)	(4,097)
Income before taxation and share of profit of joint ventures and associates	28,902	60,843	25,732
Applicable tax charge at standard statutory tax rates	11,921	22,170	10,097
Adjustments in respect of prior periods	(12)	(424)	(1,036)
Tax effects of:			
Expenses not deductible for tax purposes	1,225	849	893
Incentives for investment and development	(553)	(1,388)	(467)
Derecognition/(recognition) of deferred tax assets	243	(457)	(113)
Changes in tax rates and legislation	242	785	10
Income not subject to tax at standard statutory rates	(213)	234	90
Disposals	(113)	39	(328)
Exchange rate differences	89	(102)	53
Other reconciling items	162	235	–
Taxation charge	12,991	21,941	9,199
Weighted average of statutory tax rates [A]	41%	36%	39%
Effective tax rate based on income before taxation [B]	40%	34%	31%
Effective tax rate based on income before taxation excluding share of profit of joint ventures and associates [C]	45%	36%	36%

[A] The weighted average of statutory tax rates is calculated by dividing the applicable tax charge at standard statutory tax rates by Income before taxation and share of profit of joint ventures and associates.
[B] The effective tax rate based on income before taxation is calculated by dividing Taxation charge by Income before taxation.
[C] The effective tax rate based on income before taxation excluding share of profit of joint ventures and associates is calculated by dividing Taxation charge by Income before taxation and share of profit of joint ventures and associates.

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Compared with 2022, the increase in the weighted average of statutory tax rates reflects a higher proportion of earnings mainly in the Upstream segment subject to relatively higher tax rates.

2023 – Deferred tax

$ million

Deferred tax asset	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
At January 1, 2023	6,049	4,290	6,446	1,977	4,827	23,589
(Charge)/credit to income	61	(680)	(2,025)	27	557	(2,060)
Currency translation differences	89	18	66	28	(11)	190
Other comprehensive income	–	–	(5)	104	23	122
Other movements	1,378 [A]	(2,044) [A]	(202)	(386)	(964)	(2,218)
At December 31, 2023	7,577	1,584	4,280	1,750	4,432	19,623
Deferred tax liability						
At January 1, 2023		(24,818)		(3,189)	(3,953)	(31,960)
Credit/(charge) to income		2,109		(228)	(168)	1,713
Currency translation differences		(173)		227	–	54
Other comprehensive income		(3)		(90)	(3)	(96)
Other movements		889		400	484	1,773
At December 31, 2023		(21,996)		(2,880)	(3,640)	(28,516)
Net deferred tax liability at December 31, 2023						(8,893)
Deferred tax asset/(liability) as presented in the balance sheet at December 31, 2023						
Deferred tax asset						6,454
Deferred tax liability						(15,347)

[A] Includes the impact of the IAS 12 amendments Deferred Tax related to Assets and Liabilities arising from a Single Transaction. (See Note 2).

2022 – Deferred tax

$ million

Deferred tax asset	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
At January 1, 2022	6,562	4,993	10,518	2,744	4,545	29,362
(Charge)/credit to income	(217)	(1,261)	(3,434)	(66)	160	(4,818)
Currency translation differences	(303)	(63)	(426)	(40)	(109)	(941)
Other comprehensive income	–	–	18	(618)	70	(530)
Other movements	7	621	(230)	(43)	161	516
At December 31, 2022	6,049	4,290	6,446	1,977	4,827	23,589
Deferred tax liability						
At January 1, 2022		(23,144)		(2,736)	(3,603)	(29,483)
(Charge)/credit to income		(1,503)		93	(277)	(1,687)
Currency translation differences		380		287	170	837
Other comprehensive income		4		(870)	18	(848)
Other movements		(555)		37	(261)	(779)
At December 31, 2022		(24,818)		(3,189)	(3,953)	(31,960)
Net deferred tax asset at December 31, 2022						(8,371)
Deferred tax asset/(liability) as presented in the balance sheet at December 31, 2022						
Deferred tax asset						7,815
Deferred tax liability						(16,186)

The presentation in the balance sheet takes into consideration the offsetting of deferred tax assets and deferred tax liabilities within the same tax jurisdiction, where this is permitted. The overall deferred tax position in a particular tax jurisdiction determines if a deferred tax balance related to that jurisdiction is presented within deferred tax assets or deferred tax liabilities.

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Other movements in deferred tax assets and liabilities relates to acquisitions, sales of non-current assets and businesses.

The deferred tax category Other primarily includes deferred tax positions in respect of leases, financial assets and liabilities, inventories, intangible assets other than goodwill and investments in subsidiaries, joint ventures and associates.

The deferred tax category Property, plant and equipment also includes deferred tax positions in respect of investments in partnerships in the USA which are considered pass-through entities by its parent for tax purposes.

Deferred tax assets of $6,454 million (2022: $7,815 million) are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to be recovered, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets. It is considered probable based on business forecasts that such taxable profits will be available. For Marketing, as well as Chemicals and Products, additional judgement is required; in some jurisdictions the assessment of forecasted taxable profits resulting in deferred tax asset recognition of $455 million (2022: $382 million) extends for an additional 10 years beyond Shell's regular 10-year planning horizon. In those situations, additional risking has been applied to the forecast of taxable profits. For Integrated Gas and Upstream, deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of $241 million (2022: $303 million) as at December 31, 2023, this period extends beyond 10 years.

The amount of deferred tax assets which are dependent on future taxable profits not arising from the reversal of existing deferred tax liabilities, and which relate to tax jurisdictions where Shell has suffered a loss in the current or preceding year, was $2,027 million at December 31, 2023 (2022: $4,202 million). The decrease compared with 2022 is primarily attributable to the utilisation of deferred tax assets in 2023 and a higher number of entities which have generated profit in both the current and preceding year.

Expected expiration of unused tax losses, unrecognised deductible temporary differences and tax credits

		$ million
Expected expiration	Dec 31, 2023	Dec 31, 2022
Less than one year	1,496	1,034
Between 1 and 5 years	1,475	3,257
5 years and later [A]	71,709	72,032
Total	74,680	76,323

[A] Includes unrecognised losses for Petroleum Resource Rent Tax (PRRT) in Australia which, due to the annual augmentation, increased to $46,220 million as at the end of the most recent PRRT fiscal year, June 30, 2023 (June 30, 2022: $43,832 million).

Unrecognised taxable temporary differences associated with undistributed retained earnings of investments in subsidiaries, joint ventures and associates amounted to $5,311 million at December 31, 2023 (2022: $5,521 million). These retained earnings are subject to withholding tax upon distribution.

Excluding unrecognised tax losses for PRRT, the unrecognised deductible temporary differences, unused tax losses and credits carried forward amounted to $28,460 million at December 31, 2023 (2022: $32,491 million), and included amounts of $25,489 million (2022: $28,199 million) that are subject to time limits for utilisation of five years or later, or are not time limited.

23. Retirement benefits

Retirement benefits are provided in most of the countries where Shell has operational activities. Shell offers these benefits through funded and unfunded defined benefit plans and defined contribution plans. The most significant pension plans are in the Netherlands, UK and USA.

Other post-employment benefits (OPEB) comprising retirement health care and life insurance are also provided in certain countries. The most significant OPEB plan is in the USA.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Financial position

		$ million
	Dec 31, 2023	Dec 31, 2022
Obligations	(78,024)	(73,481)
Plan assets	79,961	76,756
Asset ceilings	(335)	(371)
Surplus	1,602	2,904
Retirement benefits in the Consolidated Balance Sheet:		
Non-current assets	9,151	10,200
Non-current liabilities:	(7,549)	(7,296)
Non-current liabilities - Pensions	(4,448)	(4,417)
Non-current liabilities - OPEB	(3,101)	(2,879)
Total	1,602	2,904

Retirement benefit expense

			$ million
	2023	2022	2021
Defined benefit plans:			
Current service cost, net of plan participants' contributions	731	1,100	1,385
Interest expense on defined pension benefit obligations	3,072	1,584	1,223
Interest income on plan assets	(3,417)	(1,732)	(1,160)
Interest expense on OPEB obligations	166	120	128
Current OPEB service cost	36	57	60
Other [A]	262	246	(343)
Total	850	1,375	1,293
Defined contribution plans	474	420	403
Total retirement benefit expense	1,324	1,795	1,696

[A] Mainly related to plan amendments and curtailments on pension and OPEB plans.

Retirement benefit expenses are presented principally within production and manufacturing expenses and selling, distribution and administrative expenses in the Consolidated Statement of Income. Interest income on plan assets is calculated using the same rate as that applied to the related defined benefit obligations for each plan to determine interest expense.

Remeasurements

			$ million
	2023	2022	2021
Actuarial (losses)/gains on obligations:			
Due to changes in financial assumptions on pensions [A]	(1,513)	28,840	1,915
Due to changes in financial assumptions on OPEB [A]	(264)	527	59
Due to experience adjustments on pensions [B]	(491)	(2,956)	136
Due to experience adjustments on OPEB [B]	230	1,480 [C]	322
Due to changes in demographic assumptions on pensions [D]	(299)	27	(320)
Due to changes in demographic assumptions on OPEB [D]	(38)	25	(111)
Total	(2,375)	27,943	2,001
Return on plan assets in excess/(shortage) of interest income	1,243	(20,612)	8,185
Other movements	44	(349)	5
Total remeasurements	(1,088)	6,982	10,191

[A] Mainly relates to changes in the discount rate and inflation assumptions.
[B] Experience adjustments arise from differences between the actuarial assumptions made in respect of the year and actual outcomes.
[C] Includes $782 million to reflect the impact of prescription drug rebates.
[D] Mainly relates to updates in mortality assumptions.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Defined benefit plan obligations

2023

$ million, except where indicated

	Pension benefits				Other post-employment benefits	
	The Netherlands	UK	USA	Rest of the world	OPEB [A]	Total
At January 1	24,608	17,791	14,793	13,410	2,879	73,481
Current service cost	184	145	215	179	36	759
Interest expense	904	881	695	592	166	3,238
Actuarial losses	929	257	832	285	72	2,375
Benefit payments	(1,032)	(1,014)	(956)	(757)	(88)	(3,847)
Other movements	252	–	–	(63)	–	189
Currency translation differences	901	1,014	–	(122)	36	1,829
At December 31	26,746	19,074	15,579	13,524 [B]	3,101	78,024
Comprising:						
Funded pension plans	26,746	18,734	14,695	11,298		71,473
Weighted average duration	16 years	15 years	11 years	13 years		14 years
Unfunded pension plans		340	884	2,226	–	3,450
Weighted average duration		16 years	8 years	11 years		11 years
Unfunded OPEB plans					3,101	3,101
Weighted average duration					13 years	13 years

[A] Mainly related to post-retirement medical benefits in the USA.
[B] Rest of the world includes pension plans in Germany ($3,647 million) and Canada ($3,930 million) which are the largest pension plans in this category.

2022

$ million, except where indicated

	Pension benefits				Other post-employment benefits	
	The Netherlands	UK	USA	Rest of the world	OPEB [A]	Total
At January 1	35,340	29,913	19,003	18,213	4,867	107,336
Current service cost	286	259	282	261	57	1,145
Interest expense	298	489	417	380	120	1,704
Actuarial gains	(8,806)	(9,793)	(3,730)	(3,582)	(2,032)	(27,943)
Benefit payments	(942)	(1,124)	(1,088)	(771)	(178)	(4,103)
Other movements	374	130	(91)	(154)	37	296
Currency translation differences	(1,942)	(2,083)	–	(937)	8	(4,954)
At December 31	24,608	17,791	14,793	13,410 [B]	2,879	73,481
Comprising:						
Funded pension plans	24,608	17,474	13,925	11,258		67,265
Weighted average duration	17 years	15 years	12 years	13 years		15 years
Unfunded pension plans		317	868	2,152		3,337
Weighted average duration		15 years	9 years	12 years		11 years
Unfunded OPEB plans					2,879	2,879
Weighted average duration					14 years	14 years

[A] Mainly related to post-retirement medical benefits in the USA.
[B] Rest of the world includes pension plans in Germany ($3,477 million) and Canada ($3,482 million) which are the largest pension plans in this category.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Defined benefit plan assets

2023

$ million, except where indicated

	Pension benefits				
	The Netherlands	UK	USA	Rest of the world	Total
At January 1	27,986	21,963	14,243	12,564	76,756
Return on plan assets in excess of interest income	833	(999)	609	800	1,243
Interest income	1,035	1,094	679	609	3,417
Employer contributions [A]	419	34	274	(23)	704
Plan participants' contributions	11	16	–	7	34
Benefit payments	(1,032)	(1,014)	(957)	(703)	(3,706)
Other movements	(6)	(16)	(13)	17	(18)
Currency translation differences	1,020	1,242	–	(731)	1,531
At December 31	30,266	22,320	14,835	12,540 [B]	79,961

[A] Includes the netted amount of $225 million received from the captive structure in relation to pension plans reinsured in Rest of the world.
[B] Rest of the world includes pension plans in Germany ($2,730 million) and Canada ($3,504 million) which are the largest pension plans in this category.

2022

$ million, except where indicated

	Pension benefits				
	The Netherlands	UK	USA	Rest of the world	Total
At January 1	37,096	33,720	18,055	15,624	104,495
Return on plan assets in excess of interest income	(6,576)	(8,682)	(3,523)	(1,831)	(20,612)
Interest income	314	552	406	460	1,732
Employer contributions	228	54	408	41	731
Plan participants' contributions	11	16	–	5	32
Benefit payments	(942)	(1,124)	(1,088)	(735)	(3,889)
Other movements	(9)	150	(15)	(184)	(58)
Currency translation differences	(2,136)	(2,723)	–	(816)	(5,675)
At December 31	27,986	21,963	14,243	12,564 [A]	76,756

[A] Rest of the world includes pension plans in Germany ($2,538 million) and Canada ($3,497 million) which are the largest pension plans in this category.

Type of pension assets

	2023	2022
Quoted in active markets:		
Equities	12%	13%
Debt securities	71%	70%
Real estate	1%	–%
Other	–%	1%
Unquoted		
Equities	12%	13%
Debt securities	4%	2%
Real estate	7%	7%
Investment funds	3%	4%
Debt repurchase agreements [A]	(11)%	(14)%
Cash	1%	4%

[A] Debt repurchase agreements are mainly related to UK member defined pension plans to fund liability-driven investments. In addition to these contracts, derivatives including interest rate and inflation swaps are used in the principal defined benefit plan in the Netherlands for liability matching strategies.

Employer contributions to funded defined benefit pension plans are based on actuarial valuations in accordance with local regulations and are estimated to be $480 million in 2024.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Characteristics of significant defined benefit and defined contribution plans and regulatory framework

The Netherlands

The principal defined benefit pension plan in the Netherlands is a funded career-averaged pension arrangement with retired employees drawing benefits as an annuity, with a surplus of $3,520 million reported as at December 31, 2023, (2022: $3,378 million surplus). While the plan was closed to employees hired or rehired after July 1, 2013, it currently remains open for ongoing accrual for existing active members. Active members account for 23% (2022: 23%) of the total defined benefit liability in the Netherlands. From July 1, 2013 onwards, new employees in the Netherlands are entitled to membership of a defined contribution pension plan.

In line with Dutch regulations, the defined benefit pension plan has a joint Trustee Board with trustee representatives nominated by the Company, the Central Staff Council and retired members. The defined benefit pension plan also has an Accountability Council comprised of members nominated by the Company, the Central Staff Council and retired members. Furthermore, there is a Supervisory Committee, which includes external experts from the pension industry, to oversee management, compliance and operations of the fund. The defined contribution pension plan has a one-tier Trustee Board with an independent chair, trustee representatives nominated by the Company and the Central Staff Council, as well as two executive board members. The defined contribution fund also has an Accountability Council comprised of members nominated by the Company and the Central Staff Council. Both Trustee Boards are responsible for administering the plans in line with the Dutch "Pensioen Wet" (PW), including corporate governance, investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members.

As per July 1, 2023, new pension legislation ("Wet Toekomst Pensioenen") came into effect in the Netherlands which needs to be implemented latest January 2028. This legislation aims to create a more resilient and adaptable pensions system that can better accommodate demographic changes and economic fluctuations while providing adequate retirement income. The legislation requires all future pension accruals to be in a defined contribution framework and also intends that benefits accrued in pension funds are converted into a defined contribution framework. The new regulatory framework will have an impact on both the defined benefit pension plan and the defined contribution pension plan. The necessary changes to the pension plans require Central Staff Council consent and acceptance by the Trustee Boards of the pension plans. It is our expectation that consent will be obtained during 2024 and that following this, a transition plan will be offered to the Trustee Boards for acceptance. Shell will continue to monitor and take appropriate actions when and as necessary, as required by the law. There remains a degree of uncertainty regarding the potential outcome and impact on Shell's earnings, cash flows and financial position.

UK

The three largest defined benefit pension plans for employees in the UK are funded final salary pension arrangements with retired employees mainly drawing benefits as an annuity with the option to take a portion as a lump sum. The three plans are separate and independent plans and cannot be netted against each other. In total, the plans reported a surplus of $3,246 million as at December 31, 2023 (2022: surplus of $4,172 million), which is after netting of unfunded plans of $340 million (2022: $317 million) which are reported as non-current liabilities on the balance sheet. All three plans were closed to new employees hired or rehired. However, two plans currently remain open for ongoing accrual for existing active members. Active members account for 16% (2022: 17%) of the total defined benefit liability in the UK. From March 1, 2013, onwards new employees in the UK are entitled to membership of a defined contribution pension plan.

In line with UK regulations, the principal defined benefit pension plan is governed by a corporate trustee whose board is comprised of four trustee directors nominated by the Company, including the chair and four member-nominated trustee directors. The defined contribution pension plan is governed by a corporate trustee whose board is comprised of three company-nominated directors, including the chair and two member-nominated trustee directors. The trustees are responsible for administering the plans in line with the Trust Deed and Regulations, including setting the investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members of the pension plans.

USA

The principal defined benefit pension plan in the USA is a funded final average pay pension plan with a surplus of $140 million reported as at December 31, 2023 (2022: $318 million surplus). After retirement, all retirees can choose to draw their benefits as an annuity, whereas others also have the choice to take their benefit in a lump sum. There is also an unfunded defined benefit pension plan with a deficit of $884 million (2022: $868 million deficit). The benefits under this plan are taken primarily in a lump sum. In addition, the Company provides a defined contribution benefit plan. The funded defined benefit, unfunded defined benefit, and Shell's defined contribution pension plans are subject to the provisions of the Employee Retirement Income Security Act (ERISA). Active members account for 23% (2022: 24%) of the total defined benefit liability in the USA.

Both the funded defined benefit pension plan and the defined contribution pension plan are governed by trustees who are appointed by the Plan Sponsor and are named fiduciaries with respect to the plans. The trustees are generally responsible for investment-related matters, appointing the Plan Administrator, maintaining general oversight and deciding appeals of participants.

In line with Shell group's strategic objectives and risk management, on January 30, 2024, the principal defined benefit pension plan in the USA, Shell Pension Plan, entered into a contract with "The Prudential Insurance Company of America" to settle $5,052 million of pension liabilities. The settlement price consisted of $4,920 million of pension assets. As a result of this transaction, all legal and constructive obligations for a tranche of benefits provided by the Shell Pension Plan have been eliminated. A gain on settlement of $101 million (after tax) will be recognised in Shell's Consolidated Statement of Income in 2024.

23. Retirement benefits continued

USA OPEB

The Company also sponsors "other post-retirement employee benefits" (OPEB), mainly in the USA. The OPEB plans in the USA provide medical, dental and vision benefits, as well as life insurance benefits to eligible retired employees. The plans are unfunded, and the Company and retirees share the costs with a deficit of $2,267 million reported as at December 31, 2023 (2022: $2,135 million deficit). The plan that provides post-retirement medical benefits in the USA is closed to employees hired or rehired on or after January 1, 2017. Certain life insurance benefits are paid by the Company.

Significant funding requirements:

- Additional contributions to the Dutch defined benefit pension plan would be required if the 12-month rolling average local funding percentage falls below 105% for six months or more. At the most recent (2023) funding valuation, the local funding percentage was above this level.
- There are no set minimum statutory funding requirements for the UK plans. A professional qualified independent actuary, appointed by the trustee board, undertakes a local funding valuation typically every three years. The most recent completed funding valuation for the principal defined benefit plan was undertaken as at December 31, 2020, and revealed a funding ratio of 103% and therefore no sponsor contributions (except for salary sacrifice contributions) were payable under the schedule of contributions.
- Under the Pension Protection Act, US pension plans are subject to minimum required contribution levels based on the funding position. No contributions are required based on the most recent funding valuation.

Associated risks to which retirement benefits are exposed

There are inherent risks associated with defined benefit pension and OPEB plans. These risks are related to various assumptions made on valuation of the liabilities and the cash funding requirement of the underlying plans. Volatility in capital markets or government policies, and the resulting consequences for investment performance, interest and inflation rates, as well as changes in assumptions for mortality, retirement age or pensionable remuneration at retirement, could result in significant changes to the funding level of future liabilities. In case of a shortfall, there could be a requirement to make substantial cash contributions (depending on the applicable local regulations).

These inherent risks are managed by a pension forum, chaired by the Chief Financial Officer, which oversees Shell's pension strategy, policy and operations. The forum is supported by a risk committee in reviewing the results of the assurance process with respect to pension risk.

Investment strategies

Long-term investment strategies of plans are generally determined by the relevant pension plan trustees using a structured asset/liability modelling approach to define the asset mix that best meets the objectives of optimising returns within agreed risk levels, while maintaining adequate funding levels.

Principal and actuarial assumptions

The principal assumptions applied in determining the present value of defined benefit obligations and their bases were as follows:

- rates of increase in pensionable remuneration, pensions in payment and health-care costs: historical experience and management's long-term expectation;
- discount rates: prevailing long-term AA corporate bond yields, chosen to match the currency and duration of the relevant obligation; and
- mortality rates: published standard mortality tables for the individual countries concerned adjusted for Shell experience where statistically significant.

The weighted averages for those assumptions and related sensitivity information as at December 31, 2023 are presented below. Sensitivity information indicates by how much the defined benefit obligations would increase or decrease if a given assumption were to increase or decrease with no change in other assumptions. The sensitivity analyses may not be representative of an actual change in the defined benefit obligation as it is unlikely that changes in assumptions would occur in isolation from one another. The weighted averages are at nominal terms and based on market expectations at December 31, 2023.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

$ million, except where indicated

	Assumptions used at nominal rates		Effect of using alternative assumptions				
				Increase/(decrease) in defined benefit obligations			
	Dec 31, 2023	Dec 31, 2022	Range of assumptions	Dec 31, 2023		Dec 31, 2022	
Rate of increase in pensionable remuneration [A]	3.9%	4.0%	-1% to +1%	(828)	915	(833)	921
of which the Netherlands	3.3%	3.3%					
of which UK	4.1%	4.1%					
of which USA	4.6%	4.6%					
Rate of increase in pensions in payment	1.9%	2.1%	-1% to +1%	(5,599)	6,713	(5,542)	6,657
of which the Netherlands	2.4%	2.6%					
of which UK	2.8%	3.0%					
of which USA	–%	–%					
Discount rate for pension plans	4.1%	4.5%	-1% to +1%	10,560	(8,472)	10,522	(8,328)
of which the Netherlands	3.3%	3.7%					
of which UK	4.6%	4.8%					
of which USA	4.9%	5.0%					
Inflation rate for defined benefit obligation [B]	2.0%	2.2%	-1% to +1%	(6,034)	7,300	(6,002)	7,271
of which the Netherlands	2.4%	2.6%					
of which UK	2.9%	3.1%					
Expected age at death for persons aged 60:							
Men	88 years	87 years	-1 year to +1 year	(1,166)	1,143	(1,130)	1,103
of which the Netherlands	88 years	88 years					
of which UK	87 years	87 years					
of which USA	87 years	85 years					
Women	89 years	89 years	-1 year to +1 year	(1,006)	1,041	(993)	1,077
of which the Netherlands	90 years	89 years					
of which UK	89 years	90 years					
of which USA	89 years	86 years					
Rate of increase in health-care costs [C]	7.0%	6.4%	-1% to +1%	(338)	422	(298)	372
Discount rate for health-care plans [C]	5.6%	5.7%	-1% to +1%	457	(358)	401	(309)

[A] Based on active members.
[B] Excluding US funds in the weighted average inflation rate, because of the insignificant impact on the defined benefit obligation.
[C] Mainly related to post-retirement health-care benefits in the USA.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions

$ million

	Decommissioning and restoration	Legal	Onerous contracts	Environmental	Redundancy	Other	Total
At January 1, 2023							
Current	856	224	277	321	171	1,061	2,910
Non-current	19,429	1,177	1,207	730	153	1,149	23,845
	20,285	1,401	1,484	1,051	324	2,210	26,755
Additions	617	853	26	208	424	806	2,934
Amounts charged against provisions	(777)	(195)	(345)	(233)	(154)	(203)	(1,907)
Accretion expense	643	21	24	13	4	9	714
Disposals and liabilities classified as held for sale	(60)	(1)	–	(16)	(1)	(1)	(79)
Remeasurements and other movements	(1,499)	(24)	(83)	(74)	(113)	(321)	(2,114)
Currency translation differences	244	1	(2)	7	6	13	269
	(832)	655	(380)	(95)	166	303	(183)
At December 31, 2023							
Current	1,296	508	224	318	367	1,328	4,041
Non-current	18,157	1,548	880	638	123	1,185	22,531
	19,453	2,056	1,104	956	490	2,513	26,572

	Decommissioning and restoration	Legal	Onerous contracts	Environmental	Redundancy	Other	Total
At January 1, 2022							
Current	871	270	653	332	410	802	3,338
Non-current	21,213	1,141	1,029	847	235	1,339	25,804
	22,084	1,411	1,682	1,179	645	2,141	29,142
Additions	618	314	620	178	226	832	2,788
Amounts charged against provisions	(672)	(272)	(661)	(211)	(372)	(333)	(2,521)
Accretion expense	483	16	13	12	1	5	530
Disposals and liabilities classified as held for sale	(1,228)	(21)	(66)	(2)	–	(7)	(1,324)
Remeasurements and other movements	(182)	(44)	(139)	(78)	(155)	(354)	(952)
Currency translation differences	(818)	(3)	35	(27)	(21)	(74)	(908)
	(1,799)	(10)	(198)	(128)	(321)	69	(2,387)
At December 31, 2022							
Current	856	224	277	321	171	1,061	2,910
Non-current	19,429	1,177	1,207	730	153	1,149	23,845
	20,285	1,401	1,484	1,051	324	2,210	26,755

The amount and timing of settlement in respect of these provisions are uncertain and dependent on various factors that are not always within management's control. Reviews of estimated future decommissioning and restoration costs and the discount rate applied are carried out regularly. The discount rate applied at December 31, 2023, was 4.5% (2022: 3.25%). In 2023, there was a decrease of $2,916 million in total provisions due to the change in discount rate. Of this total, $2,777 million relates to a decrease in the decommissioning and restoration provision, partly offset by an increase resulting from changes in cost estimates of $1,340 million, reported within remeasurements and other movements. This net decrease is predominantly reflected in the carrying amount of the related asset.

An increase of 0.5% or a decrease of 0.5% in the discount rate could result in a decrease of $0.9 billion (2022: $1.2 billion) or an increase of $1 billion (2022: $1.3 billion) in decommissioning and restoration provisions, respectively. Where applicable, the carrying amount of the related asset is to be tested for impairment.

Other provisions at December 31, 2023, include amounts recognised in respect of employee benefits.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions continued

The decommissioning and restoration provision at December 31, 2023, is expected to be utilised within:

	$ million
	Dec 31, 2023
Between 1 to 5 years	4,766
Between 6 to 10 years	5,102
11 years and later	9,585
Total	19,453

25. Financial instruments

Financial instruments in the Consolidated Balance Sheet include investments in securities (see Note 14), cash and cash equivalents (see Note 17), debt (see Note 20) and derivative contracts.

Risks

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or the prices of crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates will adversely affect the value of assets, liabilities or expected future cash flows.

Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy continues to be to have debt principally denominated in dollars and to maintain a largely floating interest rate exposure profile. However, Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates available in debt markets. As a result, the majority of the debt portfolio at December 31, 2023, is at fixed rates and this reduces Shell's adverse exposure to rising floating dollar interest rates (see Note 2).

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net cash position at December 31, 2023, (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have increased 2023 income before taxation by $226 million (2022: $234 million increase).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 20. Interest expense is presented in Note 9.

Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Chemicals and Products entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk: when an entity enters into transactions that are not denominated in its functional currency; when foreign currency monetary assets and liabilities are translated at the balance sheet date; and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage of whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management actions were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have the following effects:

$ million

	Increase/(decrease) in income before taxation		Increase in net assets	
	2023	2022	2023	2022
10% appreciation against the dollar of:				
Sterling	(270)	(168)	1,022	894
Euro	(46)	124	2,434	1,486
Malaysian ringgit	49	65	279	313
Australian dollar	(129)	(65)	780	837
Canadian dollar	9	(44)	1,392	1,575

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 8.

Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks, including those relating to the default of counterparties, are managed within authorised limits. A department that is independent from Shell's traders monitors market risk exposures daily.

Value-at-risk (VAR) techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values for commodity positions held by these subsidiaries over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR average and year-end positions in respect of commodities traded in active markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios.

Value-at-risk (pre-tax)

$ million

	2023		2022	
	Average	Year-end	Average	Year-end
Global oil	43	25	72	56
North America gas and power	13	10	18	23
Europe gas and power	31	12	54	40
Australia gas and power	4	2	12	12
Environmental certificates	9	4	10	13

Furthermore, commodity derivative hedge contracts are used to partially mitigate price volatility on future LNG sales and purchases.

As contracts to buy and sell physical LNG are accounted for on an accrual basis (see Note 2) and commodity derivatives are accounted for on a fair-value basis, this creates an accounting mismatch over periods. The fair value accounting of commodity derivatives can result in gains or losses in the Consolidated Statement of Income.

These derivative contracts are based on a mix of European and North American gas price indices, global crude price indices and Asian LNG price indices. In previous years, Shell has seen high volatility in these markets. On that basis, a sensitivity analysis has been performed for a 50% price increase or decrease of this basket of derivative contracts at year-end 2023, which would result in a gain or loss of $1.5 billion (pre-tax) in the Consolidated Statement of Income (2022: $2.7 billion), whereas the same sensitivity analysis applied to the average exposures for the period was $0.8 billion (2022: $2.5 billion).

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Credit risk

Policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness. These policies include credit analysis and monitoring of trading partners against counterparty credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for higher-risk business partners and customers, and include shortened payment terms, collateral or other security posting and vigorous collections. In addition, policies limit the amount of credit exposure to any individual financial institution.

A defined portfolio credit risk appetite is in place to manage credit risk concentrations. It includes a set of thresholds and alerts set at different portfolio levels (e.g. country, industry sector, creditworthiness). Utilisation against these thresholds is actively monitored, and actions are taken to ensure compliance where appropriate. In 2023, there were no material concentrations of credit risk, with individual customers or geographically. In 2022, elevated commodity prices, mainly in relation to strategic long-term contracts in the gas portfolios resulted in a material concentration of risk representing around 25% of total Shell net credit exposure after offsetting for cash collateral and other instruments held.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, counterparty credit risk is managed within a framework approved by the CEO and CFO, and for which delegations are in place to other executives in the business. Credit limits are defined and their utilisation is regularly reviewed. Credit risk exposure is continuously monitored and the acceptable level of credit exposure is determined in accordance with the approved delegations. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage specific risks.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

2023

$ million

		Amounts offset		Amounts not offset		
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	20,810	12,350	8,460	18	356	8,086
Within derivative financial instruments	26,166	13,140	13,026	1,688	2,616	8,722
Liabilities:						
Within trade payables	18,423	12,351	6,072	69	356	5,647
Within derivative financial instruments	23,037	13,163	9,874	2,040	2,636	5,198

2022

$ million

		Amounts offset		Amounts not offset		
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	28,259	17,200	11,059	292	495	10,272
Within derivative financial instruments	56,154	34,685	21,469	1,904	4,563	15,002
Liabilities:						
Within trade payables	29,981	17,200	12,781	608	495	11,678
Within derivative financial instruments	58,991	34,710	24,281	4,788	3,364	16,129

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

25. Financial instruments continued

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2023, presented within trade and other receivables, was $3,437 million (2022: $11,133 million). The decrease in financial assets pledged as collateral is driven by the reduction in overall derivative exposure, mainly due to the decline in gas and power forward prices. The carrying amount of collateral held at December 31, 2023, presented within trade and other payables, was $1,404 million (2022: $1,648 million). Collateral mainly relates to initial margins held with commodity exchanges and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk.

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient cash and cash equivalents, debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 20.

Derivative contracts and hedges

Derivative contracts are used principally as hedging instruments. However, because hedge accounting is not always applied, movements in the carrying amounts of derivative contracts that are recognised in income may not be matched in the same period by the recognition of the income effects of the related hedged items.

Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

2023

$ million

	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	14	2	16	98	–	98	(82)
Forward foreign exchange contracts	–	697	697	–	592	592	105
Currency swaps and options	177	–	177	1,959	13	1,972	(1,795)
Commodity derivatives	–	14,783	14,783	–	9,161	9,161	5,622
Other contracts	–	226	226	–	7	7	219
Total	191	15,708	15,899	2,057	9,773	11,830	4,069

2022

$ million

	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	–	1	1	169	–	169	(168)
Forward foreign exchange contracts	–	907	907	–	996	996	(89)
Currency swaps and options	31	24	55	2,925	5	2,930	(2,875)
Commodity derivatives	–	23,676	23,676	–	22,858	22,858	818
Other contracts	–	380	380	–	389	389	(9)
Total	31	24,988	25,019	3,094	24,248	27,342	(2,323)

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

As part of Shell's normal business, commodity derivative hedge contracts are entered into for mitigation of future purchases, sales and inventory. Net gains before tax on derivative contracts, excluding those designed as hedges, were $5,189 million in 2023 (2022: $1,331 million gains; 2021: $8,377 million losses).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions, were designated in cash flow hedging relationships and are presented after the offset of related margin balances with exchanges. Contracts to hedge foreign exchange risks were also designated in cash flow hedging relationships and the net carrying amount of these contracts at December 31, 2023, was a liability of $373 million (2022: $828 million liability). See Note 28 for the accumulated balance recognised within other comprehensive income.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2023, was a liability of $1,441 million (2022: $2,191 million liability).

At December 31, 2023, no debt instruments (2022: €3 billion) were designated as hedges of net investments in foreign operations, relating to the foreign exchange risk arising between certain intermediate holding companies and their subsidiaries. See Note 28 for the accumulated balance recognised within other comprehensive income.

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts. These contracts are managed on a fair value basis and the maximum exposure to liquidity risk is the undiscounted fair value of derivative liabilities.

For a minority of commodity derivatives contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques, such as Black-Scholes; option spread models; and extrapolation, using quoted spreads with assumptions developed internally based on observable market activity.

Other contracts include certain contracts that are held to sell or purchase commodities and others containing embedded derivatives, which are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements. These contracts are expected to mature in 2024-2025, with certain contracts having early termination rights (for either party). Valuations are derived from other observable inputs.

The contractual maturities of derivative liabilities at December 31 compare with their carrying amounts in the Consolidated Balance Sheet as follows:

2023

$ million

	Contractual maturities								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount [A]	Carrying amount
Interest rate swaps	78	9	3	3	5	–	98	–	98
Forward foreign exchange contracts	465	77	25	1	–	(3)	565	27	592
Currency swaps and options	551	609	521	392	186	859	3,118	(1,146)	1,972
Commodity derivatives	5,767	1,902	799	381	225	597	9,671	(510)	9,161
Other contracts	2	4	2	–	–	–	8	(1)	7
Total	6,863	2,601	1,350	777	416	1,453	13,460	(1,630)	11,830

[A] Mainly related to the effect of discounting.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

2022

$ million

	Contractual maturities								
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount [A]	Carrying amount
Interest rate swaps	120	50	2	1	1	1	175	(6)	169
Forward foreign exchange contracts	629	294	18	(1)	(2)	(3)	935	61	996
Currency swaps and options	582	554	750	588	507	1,353	4,334	(1,404)	2,930
Commodity derivatives	17,273	3,678	1,203	515	270	793	23,732	(874)	22,858
Other contracts	212	148	22	1	1	–	384	5	389
Total	18,816	4,724	1,995	1,104	777	2,144	29,560	(2,218)	27,342

[A] Mainly related to the effect of discounting.

Fair value measurements

The net carrying amounts of derivative contracts held at December 31 categorised according to the predominant source and nature of inputs used in determining the fair value of each contract were as follows:

2023

$ million

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
Interest rate swaps	–	(82)	–	(82)
Forward foreign exchange contracts	–	105	–	105
Currency swaps and options	–	(1,795)	–	(1,795)
Commodity derivatives	(39)	3,191	2,470	5,622
Other contracts	–	223	(4)	219
Total	(39)	1,642	2,466	4,069

2022

$ million

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
Interest rate swaps	–	(168)	–	(168)
Forward foreign exchange contracts	–	(89)	–	(89)
Currency swaps and options	–	(2,875)	–	(2,875)
Commodity derivatives	68	(1,161)	1,911	818
Other contracts	–	(7)	(2)	(9)
Total	68	(4,300)	1,909	(2,323)

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

		$ million
	2023	2022
At January 1	1,909	389
Net gains recognised in revenue	576	1,190
Purchases	271	886
Sales	(185)	(623)
Settlements	(125)	46
Recategorisations (net)	25	17
Currency translation differences	(5)	4
At December 31	2,466	1,909

Included in net gains recognised in revenue in 2023 were unrealised net gains totalling $797 million relating to assets and liabilities held at December 31, 2023 (2022: $449 million gains).

Unrecognised day one gains or losses
Certain long-term commodity contracts extend to periods where observable pricing data are limited and their value may include estimates. Where this is more than an insignificant part of the overall contract valuation, any gains or losses will be deferred. Valuation techniques are further described in Note 2. The unrecognised gains on these derivative contracts at December 31, 2023, were as follows:

		$ million
	2023	2022
At January 1	1,620	1,024
Movements	(13)	596
At December 31	1,607	1,620

26. Share capital

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares			Nominal value			$ million
	A	B	Ordinary shares	A	B	Ordinary shares	Total
At January 1, 2023			7,003,503,393			584	584
Repurchases of shares			(479,394,344)			(40)	(40)
At December 31, 2023			6,524,109,049			544	544
At January 1, 2022	4,101,239,499	3,582,892,954		345	296		641
Repurchases of shares before assimilation	–	(34,106,548)			(3)		(3)
Assimilation of ordinary A and B shares into ordinary shares	(4,101,239,499)	(3,548,786,406)	7,650,025,905	(345)	(293)	638	–
Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022			(507,742)			–	–
Repurchases of shares after assimilation			(646,014,770)			(54)	(54)
At December 31, 2022			7,003,503,393			584	584

[A] Share capital at December 31, 2022, also included 50,000 issued and fully paid sterling deferred shares of £1 each, which were redeemed on March 27, 2023. Upon redemption, the sterling deferred shares were treated as cancelled and the Company's issued share capital was reduced by the nominal value of the shares redeemed in accordance with section 688 of the UK Companies Act 2006.

On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares. This is reflected in the above table.

At the Company's Annual General Meeting (AGM) on May 23, 2023, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of approximately €161 million (representing approximately 2,307 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 22, 2024, and the end of the AGM to be held in 2024, unless previously renewed, revoked or varied by the Company in a general meeting.

Notes to the Consolidated Financial Statements continued

26. Share capital continued

At the May 23, 2023, AGM, shareholders granted the Company the authority to repurchase (i) up to 692 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased in terms of the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 692 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 22, 2024, and the end of the AGM of the Company to be held in 2024. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

27. Share-based compensation plans and shares held in trust

Share-based compensation expense

			$ million
	2023	2022	2021
Equity-settled [A]	700	807	539

[A] On an incidental basis awards may be cash-settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depositary Shares (ADS) of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual number of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year.

Share awards [A]

	Number of A shares (million)	Number of B shares (million)	Number of ordinary shares (million) [B]	Number of ADSs (million)	Weighted average remaining contractual life (years)
At January 1, 2023			58	10	1.1
Granted			19	3	
Vested			(17)	(3)	
Forfeited			(2)	–	
At December 31, 2023			58	10	0.9
At January 1, 2022	38	12		9	1.2
Assimilation of ordinary A and B shares into ordinary shares	(38)	(12)	50		
Granted	–	–	28	4	
Vested	–	–	(13)	(2)	
Forfeited	–	–	(7)	(1)	
At December 31, 2022	–	–	58	10	1.1

[A] As revised, includes notional dividends.
[B] On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares.

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2023, they held a total of 24.2 million ordinary shares (2022: 23.9 million) and 6.8 million ADSs (2022: 4.5 million).

Notes to the Consolidated Financial Statements continued

28. Other reserves

Other reserves attributable to Shell plc shareholders

$ million

	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Accumulated other comprehensive income	Total
At January 1, 2023	37,298	154	196	1,140	(17,656)	21,132
Other comprehensive income attributable to Shell plc shareholders	–	–	–	–	(83)	(83)
Transfer from other comprehensive income	–	–	–	–	(112)	(112)
Repurchases of shares	–	–	40	–	–	40
Share-based compensation	–	–	–	168	–	168
At December 31, 2023	37,298	154	236	1,308	(17,851)	21,145
At January 1, 2022	37,298	154	139	964	(19,646)	18,909
Other comprehensive income attributable to Shell plc shareholders	–	–	–	–	2,024	2,024
Transfer from other comprehensive income	–	–	–	–	(34)	(34)
Repurchases of shares	–	–	57	–	–	57
Share-based compensation	–	–	–	176	–	176
At December 31, 2022	37,298	154	196	1,140	(17,656)	21,132
At January 1, 2021	37,298	154	129	906	(25,735)	12,752
Other comprehensive loss attributable to Shell plc shareholders	–	–	–	–	6,134	6,134
Transfer from other comprehensive income	–	–	–	–	(45)	(45)
Repurchases of shares	–	–	10	–	–	10
Share-based compensation	–	–	–	58	–	58
At December 31, 2021	37,298	154	139	964	(19,646)	18,909

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The merger reserve increased in 2016 following the issuance of shares for the acquisition of BG Group plc.

The capital redemption reserve was established in connection with repurchases of shares of the Company.

The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27). The movement comprises the net of the charge for the year and the release as a result of vested awards.

Notes to the Consolidated Financial Statements continued

28. Other reserves continued

Accumulated other comprehensive income comprises the following:

Accumulated other comprehensive income attributable to Shell plc shareholders

$ million

	Currency translation differences	Equity instruments remeasurements	Debt instruments remeasurements	Cash flow hedging (losses)/ gains	Net investment hedging (losses)/ gains	Deferred cost of hedging	Retirement benefits remeasurements	Total
At January 1, 2023	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
Recognised in other comprehensive income	1,393	(67)	33	(196)	(44)	(273)	(1,088)	(242)
Reclassified to income	1	–	9	162	–	61	–	233
Reclassified to the balance sheet	–	–	(1)	117	`	1	–	117
Reclassified to retained earnings	–	(112)	–	–	–	–	–	(112)
Tax on amounts recognised/reclassified	3	(32)	–	(12)	–	63	5	27
Total, net of tax	1,397	(211)	41	71	(44)	(148)	(1,083)	23
Share of joint ventures and associates	16	(202)	–	2	–	–	1	(183)
Other comprehensive (loss)/income for the period	1,413	(413)	41	73	(44)	(148)	(1,082)	(160)
Less: non-controlling interest	(36)	(1)	–	–	–	–	2	(35)
Attributable to Shell plc shareholders	1,377	(414)	41	73	(44)	(148)	(1,080)	(195)
At December 31, 2023	(11,213)	73	(34)	(451)	(2,008)	(174)	(4,044)	(17,851)
At January 1, 2022	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)
Recognised in other comprehensive income	(3,422)	(524)	(90)	426	180	64	6,982	3,616
Reclassified to income	437	–	12	(636)	–	81	–	(106)
Reclassified to the balance sheet	–	–	–	(81)	–	–	–	(81)
Reclassified to retained earnings	–	(32)	–	–	–	–	(2)	(34)
Tax on amounts recognised/reclassified	(1)	33	–	59	–	55	(1,516)	(1,370)
Total, net of tax	(2,986)	(523)	(78)	(232)	180	200	5,464	2,025
Share of joint ventures and associates	30	(283)	–	244	–	–	30	21
Other comprehensive income/(loss) for the period	(2,956)	(806)	(78)	12	180	200	5,494	2,046
Less: non-controlling interest	(71)	(1)	–	–	–	–	16	(56)
Attributable to Shell plc shareholders	(3,027)	(807)	(78)	12	180	200	5,510	1,990
At December 31, 2022	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
At January 1, 2021	(8,175)	1,144	31	(485)	(2,439)	(187)	(15,624)	(25,735)
Recognised in other comprehensive income	(1,841)	180	(23)	88	295	(145)	10,191	8,745
Reclassified to income	368	–	(5)	(38)	–	92	–	417
Reclassified to the balance sheet	–	–	–	(13)	–	–	–	(13)
Reclassified to retained earnings	–	(45)	–	–	–	–	–	(45)
Tax on amounts recognised/reclassified	60	(35)	–	(16)	–	14	(2,993)	(2,970)
Total, net of tax	(1,413)	100	(28)	21	295	(39)	7,198	6,134
Share of joint ventures and associates	(36)	50	–	(72)	–	–	(48)	(106)
Other comprehensive income/(loss) for the period	(1,449)	150	(28)	(51)	295	(39)	7,150	6,028
Less: non-controlling interest	61	–	–	–	–	–	–	61
Attributable to Shell plc shareholders	(1,388)	150	(28)	(51)	295	(39)	7,150	6,089
At December 31, 2021	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)

Notes to the Consolidated Financial Statements continued

29. Dividends

Interim dividends

	$ per share			$ million		
	2023	2022	2021 [A]	2023	2022	2021 [B]
Cash:						
March	0.2875	0.24	0.1665	2,030	1,829	1,290
June	0.2875	0.25	0.1735	1,984	1,850	1,331
September	0.3310	0.25	0.24	2,179	1,818	1,854
December	0.3310	0.25	0.24	2,196	1,786	1,846
Total	1.237	0.99	0.82	8,389	7,283	6,321

[A] In 2021 Shell plc declared equal amounts of dividends per A and B share as presented.
[B] Dividends paid on A shares totalled in 2021: $3,330 million and dividends paid on B shares totalled in 2021: $2,991 million.

On February 1, 2024, the Directors announced a further interim dividend in respect of 2023 of $0.3440 per ordinary share. The total dividend is estimated to be $2,230 million and is payable on March 25, 2024, to shareholders on the register at February 16, 2024.

Shareholders will be able to elect to receive their dividends in US dollars, sterling or euros.

30. Earnings per share

	2023	2022	2021
Income attributable to Shell plc shareholders ($ million)	19,359	42,309	20,101
Weighted average number of shares used as the basis for determining:			
Basic earnings per share (million of shares)	6,733.5	7,347.5	7,761.7
Diluted earnings per share (million of shares)	6,799.8	7,410.5	7,806.8

Basic earnings per share are calculated by dividing the income attributable to Shell plc shareholders for the year by the weighted average number of shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans. If the inclusion of potentially issuable shares could decrease diluted loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share.

31. Legal proceedings and other contingencies

General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental authorities, including tax authorities, and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries where they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In certain divestment transactions, liabilities related to decommissioning and restoration are de-recognised upon transfer of these obligations to the buyer. For certain of these obligations Shell has issued guarantees to third parties and continues to be liable in case the primary obligor is not able to meet its obligation. These potential obligations arising from issuance of these guarantees are assessed to be remote.

Decommissioning and restoration of manufacturing facilities

For long-lived manufacturing facilities, where decommissioning would generally be more than 50 years away, while there is a present obligation that has arisen from past events, the amount of the obligation cannot be reliably measured. This is because the settlement dates are indeterminate; and other estimates, such as extremely long-term discount rates for which there is no observable measure, cannot be reliably determined. Consequently, the decommissioning and restoration obligation that exists for such long-lived manufacturing facilities cannot be reliably quantified and is disclosed as a contingent liability. There remains a high degree of uncertainty concerning such obligations and their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

31. Legal proceedings and other contingencies continued

Pesticide litigation

Shell USA, Inc. (Shell USA), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 24 such cases currently pending, four claims made but not yet filed, and an active subpoena for records. These matters assert various theories of strict liability and negligence, seeking to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. While Shell USA continues to vigorously defend these actions, in January 2018 an environmental regulatory standard became effective in the State of California, where a majority of the suits are pending. The 2018 standard requires public water systems state-wide to perform quarterly or monthly sampling of their drinking water sources for a chemical contained in certain pesticides. Water systems deemed out of compliance with the regulatory standard must take corrective action to resolve the exceedance or take the potable water source out of service. In response to this regulatory standard, Shell USA monitors the sampling results to determine the number of wells potentially impacted. Based on the claims asserted and Shell USA's history with regard to amounts paid to resolve varying actions, management does not expect the outcome of the matters pending at December 31, 2023, to have a material adverse impact on Shell. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Climate change litigation

In the USA, energy companies (including Shell), industry associations, and others have been named in several matters alleging responsibility for the impacts of climate change due to the use of fossil fuels. These matters assert a number of different theories of liability for a wide variety of harms, including but not limited to, impacts to public and private infrastructure, natural resources, and public health and services. As of December 31, 2023, 24 lawsuits naming Shell as a defendant were pending, three claims were filed but not yet served, and one petition to preserve testimony was pending.

In the Netherlands, in a case against Shell brought by a group of environmental non-governmental organisations (eNGOs) and individual claimants, the Court found that while Shell is not currently acting unlawfully, Shell must reduce the aggregate annual volume of CO_2 emissions of Shell operations and energy-carrying products sold across Scopes 1, 2 and 3 by 45% (net) by the end of 2030 relative to its 2019 emissions levels (the "Dutch Court Order"). For Scopes 2 and 3, this is a significant best-efforts obligation. Shell appealed that ruling and a hearing is scheduled to take place before the Dutch Court of Appeal of The Hague in April 2024.

Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

NAM (Groningen gas field) litigation

Since 1963, NAM – a joint venture between Shell and ExxonMobil (50%:50%) – has been producing gas from the Groningen field, the largest gas field in Western Europe. After smaller tremors in the 1990s and the late 2000s, an earthquake measuring 3.6 on the Richter scale occurred in 2012, causing damage to properties in the affected area, and the area continues to experience tremor/earthquake-type events. NAM has successfully settled close to 80,000 claims for physical damage to property. The Dutch State has taken over the damage-claim-handling from NAM for all claim categories, and the strengthening operation in the region, while NAM remains financially responsible insofar as the costs corresponded to NAM's liability. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM. These claims include but are not limited to physical damage to property, housing value loss, emotional damage and loss of living enjoyment.

Shell and ExxonMobil seek to reach a final, all-encompassing settlement with the Dutch government on the new design of the Dutch "Gasgebouw" and the wind-down of natural gas production in Groningen. Shell, ExxonMobil and the Dutch government reached agreements in 2018 (Heads of Agreement) and 2019 (Interim Agreement) and subsequently have been engaged in discussions on the interpretation and implementation of these agreements and on a final and all-encompassing settlement. As these discussions have not led to such a settlement, in December 2023, the NAM shareholders asked an independent arbitration panel to rule on the interpretation and implementation of the agreements made in 2018/2019. The purpose of this arbitration is for a neutral third party to assess the situation and provide clarity. The arbitration is expected to take several years and the judgement will be binding. The arbitration does not preclude a final and all-encompassing settlement, provided Shell, ExxonMobil and the Dutch government agree to pursue such a settlement.

There remains a high degree of uncertainty concerning the ultimate outcome of these disputes and their potential effect on future operations, earnings, cash flows, reputation and Shell's financial condition.

Notes to the Consolidated Financial Statements continued

31. Legal proceedings and other contingencies continued

Kazakhstan

Shell has several matters in dispute involving the Republic of Kazakhstan. One litigation matter involving a Shell NOV relates to a Sulphur permitting inspection outcome. An unfavourable ruling was issued by the Administrative Collegium of Astana City Court in February 2024. The Shell NOV is assessing its next steps, including filing an appeal to the Kazakhstan Supreme Court.

The other matters are two Shell NOVs concerning disputes as to cost recovery for the period 2010 to 2019 under the applicable production sharing contracts. In March 2023, the Republic of Kazakhstan appointed its arbitrator in each of the disputes, formally starting the arbitration process. No Statement of Claim has been filed in either matter.

Accordingly, at this time, it is not possible to reliably estimate the magnitude and timing of any possible obligations or payments in respect of the matters above or whether any payments will be due. There remains a high degree of uncertainty regarding the ultimate outcomes, as well as the potential effect on future operations, earnings, cash flows and Shell's financial condition.

Nigerian litigation

Shell subsidiaries and associates operating in Nigeria are parties to various environmental, non-environmental and contractual disputes brought in the courts of Nigeria and England. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities in some of these disputes. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that the outcomes of these disputes, once determined, will be favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

OPL 245

On January 27, 2017, the Nigeria Federal High Court issued an Interim Order of Attachment for Oil Prospecting Licence 245 (OPL 245), pending the conclusion of the investigation of Shell Nigeria Exploration and Production Company Ltd.'s (SNEPCO's) investment in the Nigeria oil block OPL 245 and the 2011 settlement of litigation pertaining to that block with regard to potential anti-bribery, anti-corruption and anti-money laundering laws. SNEPCO applied for and was granted a discharge of this order on constitutional and procedural grounds. Also in Nigeria, in March 2017, criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one then current now former Shell employee and third parties including ENI SpA and one of its subsidiaries. Those proceedings are in abeyance. In January 2020, criminal charges alleging disobeying direction of law related to tax waivers were filed in Nigeria against Shell Nigeria Ultra Deep Ltd., SNEPCO, and third parties including Nigeria Agip Exploration Limited (NAE). Those proceedings are ongoing. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Both actions are currently stayed awaiting the outcome of appeals filed against procedural decisions. Those appeal proceedings are ongoing. On May 8, 2018, Human Environmental Development Agenda (HEDA) sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On July 3, 2019, the Nigerian Federal High Court upheld objections from SNEPCO and NAE and struck the lawsuit filed by HEDA. The suit was struck because of the statute of limitations and lack of jurisdiction to hear the matter. HEDA has appealed the judgement, which is ongoing.

On a separate OPL 245 matter, pre-trial criminal proceedings are pending against an individual who also did not work for or on behalf of Shell.

On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245. On October 24, 2022, Re:Common, HEDA and The Corner House announced that they filed a complaint at the Court of Appeal in The Hague, pursuant to Article 12 of the Dutch Code for Criminal Procedure, challenging the decision by the Dutch Public Prosecutor to dismiss its investigation. There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not possible to reliably estimate the possible obligations and timing of any payments. Any violation of anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Shell plc's earnings, cash flows and financial condition.

Notes to the Consolidated Financial Statements continued

32. Employees

Employee costs

	2023	2022	2021
			$ million
Remuneration	10,648	10,509	9,038
Social security contributions	957	860	819
Retirement benefits (see Note 23)	1,324	1,795	1,696
Share-based compensation (see Note 27)	700	807	539
Total [A]	13,629	13,971	12,092

[A] Excludes employees seconded to joint ventures and associates.

Average employee numbers [A]

	2023	2022	2021
			Thousand
Integrated Gas	6	6	6
Upstream	11	12	13
Marketing	26	17	14
Chemicals and Products	22	21	22
Renewables and Energy Solutions	5	4	3
Corporate	30	27	25
- of which Shell Business Service Centre (SBSC)	23	20	19
Total [B]	100	87	83

[A] Employee numbers are based on headcount.
[B] Excludes employees seconded to joint ventures and associates (2023: 2,000 employees; 2022: 2,000 employees; 2021: 2,000 employees).

33. Directors and Senior Management

Remuneration of Directors of the Company

	2023	2022	2021
			$ million
Emoluments	12	12	12
Value of released awards under long-term incentive plans	4	7	5
Employer contributions to pension plans	1	1	1

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2023, no Director accrued retirement benefits in respect of qualifying services under defined benefit plans.

Further information on the remuneration of the Directors can be found in the Directors' Remuneration Report on pages 191-193.

Directors and Senior Management expense

	2023	2022	2021
			$ million
Short-term benefits	31	33	27
Retirement benefits	2	2	3
Share-based compensation	17	17	16
Termination and related amounts	7	1	2
Total	57	53	48

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

Notes to the Consolidated Financial Statements continued

34. Auditor's remuneration

			$ million
	2023	2022	2021
Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns	42	45	39
Other audit fees, principally in respect of audits of accounts of subsidiaries	19	18	18
Total audit fees	61	63	57
Audit-related fees	3	3	3
Fees in respect of other non-audit services	2	3	3
Total	66	69	63

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to $1 million in 2023 (2022: $1 million; 2021: $1 million).

35. Post-balance sheet events

On January 16, 2024, Shell reached an agreement to sell its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) for a consideration of $1.3 billion with additional cash payments up to $1.1 billion as well as further contingent payments. Under the agreed deal structure, economic performance accrues to the buyer with effect from December 31, 2021, however, Shell will continue to consolidate SPDC until control transfers at completion. At completion Shell will provide secured term loans of up to $1.2 billion and additional financing of up to $1.3 billion over future years. Completion of the transaction is subject to approvals by the Federal Government of Nigeria and other conditions.

On January 30, 2024, the principal defined benefit pension plan in the USA, Shell Pension Plan, entered into a contract with "The Prudential Insurance Company of America" to settle $5,052 million of pension liabilities. The settlement price consisted of $4,920 million of pension assets. As a result of this transaction, all legal and constructive obligations for a tranche of benefits provided by the Shell Pension Plan have been eliminated. This transaction will have no significant impact on the Consolidated Statement of Income, Consolidated Balance Sheet or Consolidated Statement of Cash Flows.

On February 1, 2024, Shell announced the commencement of a $3.5 billion share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2024 results announcement, scheduled for May 2, 2024. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

From: Keith.Higginbotham@shell.com
To: Serpa, Paula
Subject: RE: LNG bunkering - Port Everglades
Date: Friday, August 23, 2024 1:46:49 PM
Attachments: image001.png

Hi,

Please see the following credit reference. This should meet the requirement of at least one of the references being a bank

ELBA EXPRESS COMPANY, LLC
569 Brookwood Village, ST 749
Birmingham, Al 35209

Ted Chavez
Director of Corporate Credit
Phone: 713-420-3068

Citibank N.A.
One Penn's Way,
New Castle, DE 19720

Paul James
Phone: 302-501-5781.

From: Serpa, Paula <PSERPA@broward.org>
Sent: Thursday, August 22, 2024 2:30 PM
To: Higginbotham, Keith STUSCO-STS/ATP <Keith.Higginbotham@shell.com>
Subject: RE: LNG bunkering - Port Everglades

Keith,
Received.

[redacted]

Deutsche Bank

Deutsche Bank AG New York Branch
Trade Finance & Lending
1 Columbus Circle, 17th Floor
New York, NY 10019
Fax (646) 736-5752

STANDBY LETTER OF CREDIT NO: [redacted]

Date of Issue: September 27, 2024

Issuing Bank's No. [redacted]

Beneficiary:
Broward County
c/o CEO & Port Director
Port Everglades Department
1850 Eller Drive
Fort Lauderdale, FL 33316, USA

Applicant:
Shell NA LNG LLC
1000 Main St, Level 12
Houston, TX 77002
USA

Amount: US$20,000.00 (United States Dollars Twenty Thousand only)

Expiry: September 30, 2025

We hereby authorize you to draw on Deutsche Bank AG New York Branch at 1 Columbus Circle, 17th Floor, New York, NY 10019 Attn: Trade Finance & Lending by order of and for the account of Shell NA LNG LLC ("Franchisee" or "Applicant") up to an aggregate amount, in United States Dollars, of US$ 20,000.00 (United States Dollars Twenty Thousand only), available by your drafts at sight, accompanied by: a signed statement from the CEO & Port Director of the Port Everglades Department of Broward County or the CEO & Port Director's authorized representative, purportedly signing as such, that the drawing is due to default in performance of certain obligations on the part of Franchisee pursuant to its approved Franchise, approved by the Board of Broward County Commissioners.

Drafts must be drawn not later than September 30, 2025.

Drafts must bear the clause: "Drawn under Letter of Credit No. [redacted] of Deutsche Bank AG New York Branch dated September 27, 2024."

This Letter of Credit shall be automatically extended without amendment for successive periods of one (1) year each unless we provide the CEO & Port Director of the Port Everglades Department of Broward County with written notice of our intent to terminate the Standby Letter of Credit herein extended, which notice must be provided at least thirty (30) days prior to the expiration date of the original term hereof or any extended one (1) year term.

This Letter of Credit sets forth in full the terms of our undertaking, and such undertaking shall not in any way be modified or amplified by reference to any documents, instrument, or agreement referred to herein or to which this Letter of Credit is referred or this Letter of Credit relates, and any such reference shall not be deemed to incorporate herein by reference any document, instrument, or agreement.

Deutsche Bank

Deutsche Bank AG New York Branch
Trade Finance & Lending
1 Columbus Circle, 17th Floor
New York, NY 10019
Fax (646) 736-5752

We hereby agree with the drawers, endorsers, and bona fide holders of all drafts drawn under and in compliance with the terms of this Standby Letter of Credit that such drafts will be duly honored upon presentation to the drawee.

This Standby Letter of Credit is subject to the "Uniform Customs and Practice for Documentary Credits," International Chamber of Commerce (2007 revision), Publication No. 600 and to the provisions of Florida law. If a conflict between the Uniform Customs and Practice for Documentary Credits and Florida law should arise, Florida law shall prevail. If a conflict between the law of another state or country and Florida law should arise, Florida law shall prevail.

Sincerely,
Deutsche Bank AG
New York Branch

DocuSigned by:
Tina Flynn
16C4E14C57B34CA...

Tina Flynn
Assistant Vice President

DocuSigned by:
930DF32D5064466...

Konni Geppert
Vice President

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. Andrews Ave., Rm. A-100, Ft. Lauderdale, FL 33301-1895 – 954-357-4829

VALID OCTOBER 1, 2024 THROUGH SEPTEMBER 30, 2025

Receipt #: 329-346756
Business Name: SHELL NA LNG LLC
Business Type: ALL OTHERS (BUNKERING ACTIVITIES, LIQUIFIED NATURAL GAS (LNG))
Owner Name: JOHN MISSO
Business Opened: 09/24/2024
Business Location: 1850 ELLER DRIVE FT LAUDERDALE
State/County/Cert/Reg:
Exemption Code:
Business Phone: 3465706161

Rooms	Seats	Employees	Machines	Professionals
		1		

For Vending Business Only
Number of Machines: **Vending Type:**

Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
33.00	0.00	0.00	3.30	0.00	0.00	36.30

Receipt Fee 33.00
Packing/Processing/Canning Employees 0.00

THIS RECEIPT MUST BE POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS

THIS BECOMES A TAX RECEIPT

WHEN VALIDATED

This tax is levied for the privilege of doing business within Broward County and is non-regulatory in nature. You must meet all County and/or Municipality planning and zoning requirements. This Business Tax Receipt must be transferred when the business is sold, business name has changed or you have moved the business location. This receipt does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.

Mailing Address:

AMANDA ROMERO C/O: SHELL NA LNG, L
PO BOX 4525
HOUSTON, TX 77210-4525

Receipt #WWW-24-00000462
Paid 10/02/2024 36.30

2024 - 2025

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. Andrews Ave., Rm. A-100, Ft. Lauderdale, FL 33301-1895 – 954-357-4829

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Exemption Code:
Business Phone: 3465706161

Rooms	Seats	Employees	Machines	Professionals
		1		

Signature

For Vending Business Only
Number of Machines: **Vending Type:**

Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
33.00	0.00	0.00	3.30	0.00	0.00	36.30

Receipt #WWW-24-00000462
Paid 10/02/2024 36.30

Harvey Gulf International Marine

Safety Management System Manual

Manual
Revision 26
10-JAN-2024

RECORD OF CHANGES

Harvey Gulf International Marine
ISM Safety Management System Manual

Date	Description	Page(s)
1/16/2007	Replaced Ch. 1.0 Rev:00 with Rev:01 1/16/2007	4-5
1/16/2007	Replaced Ch. 3.0 Rev:00 with Rev:01 9/19/2006	7-8
1/16/2007	Replaced Ch. 5.0 Rev:00 with Rev:01 9/12/2006	10
1/16/2007	Replaced Ch. 10.0 Rev:00 with Rev:01 9/12/2006	1
1/16/2007	Replaced Ch. 13.0 Rev:00 with Rev:01 9/08/2006	19
10/8/2007	Replaced Ch. 10.0 Rev:01 with Rev:02 10/8/2007	15
4/25/2008	Replaced Ch. 3.0 Rev:01 with Rev:02 4/25/2008	7-8
4/25/2008	Replaced Ch. 10.0 Rev:02 with Rev:03 4/25/2008	15
9/19/2008	Revised Ch. 1-13 to reflect HGIM Operation Co, etc.	1-19
2/17/2009	Revised Ch. 3 to name individuals within system	7-8
2/17/2009	Revised Ch. 13 to show continuous improvement	19
6/16/2009	Replaced Ch. 10 Rev:03 with Rev:04 6/16/2009	15
9/29/2009	Revised Ch. 3 to reflect change in org. chart Rev:00 with Rev:01	7-8
9/29/2009	Revised Header to reflect Manual Rev:06 Chapter Rev:00	1-19
10/21/2009	Changed Chapter references to HSE CIMS in Chapter 8,9, and 11	13-14,17
7/1/2010	Revised Ch. 3 to reflect change in Management	7-8
7/1/2010	Revised SMS to reflect changes according to MSC85/26/Add.1, Manual Revision 7	Various Pages
3/15/2011	Manual Rev: 08, revised Ch. 3 to reflect changes in management Rev:02 with Rev:03, revised Ch. 4 to reflect change in Designated Person Rev:01 with Rev:02, revised Ch. 7 deleted error Rev:02 with Rev:03, revised Record of Change with Table Rev:01 with Rev:02	2,7-9, &12
7/19/2011	Manual Rev: 09, revised Ch. 3 to reflect changes in management Rev:03 with Rev:04, revised Record of Change Rev. 02 with Rev:03	2 & 7-8
1/17/2012	Manual Rev. 10, revised Ch. 3 to reflect changes in personnel management Rev. 04 with Rev. 05, revised Record of Changes Rev. 03 with Rev. 04	2 & 7-8
7/5/2012	Manual Rev. 11, revised Ch. 3 to reflect changes in personnel management Rev. 05 with Rev. 06 and to include Alternate Designated Person, revised Record of Changes Rev. 04 with Rev. 05, revised Chapter 10 Rev. 02 with Rev. 03	2, 7-8 & 15-16
10/22/2012	Manual Rev. 12, revised Ch. 3 to reflect changes in personnel management Rev. 06 with Rev. 07, revised Record of Changes Rev. 05 with Rev. 06, revised Chapter 7 Rev. 03 with Rev. 04, revised	2-3, 8-9, 13-15

5/1/2013	Manual Rev. 13, revised Ch. 3 to reflect the Quality Management Representative Rev. 07 with Rev. 08, revised Record of Changes Rev. 06 with Rev. 07, revised Chapter 5 Rev. 01 with Rev. 02 to reflect the Master's Authority	2-3, 8-9, 11
11/14/2013	Manual Rev. 14, revised Ch. 3 to reflect Management changes Rev. 08 with Rev. 09, revised Record of Changes Rev. 07 with Rev. 08, revised Chapter 10 Rev. 03 with Rev. 04 to reflect NS5	2-3, 8-9, 16-17
31-Mar-14	Manual Rev. 15, revised Ch. 3 to reflect Management Changes Rev. 09 with Rev. 10, revised Record of Changes Rev. 08 with Rev. 09.	2-3, 8-9
22-Aug-14	Manual Rev. 16, revised Ch. 3 to reflect Management Changes Rev. 10 with Rev. 11, revised Record of Changes Rev. 09 with Rev. 10; revised Ch. 7 to remove SOPEP for tug boats Rev. 4 with Rev.5	2-3; 8-9; 13
16-Jul-15	Manual Rev. 17, revised Record of Changes Rev. 10 with Rev. 11; revised Ch. 3 to reflect management changes Rev. 11 with Rev. 12; revised Ch. 6 to reflect ISM Code Amendment Rev. 00 with Rev. 01; revised Ch. 7 to reflect LNG Transfer Procedures Rev. 05 with Rev. 06; revised Ch. 8 to reflect HGIM Emergency Response Plan Rev. 04 with Rev. 05; revised Ch. 10 to remove PMP's no longer in use, to add the Vessel Manager Quarterly Audits and updated Critical Systems List Rev. 04 with Rev. 05; Ch. 12 to reflect ISM Code Amendment Rev. 01 with Rev. 02	2-3; 8-9; 12; 13; 14; 16-17; 19
13-Jul-16	Manual Rev. 18, revised Record of Changes Rev. 11 with Rev. 12; revised Ch. 3 to reflect management changes Rev. 12 with Rev. 13; revised Ch. 10 to reflect warm stacked USCG policy Rev. 05 with Rev. 06	2-3; 8-9; 16-17
10-Aug-17	Manual Rev. 19, revised Record of Changes Rev. 12 with Rev. 13; revised Ch. 7 to include HSE CIMS Manual Reference to Emergency Response Plan Rev. 6 with Rev. 7; revised Ch. 8 to include HSE CIMS Manual Reference to Emergency Response Plan; Ch. 9 to include ABS PR-17 and USCG 835 communication procedure Rev. 3 with Rev. 4.	2-3; 13; 14; 15
01-MAY-2020	Manual Rev. 20, revised Record of Changes Rev. 13 with Rev. 14; Ch. 3 to remove V.P. of Operations from organizational chart Rev. 13 with Rev. 14; Ch. 7 to include ATB Operations Rev. 7 with Rev. 8. Ch. 9 to include ABS PR-17 and USCG 835 tracking of corrective active Rev. 4 with Rev. 5.	2-3; 14; 16
17-SEP-2020	Manual Rev. 21, revised Record of Changes Rev. 14 with Rev. 15; Ch. 10 to include critical equipment for LNG ATB Rev. 6 with Rev. 7.	2-3; 17-18
17-MAY-2021	Manual Rev. 22; revised Record of Changes Rev. 15 with Rev. 16; Chapter 8 to address Cyber Security into Emergency Preparedness to conform to MSC Resolution 428(98). Chapter 10 Rev. 7 with Rev. 8 to remove reference to SIP.	15;18

24-SEP-2021	Manual Rev. 23, Record of Changes Rev. 16 with 17, Section 3.3 to account for personnel changes; Section 9.4 to address 835s/PR-17s as non-conformities in management system.	3; 9
21-APR-2023	Manual Rev. 24, Record of Changes Rev. 17 with 18, Section 3.3 to account for personnel changes, changed Alternate DPA to Travis Richardelle.	10, 11
17-AUG-2023	Chapter 3, change to designated person ashore/designation of secondary ADPA. Chapter 9, increased surveillance program.	3, 9
10-JAN-2024	Manual Rev. 26; Record of Change Rev 19 with 20; Chapter 8, incorporation by reference HGIM statutory reporting and actions for incidents of harassment, sexual harassment, and sexual assault and HGIM Master Key Management Program.	8.1

1.0 GENERAL

1.1 Definitions

1.1.1 *"International Safety Management (ISM) Code"* means the International Management Code for the Safe Operation of Ships and for Pollution Prevention as adopted by the Assembly, as may be amended by the Organization.

1.1.2 *Company* means the owner of the vessel.

1.1.3 *Administration* means the Government of the State whose flag the vessel is entitled to fly.

1.1.4 *Safety management system* means a structured and documented system enabling Company personnel to implement effectively the Company safety and environmental protection policy and comply with the ISM Code.

1.1.5 *Document of Compliance* means a document issued to a company which complies with the requirements of this Code.

1.1.6 *Safety Management Certificate* means a document issued to a ship which signifies that the Company and its shipboard management operate in accordance with the approved safety management system.

1.1.7 *Objective evidence* means quantitative or qualitative information, records or statements of fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified.

1.1.8 *Observation* means a statement of fact made during and substantiated by objective evidence.

1.1.9 *Non-conformity* means an observed situation where objective evidence indicates the non-fulfillment of a specified requirement.

1.1.10 *Major non-conformity* means an identifiable deviation that poses a serious threat to the safety of personnel or the ship or a serious risk to the environment that requires immediate corrective action or the lack of effective and systematic implementation of a requirement of this Code.

1.1.11 *Anniversary date* means the day and month of each year that corresponds to the date of expiry of the relevant document or certificate.

1.1.12 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.

1.2 Objectives

1.2.1 The objectives of the Code are to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment, in particular, to the marine environment, and to property.

1.2.2 Safety management objectives of HGIM are to:

- Provide for safe practices in vessel operation and a safe working environment
- Assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards; and
- Continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection

1.2.3 HGIM has policies in effect that will ensure that we meet our objectives and also that we comply with mandatory rules and regulations, and that applicable codes, guidelines and standards recommended by the Organization, Administrations, classification societies and maritime industry organizations are taken into account.

2.0 SAFETY & ENVIRONMENTAL PROTECTION POLICY

2.1 HGIM recognizes the importance of efficiently meeting the waterborne transportation needs of the United States in an environmentally sound manner while protecting the health and safety of our employees and the public. The management and the employees of HGIM are committed to continuously improving the compatibility of our operations with the environment. In furtherance of this commitment, the management and employees of HGIM pledge to do the following:

- Conduct our business and operate our vessels in a manner that protects the environment, and the safety and health of our employees and the general public.
- Recognize and be responsive to public concerns about waterborne transportation and its effects on the environment.
- Make safety, health, and the environment priorities in our business planning.
- Commit to reducing overall emissions and waste generation, and comply with all laws and regulations concerning emissions and waste.
- Participate with government and the public in creating responsible laws, regulations and standards to safeguard the workplace, community and environment.
- Establish and maintain, in cooperation with public authorities and others, contingency procedures and plans to mitigate the effects of any accidents that may occur.

3.0 COMPANY RESPONSIBILITIES AND AUTHORITY

3.1 HGIM Management recognizes the importance of and has endorsed and implemented the Safety Management System for the purposes of ensuring the protection of the environment, the assets, and personnel of the Company.

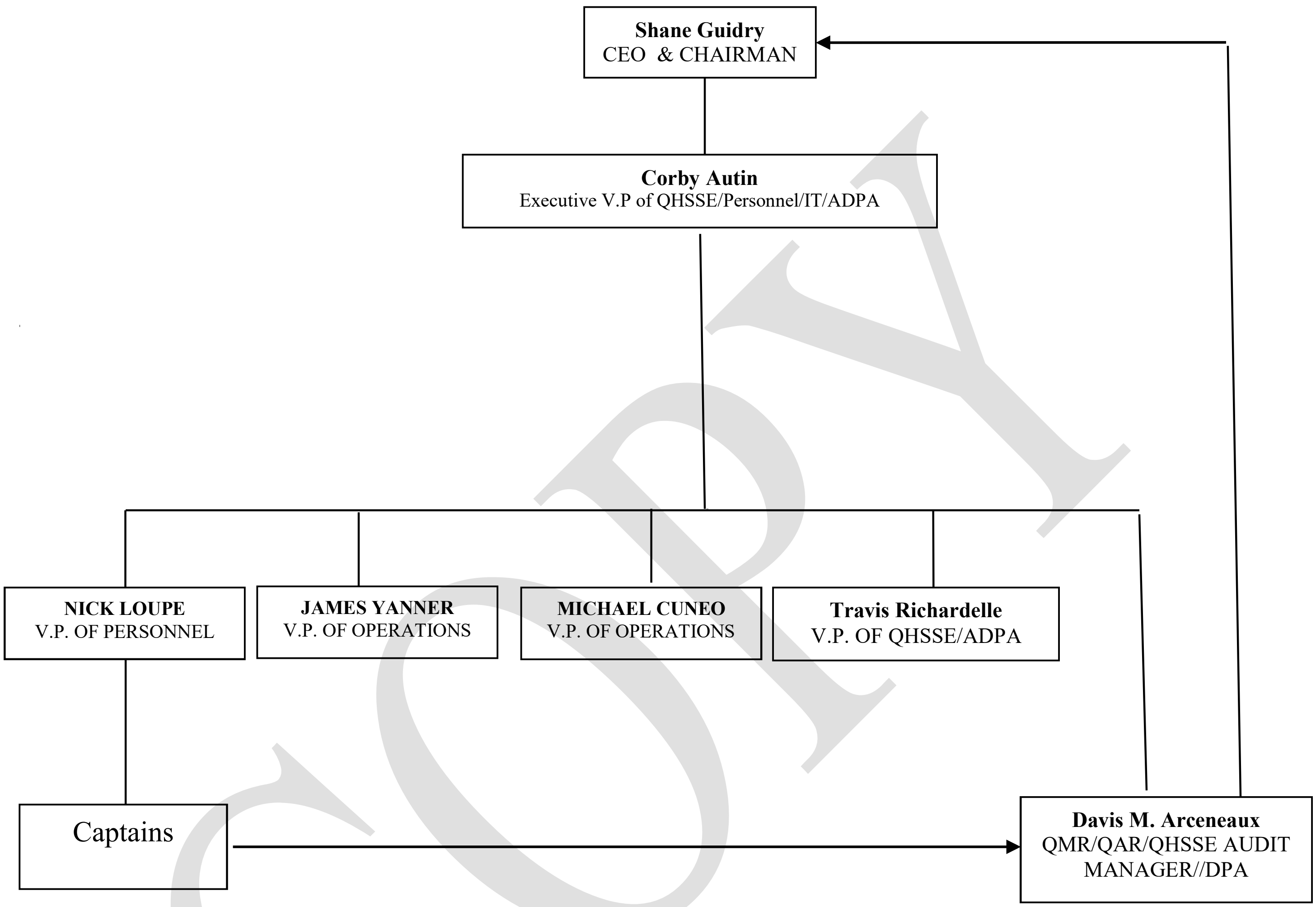
3.2 SHORE SIDE MANAGERS

3.2.1 The Vice-President of Personnel is responsible for the hiring process, fitness for duty, and crewing of the vessels.

3.2.2 The Vice-President(s) of Operations is responsible for maintenance and repairs as well as the Vessel Managers who are responsible for all vessel operations, repairs and maintenance.

3.2.3 The Vice-President of QHSS&E is responsible for managing QHSS&E, training, ISM, ISO 9001, emergency response coordination, safety improvement, safety plans and security. The QHSS&E Managers ensure that ISM Code requirements are satisfied for ISM training, inspections, and all safety assurance activities.

3.3 Operations Department Organization Chart



4.0 DESIGNATED PERSON

The Designated Person is responsible to provide a separate communication link between the company management and the vessel, monitor safety and pollution prevention aspects of the operation of each vessel, and to ensure that adequate resources and shore based support are applied, as required. We have designated the **Davis M. Arceneaux** to be the designated person to ensure that vessels receive the shore support they deserve.

Corby Autin and Travis Richardelle are *Alternate Designated Persons* and are responsible to provide a separate communication link between company management and the vessel in the absence of the *Designated Person (Davis M. Arceneaux)*.

5.0 MASTER’S RESPONSIBILITY AND AUTHORITY

5.1 The Master’s responsibility and authority is primarily defined in the Maritime Laws and Regulations. The Master’s duties additionally include:

5.1.1 The Master is responsible for the safety of all vessel operations and pollution prevention.
5.1.2 The Master oversees the safety, welfare, productivity and professionalism of all vessel crewmembers. It is the Master’s responsibility to implement the SMS and motivate the crew in observance of this policy.
5.1.3 The Master is responsible for instructing vessel crewmembers as to their responsibilities for safely performing their duties. These instructions shall be given in a clear and simple manner.
5.1.4 The Master will also enforce all policies in the ISM Manual and procedures provided in the HSE Manual.
5.1.5 The Master is responsible to periodically review the SMS and report to the shore based management deficiencies in the system. A Masters SMS Management Review is performed at the annual internal audit.

THE CAPTAIN HAS OVERRIDING AUTHORITY, ULTIMATE WORK AUTHORITY AND THE RESPONSIBILITY TO MAKE DECISIONS WITH RESPECT TO SAFETYAND POLLUTION PREVENTION. HARVEY GULF INTERNATIONAL MARINE WILL ALWAYS BACK UP OUR MASTERS AND CREWS ON ISSUES OF SAFETY AND POLLUTION PREVENTION. The Master shall request Company assistance as he deems necessary.

6.0 RESOURCES AND PERSONNEL

6.1 HGIM will ensure that the Master of its vessels will be properly qualified for command, fully conversant with HGIM's SMS, and able to carry out his duties by:

6.1.1 Reviewing all licenses and certificates before hiring to ensure that the Masters are qualified to hold the position they are being hired for. Copies of all documentation will be kept in the employee's personnel file.

6.1.2 Requiring that the Masters participate in and conduct scheduled safety meetings, drills, and training required. This will include training in HGIM's SMS.

6.1.3 Providing the necessary support so that the Master's duties can be safely performed.

6.2 HGIM will ensure that each vessel is manned with qualified, certificated and medically fit seafarers in accordance with national and international requirements. HGIM will ensure that each vessel is manned in order to encompass all aspects of maintaining safe operations on board. HGIM will ensure that all vessel personnel are qualified to hold the position that they are being hired for by reviewing all documents and certificates before hire, and by having each potential employee pass a pre-employment physical and agility test. Copies of all documents and certificates will be kept in the employee's personnel file.

6.3 Each new hire undergoes a new hire Orientation at the office. When sent to a vessel, the new hire undergoes a New to Vessel orientation on the vessel and is considered an SSE (Short Service Employee). These SSE's are assigned a mentor who is responsible for providing orientation and training in the policies and procedures of HGIM. The captain describes his duties and security in place on the vessel.

6.4 HGIM requires that all employees participate in safety meetings and emergency safety drills such as fire, abandon ship, fuel oil spill, security, and man overboard drills as required.

6.5 HGIM requires all vessel employees to fulfill the regulations of the vessel to which they are assigned to work by having a basic knowledge of MARPOL, STCW, SOLAS, load line, collision regulations, etc. where applicable. Training will be an important and ongoing part of HGIM's SMS. Formal safety training will be provided on a wide range of topics. HGIM personnel will do some of the training and some will be done by outside consultants. All employees will be required to attend training on various topics. Additionally, training materials on selected topics will be available to all personnel as a reference material.

6.6 The working language of the SMS will be English, however, HGIM will provide translated copies in foreign languages where deemed necessary.

6.7 Prior to being hired, all employees will have displayed a basic ability to communicate in English through the use of a face to face interview by the Personnel Manager. This ability to communicate will ensure that the vessel personnel will be able to communicate effectively in the execution of their duties related to the SMS.

7.0 SHIPBOARD OPERATIONS

HGIM has established procedures, plans and instructions, including checklist as appropriate, for key shipboard operations concerning the safety of the personnel, ship and protection of the environment. The Master of the vessel is responsible for ensuring that procedures, plans, and instructions, including checklist as appropriate, are completed. Any problem which may affect critical shipboard operations must be reported to the office immediately.

7.1 Key Shipboard Operations Associated With the Safety of Personnel, Ship and Protection of the Environment

The following documented operations, having an impact on safety and pollution prevention, are identified. Following the specified operation is the location of the plan, recommended guidelines, instructions and/or checklist associated with the operation.

Vessel Operation and Navigation – Refer to: HSE CIMS Chapter 30
General Safety – Refer to: HSE CIMS Chapter 23
Lockout/Tagout – Refer to: HSE CIMS Chapter 15
SOPEP/SMPEP/NT VRP – Refer to: Combined Shipboard Oil Pollution Emergency Plan/Shipboard Marine Pollution Emergency Plan/ Non-Tank Vessel Response Plan (OSV over 400 gross tons)
VGP – Refer to: Vessel General Permit Manual.
Environmental Protection – Refer to: HSE CIMS Chapter 11
Confined Space – Refer to: HSE CIMS Chapter 14
HAZCOM/MSDS – Refer to: Material Safety Data Sheet Binder and HSE CIMS 27
Fuel Oil, Liquid Mud and LNG Transfer Procedures – Refer to: Fuel Oil, Liquid Mud and LNG Transfer Procedures
Hurricane Preparedness – Refer to: HSE CIMS Chapter 10
Cargo Operations – Refer to: Cargo Securing Manual (over 500 gross tons)
LNG Articulating Tug and Barge – Operational Specific Manuals

8.0 EMERGENCY PREPAREDNESS

On vessels, the Master is responsible for evaluating the degree of an emergency and ensuring that appropriate action is taken. In dealing with any emergency situation, the Master must coordinate with the Safety Manager on duty. A Safety Manager will then assist in responding to the emergency.

8.1 HGIM has procedures in place to identify potential emergency shipboard situations, and established procedures to respond to them. These procedures and responsibilities are described in ***HGIM Emergency Response Plan Chapter 10 of the HSE CIMS Manual***. HGIM General IT Policy and Procedures and Cyber Security Risk Management Practices are located in ***Chapter 38 of the HSE CIMS Manual***. Statutory reporting and actions for incidents of harassment, sexual harassment, and sexual assault are located within ***Harvey Gulf International Marine's Code of Conduct***, in addition to being posted in crew berthing areas as per 46 U.S.C § 11101 and CVC Policy Letter 23-04. HGIM has mandatory annual training to meet the requirements of 46 U.S.C. §4901. Master key control systems and related provisions for use of master keys is outlined in HGIM's ***Master Key Management Program***

8.2 Station bills are posted on each vessel. Each crewmember must review his assignment aboard the vessel and be prepared to respond in an emergency. The Master is responsible to make sure that each vessel crewmember has been oriented in emergency response immediately upon boarding the vessel.

8.3 A drill is a process of physical and mental training by simulating an emergency situation. Drills help crewmembers react to emergencies in an organized and automatic fashion in accordance with company procedures and emergency response plans. In order to ensure that HGIM's organization can respond at any time to accidents and emergency situations involving its vessels, HGIM has established procedures for its safety drills. Please refer to ***Chapter 9: Emergency Drills*** in HGIM's HS&E Manual.

9.0 REPORTS AND ANALYSIS OF NON-CONFORMITIES, INCIDENTS AND HAZARDOUS OCCURRENCES

9.1 HGIM has procedures ensuring that non-conformities, incidents, and hazardous situations are reported to the Company, investigated and analyzed with the objective of improving safety and pollution prevention. Please refer to ***Chapter 4: Accident Incident and Near Miss / Stop Work Reporting and Investigation*** in the HS&E Manual. All Recordables and Loss Time Accidents shall have a full Incident Investigation completed.

9.2 HGIM management will review all reports of non-conformities and implement corrective action as warranted, including measures intended to prevent recurrence. Six or more identified non-conformities during the internal auditing process shall require an increased surveillance process be completed on board the vessel. The increased surveillance process can include, but is not limited to: documented onboard or in-person training of vessel crew; increased random auditing of identified non-conforming processes/procedures; completion of supplemental internal audit(s). HGIM management shall determine the depth and scope of the increased surveillance process based on the number and severity of identified non-conformities.

9.3 In instances in which an HGIM vessel is issued a PR-17 through ABS or an 835 through USCG, HGIM shall ensure that the issuance of the PR-17 and/or 835 is properly communicated to the appropriate flag or classification agency. In instances in which a PR-17 is issued through ABS, the HGIM vessel manager (or designee) shall contact USCG via telephone as soon as possible to relay issuance of the PR-17. In instances in which USCG may issue an 835, the vessel manager (or designee) shall contact ABS via telephone as soon as possible to relay issuance of the 835. ***All notifications conducted via telephone shall be followed by an email notification sent the appropriate designee of each agency. Records of email notification shall be readily available.***

9.4 All PR-17's and 835's issued to an HGIM vessel shall be addressed as a nonconformity in the safety management system. All PR-17's and 835's issued to a HGIM vessel shall have a Work Order created and submitted via Preventer. Each Work Order will be updated as necessary to ensure closure and corrective action of each PR-17 or each 835.

10.0 MAINTENANCE OF THE SHIP AND EQUIPMENT

10.1 HGIM has established procedures to ensure that the vessels are maintained in conformity with the provisions of the relevant rules and regulations.

10.2 In order to comply with these procedures each vessel is required by HGIM to:

10.2.1.1 Follow a Preventative Maintenance Plan (Preventer) established by HGIM management.

10.2.1.2 Daily repairs and requests for repairs are to be transmitted through Preventer. These are in addition to the monthly Preventive Maintenance Plan.

10.2.1.3 Vessel managers or a qualified member of Harvey Gulf's maintenance crew is to review maintenance system logs and take action on findings, if any non-conformities are found.

10.2.1.4 Immediately fix the problem if possible or request assistance from the Vessel Managers. The Vessel Managers will take action as demanded by level of priority.

10.2.1.5 The work order action log will be acted upon and tracked by vessel managers, who will record actions taken and by whom. Vessel managers and/or vessel captain will complete and close out each vessel action report and approve records of such.

10.2.1.6 Vessel audits will be conducted and documented quarterly by the Operations Department. The Operations Department will utilize Form 100114, Vessel Quarterly Operations Form to conduct the vessel audits. The completed Vessel Quarterly Operations Form will be maintained at the Operations Office, and a copy of the audit will be filed onboard the subject vessel. The following shall be completed by the Operations Department:

10.2.1.6.1 Each vessel shall be audited once every quarter;

10.2.1.6.2 The audit shall be completed by the Vessel Manager and/or Assistant Vessel Manager of the subject vessel;

10.2.1.6.3 Pictures should be taken of all deficient areas of the subject vessel;

10.2.1.6.4 Work Orders shall be created for all deficiencies of critical equipment noted on the Vessels Quarterly Operations Form.

10.3 HGIM has identified critical systems as equipment and technical systems in which the sudden operational failure of which may result in hazardous situations. The SMS provides for specific measures aimed at promoting the reliability of such equipment or systems. These Preventative Maintenance or PM measures include the regular testing of stand-by arrangements and equipment or technical systems that are not in continuous use.

10.3.1 The following critical systems have been identified aboard Harvey Gulf Vessels. Additional critical systems may be identified through internal audits.

- Main propulsion system
- Ships electrical power generating system
- Steering system
- Ship's whistle
- General alarm
- Fire pump and fire main systems
- Bilge and ballast pump systems
- Radar and communications equipment
- Fuel Systems
- Navigation Lights
- Ship's air compressors
- Lifesaving Equipment
- Cranes certified for man-riding (personnel basket) lifting capabilities
- Gas detection systems
- Emergency disconnection systems
- Atmosphere monitoring equipment
- ECDIS (vessels approved for primary means of navigation)

Procedures for maintenance and inspection of the above equipment are contained within the individual Preventer action for the applicable equipment. The vessel maintenance software (Preventer) contain the step by step instructions required to complete the above referenced critical equipment preventative maintenance.

10.4 The inspections mentioned in 10.2 as well as the measures referred to in 10.3 are integrated into the ship's operational and preventative maintenance routine

10.5 **Warm Stacked Vessel Requirements:** The guidance set forth by the USCG policy statement dated 25 August 2015, established the criteria to maintain a vessels COI while in a warm-stacked or laid-up status. The following forms shall be used to ensure compliance with the USCG policy statement:

- Non-SOLAS Classed Vessels Form Number 20116
- SOLAS Classed Vessels Form Number 20216

11.0 DOCUMENTATION

11.1 HGIM has established procedures to control all documents and data which are relevant to the SMS. Please refer to ***Chapter 3: Management of Change*** in the HGIM HS&E Manual.

11.2 HGIM will ensure that

11.2.1 Valid documents are available at all relevant locations

11.2.2 Changes to documents will be reviewed and approved by authorized personnel

11.2.3 Obsolete documents are promptly removed from vessel and returned to the office

11.3 The document used to describe and implement the SMS will be referred to as the "Safety Management System Manual." Included in the SMS is the Harvey Gulf International Marine, LLC. HS&E Manual. Each vessel will carry on board all documentation relevant to that vessel.

12.0 COMPANY VERIFICATION, REVIEW AND EVALUATION

12.1 HGIM has established procedures to carry out internal audits on board and ashore at intervals not exceeding twelve months to verify whether safety and pollution-prevention activities in our office and on our vessels comply with the SMS. In exceptional circumstances, this interval may be exceeded by not more than three months.

12.2 HGIM periodically verifies whether those undertaking delegated ISM-related task are acting in conformity with HGIM's responsibilities under the code.

12.3 HGIM periodically evaluates the effectiveness of the safety management system for continuous improvement. A Masters Management Review is carried out annually to get feedback for improving the Safety Management System.

12.4 The audits and possible corrective actions are carried out in accordance with documented procedures.

12.5 Personnel carrying out audits will be independent of the areas being audited where possible.

12.6 The results of the audits and reviews will be brought to the attention of all personnel having responsibility in the area involved.

12.7 HGIM management personnel responsible for the area involved will take timely corrective action on deficiencies found.

13.0 CERTIFICATION, VERIFICATION AND CONTROL

13.1 The vessels will be operated by Harvey Gulf International Marine, LLC, which is issued a Document of Compliance relevant to the office.

13.2 A Document of Compliance will be issued to HGIM certifying that it complies with the requirements of the ISM Code by the Administration, by an organization recognized by the Administration (ABS), or by the Government of the country, at the request of the Administration, in which the Company has chosen to conduct its business. The Document of Compliance should be subject to annual external verification audit within three months before or after the anniversary date. This document should be accepted as evidence that the HGIM is capable of complying with the requirements of the Code.

13.3 A copy of the Document of Compliance will be placed on board each vessel in order that the master, if so asked, may produce it for the verification of the Administration or organizations recognized by it.

13.4 A Certificate, called a Safety Management Certificate, will be issued to a vessel by the Administration or organization recognized by the Administration [ABS]. The Administration will, when issuing a certificate, verify that HGIM and its shipboard management operate in accordance with the approved SMS. The Safety Management Certificate will be subject to verification audit between the 2nd and 3rd years and again at renewal.

13.5 The Administration or an organization recognized by the Administration should periodically verify the proper functioning of the vessel's SMS as approved.

HARVEY GULF INTERNATIONAL MARINE, LLC

DRUG, ALCOHOL, FIREARMS AND CONTROLLED SUBSTANCE POLICY

Revised 4/28/14

	HARVEY GULF INTERNATIONAL MARINE, LLC ALCOHOL, FIREARMS AND CONTROLLED SUBSTANCE POLICY	Revision Number: 03 Date Effective: 21-SEP-2020 Written By: SCB Approved By: SJG

The objective of Harvey Gulf's Alcohol, Firearms and Controlled Substance Policy is to:

1. Promote, provide and maintain a safe working environment and maintain a Zero Tolerance Policy for Harvey Gulf's employees and the employees of its affiliates and subsidiaries.
2. Protect against injuries to not only our employees, but also to all customer personnel, contractor personnel, third party personnel, and the general public.
3. Protect against damage to or loss of property of Harvey Gulf, its affiliates, subsidiaries, customers, contractors and the general public.
4. Protect the environment.
5. Cooperate with customers and other contractors in their efforts to establish a safe, drug and alcohol free work environment.
6. Comply with contractual obligations.
7. Comply with existing Coast Guard, DOT, client/customer and other applicable regulations.

Harvey Gulf is committed to the objectives outlined above. To further this commitment, the Company has established a policy against unauthorized firearms and other unauthorized weapons in the workplace. The unauthorized possession, use, transportation, distribution, delivery or sale of any firearm or other weapon by any employee while on Company premises, while working, or while subject to call, is strictly prohibited.

In addition, the unauthorized possession of any types of weapon shells, casings, bullets, either fired or unfired is prohibited at any Harvey Gulf's premises.

Harvey Gulf is committed to the objectives outlined above. To further this commitment, the Company has established a policy against alcohol and drugs in the workplace. The manufacture, use, possession, transportation, distribution, delivery or sale of alcohol, drugs, prohibited substances and/or drug paraphernalia by any employee while working, while on a hitch, while subject to call, while on an Overnight or other Temporary Shore Leave, and/or while entering, present on, or leaving any Harvey Gulf's Premises, is strictly prohibited. Additionally, employees are strictly prohibited from in any way and to any degree being Under the Influence of Alcohol, Drugs and/or Prohibited Substances at any time while working, while on hitch, while subject to call, while on an Overnight or other Temporary Shore Leave, and/or while entering, present on, or leaving any Harvey Gulf's Premises. If an employee is suspect of being under the influence of alcohol and that employee is tested, and the suspected employee's breathalyzer test registers any alcohol amount, no matter how small, that employee will be terminated.

A part of the Company's alcohol and drug policy involves the banning of keeping full or empty alcohol and illegal drug containers on the companies premises. This also includes the public dock. It is Harvey Gulf's Policy that no persons shall have in their possession either empty or full alcohol and/or illegal drug containers on the Harvey Gulf's Premises.

SHANE J. GUIDRY
Chairman & Chief Executive Officer
21-SEP-2020

HARVEY GULF INTERNATIONAL MARINE, LLC
DRUG AND ALCOHOL POLICY

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HARVEY GULF INTERNATIONAL MARINE
DRUG, ALCOHOL, FIREARMS AND CONTROLLED SUBSTANCES POLICY

I. POLICY OBJECTIVES

The purpose of this Drug, Alcohol, Firearms and Controlled Substances Policy ("Policy") is to establish a clearly defined and openly communicated policy to help provide for the safety, health and security of the employees of Harvey Gulf International Marine, LLC ("Harvey Gulf"), Harvey Gulf's customers and other people who may be affected by our business, as well as to protect the environment and the property of Harvey Gulf and others.

Harvey Gulf is committed to:

1. Promoting, providing and maintaining a safe, secure and healthful working environment for all of our employees;

2. Protecting against death or injury of our employees and all others who might be affected by our business, including without limitation customer personnel, contractor personnel, third party personnel, and members of the general public;

3. Protecting against damage to or loss of any property of Harvey Gulf, our customers, our contractors, third parties, and the general public;

4. Protecting the environment;

5. Cooperating with our customers and with other contractors in their efforts to establish a safe, drug and alcohol free work environment;

6. Complying with contractual obligations to our customers; and

7. Complying with United States Coast Guard ("USCG"), United States Department of Transportation ("DOT") and other applicable laws and regulations regarding drugs, alcohol and/or prohibited substances.

A. DRUG, ALCOHOL, AND CONTROLLED SUBSTANCE POLICY

To further this commitment, Harvey Gulf has established a policy against drugs, alcohol and/or prohibited substances in the workplace. **The possession, use, manufacture, transportation, distribution, delivery or sale of Alcohol, Drugs, prohibited substances and/or drug paraphernalia by any employee at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Harvey Gulf's Premises, is strictly prohibited. Additionally, employees are strictly prohibited from in any way and to any degree being under the influence of Alcohol, Drugs and/or prohibited substances at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Harvey Gulf's Premises.** Although this Policy applies to all employees, the circumstances under which an employee will be tested for drugs, Alcohol and/or Prohibited Substances may vary according to whether the employee is a crewmember and/or according to the type of work performed by the employee.

B. FIREARMS POLICY

In furthermore of the objectives outlined above, Harvey Gulf has established a policy against unauthorized firearms and other unauthorized weapons in the workplace. The unauthorized possession, use, transportation, distribution, delivery or sale of any firearm, explosive, shell, bullet, knife or other weapon by any employee while on Harvey Gulf Premises, while working, or while subject to call, is strictly prohibited.

This Policy supersedes and replaces any and all policies previously implemented by Harvey Gulf regarding drugs, alcohol, firearms and/or prohibited substances. Each employee is expected and required to read (or have read to them), understand, and abide by this Policy as a condition of employment.

II. DEFINITIONS

A. Alcohol means the intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols, including methyl or isopropyl alcohol as well as medication containing any of the above.

B. Chemical test means a scientifically recognized test which analyzes an individual's breath, blood, urine, saliva, bodily fluids, or tissues for evidence of dangerous drug or alcohol use.

C. Consortium/Third party administrator (C/TPA) means a service agent who provides or coordinates the provision of a variety of drug and alcohol testing services to employers. C/TPAs typically perform administrative tasks concerning the operation of Harvey Gulf's Drug and alcohol testing programs. This term includes, but is not limited to, groups of employers who join together to administer, as a single entity, the DOT drug and alcohol testing programs of its members.

D. Crewmember means an individual who is:
   a) On board a vessel acting under the authority of a license, certificate of registry, or merchant mariner's document issued used by USCG, whether or not the individual is a member of the vessel's crew; or
   b) Engaged or employed on board a vessel owned in the United States that is required by law or regulation to engage, employ, or be operated by an individual holding a license, certificate of registry, or merchant mariner's document.

E. Drug means
   a) any narcotic drug, controlled substance or controlled substance analog including without limit (as defined in section 102 of the Comprehensive Drug Abuse and Control Act of 1970 (21 U.S.C. 802)),
   b) illicit or unprescribed drugs or mood or mind altering substances, and
   c) prescription drugs used in a manner inconsistent with the prescription including without limit used by someone other than the person prescribed for.

F. Drug Paraphernalia means any material or equipment that can be used or is designed for use in testing, packaging, storing, injecting, ingesting, inhaling, or otherwise introducing a Drug into the body.

G. Drug Test means a chemical test of an individual's urine for evidence of Drug use.

H. Fails a chemical test for dangerous drugs means that the result of a chemical test conducted in accordance with 49 CFR 40 was reported as "positive" by a Medical Review Officer because the chemical test indicated the presence of a dangerous drug at a level equal to or exceeding the levels established in 49 CFR part 40.

I. Firearm means a weapon, such as a pistol or rifle, from which a projectile can be discharged by an explosion caused by the igniting of gunpowder or other propellant.

J. Harvey Gulf means Harvey Gulf International Marine, LLC, and/or any of its affiliates, parent companies, subsidiaries or related entities.

K. Premises means all property, premises, facilities, vessels, docks, shipyards, land, buildings, structures, fixtures, installations, work locations, automobiles, trucks or other vehicles and/or equipment owned, operated, rented or used by Harvey Gulf or its customers, and/or at which Harvey Gulf's vessels, vehicles or equipment are located, and/or at which Harvey Gulf conducts business activities, and/or at which Harvey Gulf's employees are located in connection with or related to their employment with Harvey Gulf.

L. Legal Drugs means prescribed or over-the-counter drugs that have been legally obtained and are being used for the purpose for which they were prescribed or manufactured in accordance with the doctor's prescription at an authorized dosage.

M. Marine Employer means the owner, managing operator, charterer, agent, master, or person in charge of a vessel, other than a recreational vessel.

N. Medical Review Officer ("MRO") means a person who is a licensed physician and who is responsible for receiving and reviewing laboratory results generated in accordance with the testing program set forth in this Policy and for evaluating medical explanations for certain drug and alcohol test results.

O. Operation as it relates to Crewmembers means to navigate, steer, direct, manage, or sail a vessel, or to control, monitor, or maintain the vessel's main or auxiliary equipment or systems. Operation includes, but is not limited to: (1) determining the vessel's position; (2) piloting; (3) directing the vessel along a desired trackline; (4) keeping account of the vessel's progress through the water; (5) ordering or executing changes in course, rudder position, or speed; (6) maintaining a lookout; (7) controlling, operating, monitoring, maintaining, or testing any of the following: the vessel's propulsion and steering systems; electric power generators; pumps (bilge, ballast, fire, and cargo); deck machinery; lifesaving equipment and appliances; firefighting systems and equipment; and navigation and communication equipment; (8) mooring, anchoring, and line handling; (9) loading or discharging of cargo or fuel; (10) assembling or disassembling of tows; (11) standing watch/lookout; and (12) maintaining the vessel's stability and watertight integrity.

P. Overnight means an authorized temporary leave from a vessel, whereby a Crewmember is given permission by Harvey Gulf to leave the vessel during a hitch, but remains subject to call and/or is expected and required to return to the vessel at a given time and place.

Q. Passes a chemical test for dangerous drugs means the result of a chemical test conducted in accordance with 49 CFR part 40 is reported as "negative" by a Medical Review Officer in accordance with that Policy.

R. Positive rate for random drug testing means the number of verified positive results for random Drug Tests conducted under this Policy, plus the number of refusals of random Drug Tests required by this Policy, divided by the total number of random Drug Test results (*i.e.* positives, negatives, and refusals) under this Policy.

S. Possession means to have an item upon one's person; in one's personal effects or property; in one's cabin, clothes, tools, or motor vehicle; and/or within an area entrusted to or within one's control.

T. Prohibited Substance means Alcohol and any Drug other than a Legal Drug.

U. Prospective Employee means any person who has applied for employment with Harvey Gulf.

V. Reasonable Cause and/or Reasonable Suspicion means suspicion of an employee's use of prohibited substances based upon specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of an employee.

W. Refuse to submit means refusal to take a drug test as set out in 49 CFT 40.191.

X. Serious marine incident means an event defined in 46 CFR 4.03-2.

Y. Service Agent means any person or entity that provides services specified under this Policy or 49 CFR part 40 to employers and/or crewmembers in connection with DOT drug and alcohol testing requirements. This includes, but is not limited to, collectors, BATs and STTs, laboratories, MROs, substance abuse professionals, and C/TPAs. To act as service agents, persons and organizations must meet the qualifications set forth in applicable sections of 49 CFR part 40. Service agents are not employers for purposes of this part.

Z. Sponsoring Organization is any company, consortium, corporation, association, union, or other organization with which individuals serving in the marine industry, or their employers, are associated.

AA. Stand-down means the practice of temporarily removing a Crewmember from the performance of safety-sensitive functions based only on a report from a laboratory to the MRO of a confirmed positive test for a drug or drug metabolite, an adulterated test, or a substituted test, before the MRO has completed verification of the test result.

BB. Substance Abuse Professional ("SAP") means a person who, in Harvey Gulf's sole discretion, may be (but is not required to be) asked to evaluate employees who have violated the Harvey Gulf's Drug and Alcohol Policy and make recommendations concerning education, treatment, return to duty, follow-up testing, and aftercare.

CC. Under the Influence means having used and being affected by Drugs, Alcohol and/or Prohibited substances in any way and to any degree. The symptoms of influence are not confined to those consistent with misbehavior, or to obvious impairment of physical or mental ability, such as slurred speech or difficulty maintaining balance. A determination that an employee is under the influence can be established by a professional opinion, a scientifically valid test, by the admission of the employee in question, and/or by a layperson's observation.

DD. Use as it relates to Alcohol means the consumption of any beverage, mixture, or preparation, including any medication, containing Alcohol. Use as it relates to Drugs means the injection, ingestion, inhalation, or introduction into the body by any other means of any substance, mixture, or preparation, including any medication, containing any Drug.

III. PROHIBITIONS

A. Drugs, Alcohol, Prohibited Substances and/or Drug Paraphernalia

The possession, use, manufacture, transportation, distribution, delivery or sale of Drugs, Alcohol, Prohibited Substances and/or Drug Paraphernalia by any employee at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Harvey Gulf's Premises, is strictly prohibited. Additionally, employees are strictly prohibited from in any way and to any degree being under the influence of Drugs or Alcohol, or Prohibited Substances at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Harvey Gulf's Premises.

It is also Harvey Gulf's policy that no persons shall have in their possession empty or full Alcohol and/or Drug containers on any Harvey Gulf Premises.

B. Legal Drugs

Except as provided for in the following paragraph of this Section of this Policy, the possession, use, manufacture, transportation, distribution, delivery or sale of any Legal Drug by any Crewmember is strictly prohibited at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Harvey Gulf's Premises. Additionally, except as provided for in the following paragraph of this Section of this Policy, Crewmembers are strictly prohibited from using or being under the influence of any Legal Drug in any way and to any degree at any time while working, while on a hitch, while subject to call, while on an overnight, and/or while entering, present on, or leaving any Premises.

Crewmembers are required to report to their Captain and shore based supervisor the possession or use of any Legal Drug. Crewmembers must also complete a Medical Information Update Form listing any prescribed drugs the Crewmember is currently taking. A Crewmember can possess and continue to work while using Legal Drugs only within the restrictions and limitations established by the prescribing physician, and only to the extent that the use of the Legal Drugs will not affect the Crewmembers safe performance of his or her work. A Crewmember can only use Legal Drugs prescribed for that Crewmember and is prohibited from using Legal Drugs prescribed for someone else.

A Crewmember can possess and can continue to work while using over-the-counter medication only within the restrictions and limitations set forth by the manufacturer of the medication, and only to the extent that the use of the over-the-counter medication will not affect the Crewmembers safe performance of his or her work. However, in order to continue to work while using prescription drugs or over-the-counter medication, in addition to meeting the requirements of this paragraph, a Crewmember is still subject to and must also be able to pass a USCG/DOT chemical test for Drugs, Alcohol and/or Prohibited Substances.

Harvey Gulf reserves the right to request the Crewmembers prescribing physician address in writing whether it is advisable for the Crewmember to perform his or her job while taking Legal Drugs and restrict Crewmember based on the physician's response. Harvey Gulf also reserves the right to have a physician of its choice determine whether it's advisable for the Crewmember to perform his or her job while taking prescribed or over the counter medication.

C. <u>FIREARMS</u>

The possession, use, transportation, delivery or sale of any Firearm, round, casing, explosive, or weapon by any employee at any time while working, while on a hitch, and/or while entering, present on, or leaving any Premises, is strictly prohibited.

This policy excludes approved security personnel and security vessels both foreign and domestic.

IV. DISCIPLINARY ACTION

Any employee who violates any aspect of this Policy shall be removed from their duties and subject to any and all disciplinary action deemed appropriate by Harvey Gulf, up to and including termination of employment, even for a first offense.

Failure by any employee to cooperate with and/or refusal by any employee to submit to any Alcohol or Drug Test required by this Policy will be treated as if the employee had tested positive and will result in the same disciplinary action as would a positive test result.

V. SEARCHES

Harvey Gulf and its clients may, in their sole discretion, conduct unannounced searches of packages, boxes, clothing or personal belongings for possession of drugs, alcohol, firearms and/or prohibited substances on Harvey Gulf's Premises at any time. There is no requirement of Reasonable Suspicion as a prerequisite to conducting a search.

Employees are required to consent to and cooperate with the conduct of any such search. Refusal to consent to or cooperate with a search shall subject the employee to any and all disciplinary action deemed appropriate by Harvey Gulf, up to and including termination of employment, even for a first offense.

VI. DRUG AND ALCOHOL TESTING POLICY

A. GENERAL

This policy is provided to every crewmember who is subject to testing as mandated by the U.S. DOT and the USCG and is engaged or employed by Harvey Gulf.

B. PURPOSE OF POLICY

Every covered employee of Harvey Gulf is required to refrain from the use of Drugs on and off duty and the misuse of Alcohol. Any covered employee/applicant of Harvey Gulf, who is subject to testing under DOT/USCG regulations, whose Drug Test is positive, has an Alcohol level of 0.04 BAC or greater or refused to test, shall be immediately removed from duty. Every applicant whom Harvey Gulf intends to hire or use shall be required to pass a drug test as a pre-qualification condition of employment.

This Policy sets forth the minimum requirements that must be included in Harvey Gulf's Alcohol and Drug Testing plan under Federal regulations. Harvey Gulf reserves the right to implement more stringent requirements to the extent permitted by law.

C. SUBSTANCES FOR WHICH EMPLOYEES WILL BE TESTED

Harvey Gulf will test for the following Drugs: marijuana, cocaine, amphetamines, opiates, and phencyclidine (PCP) using the Federal Custody and Control Form (CCF). A listing of the screen and confirmation levels for each drug is listed in Appendix E of this Policy. Harvey Gulf will also test for Alcohol for serious marine incidents and reasonable suspicion using either DOT or NonDOT Alcohol Testing Forms (ATF). The Company will promptly comply with DOT/USCG mandatory Drug and Alcohol testing regulations and implement all aspects of the regulations. (Note: The DOT alcohol regulations outlined in the 49 CFR Part 40 do not apply to the USCG or marine employers.) Harvey Gulf has contracted with DISA, Inc., a bona fide drug testing program administrator, as authorized under Federal regulations. Harvey Gulf's program will adhere meticulously to the scientific and technical procedures developed by DOT/USCG to ensure the accuracy of test results.

D. TEST PURPOSES TO BE CONDUCTED

The tests purposes that will be conducted are pre-employment, random, serious marine incidents and reasonable suspicion and on some occasions periodic.

Pre-employment

Harvey Gulf will require a negative result for dangerous drugs before engagement or employment of any individual who is to serve as a crewmember. Harvey Gulf may waive a pre-employment test if there is proof that the individual has passed a chemical test for dangerous drugs within the previous six months with no positive drug tests during those six months. Harvey Gulf may also exercise the right to not pre-employment test if the individual has been in a continuous random testing program for at least 60 days and did not fail or refuse to participate in a chemical test for dangerous drugs. A form for the purpose of showing evidence of adhering to these rules is on Appendix F of this policy.

Harvey Gulf is required to request the drug and alcohol history of a person's previous employer. To facilitate this request, the applicant will be asked to sign a consent form allowing their previous employer to release the history to Harvey Gulf. The form for conducting this is provided in the back of this policy. If the applicant refuses to sign the consent form, the application process will be terminated.

If violations are reported by the previous employer that the applicant did not disclose on the application for employment, employment will be terminated.

Random

The selection of vessels for random Drug Testing shall be facilitated by DISA, Inc. who uses a computer-based random number generator that is matched with Crewmembers' social security numbers. Each crewmember in Harvey Gulf's random testing pool has an equal chance of being tested each time selections are made and the Crewmembers will have the chance to be selected continuously throughout their employment with Harvey Gulf. The selections will be made on a quarterly basis. The annual testing percentage of Harvey Gulf's crewember pool is at a minimum of 50%.

Harvey Gulf has the option to require a random sampling of each vessel in service. All vessels will have the equal chance to be selected each testing period. All Crewmembers aboard the vessel that was chosen during that selection period shall be tested.

The selection of shore-based employees for random Drug Testing shall be facilitated by the Chief Security Officer of Harvey Gulf, who uses a computer-based random number generator that is matched with the employee's social security number or their employee number. Each shore-based employee in Harvey Gulf's random testing pool has an equal chance of being tested each time selections are made and the employee will have the chance to be selected continuously throughout their employment with Harvey Gulf. The selections will be made on an annual basis. The percentage of the employee pool that will be tested will be determined by a reasonable standard by the Chief Security Officer.

Serious Marine Incidents (SMI)

Any person that was directly involved in a serious marine incident that was determined by Harvey Gulf, law enforcement officer or the USCG will be chemically tested for evidence of Drugs and Alcohol.

A serious marine incident is described as any time an occurrence of a marine casualty, a discharge of oil into the navigable waters of the United States, a discharge of a hazardous substance into the navigable waters of the United States, or a release of a hazardous substance into the environment of the United States.

It is Harvey Gulf's responsibility to make a timely, good faith determination as to whether the occurrence currently is, or is likely to become, a serious marine incident.

Harvey Gulf may have the Crewmember perform their job duties following the SMI as deemed necessary to respond to safety concerns directly related to the incident.

Alcohol testing for SMI:

The Alcohol testing of each crewmember that has been identified as being directly involved in the SMI will be conducted within 2 hours of when the SMI occurred unless safety concerns related to the incident are to be met. If 8 hours have elapsed from the time of the SMI occurrence, the alcohol test is not to be performed. If Alcohol testing

cannot be conducted within the 2 to 8 hour requirements, Harvey Gulf is to prepare documentation using the form CG-2692B explaining the reason why the testing was not conducted. The Crewmember subject to Alcohol testing following the SMI is prohibited from consuming alcohol beverages for 8 hours following the occurrence of the SMI or until the test has occurred before 8 hours.

The alcohol devices utilized must be ones on the Conforming Products List (CPL) titled "Modal Specifications for Devices To Measure Breath Alcohol" or "Conforming Products List of Screening Devices To Measure Alcohol in Bodily Fluids," which are published periodically in the Federal Register by National Highway Traffic Safety Administration (NHTSA). Alcohol testing devices utilized for testing are to be used according to the manufacturers procedures. The Alcohol testing devices should be carried on board each vessel if obtaining the devices and conducting the required alcohol tests cannot be accomplished within 2 hours from the time of occurrence of the SMI.

Drug testing for SMI:

The Drug Testing of each Crewmember that has been identified as being directly involved in the SMI will be conducted within 32 hours of the incident unless safety concerns related to the incident are to be met. If the Drug Test is not collected within 32 hours, Harvey Gulf must prepare documentation using the form CG-2692B explaining the reason why the test was not conducted.

Harvey Gulf will have a sufficient number of Federal drug testing forms, specimen collection kits to include shipping materials, on hand for use following the SMI. The specimen collection and shipping kits need not be carried on board each vessel if obtaining the kits and collecting the specimen can be completed within 32 hours from the time of the occurrence of the SMI.

Any individual engaged or employed on board a vessel who is determined to be directly involved in an SMI must provide a blood, breath, saliva, or urine specimens for chemical testing when directed to do so by the marine employer or a law enforcement officer. Urine testing is used for Drug specimens only. Alcohol testing can be performed by blood, breath or saliva.

Any individual who refuses a blood, breath, saliva or urine specimen will be removed as soon as possible from performing duties that affect the safe operation of the vessel. A refusal will be noted on the CG-2692B form and in the vessel's official log book.

Harvey Gulf will submit a refusal to test form that is Appendix G of this policy and submit to the MRO department so the refusal will be reflected on the MIS report.

For all serious marine incidents needing after hour collection services, you may call DISA's after-hour number 800-752-6432 for assistance.

Specimen collection in incidents involving fatalities.

When a Crewmember engaged or employed on board a vessel dies as a result of a serious marine incident, blood and urine specimens must be obtained from the remains

of the individual for chemical testing, if practicable to do so. Harvey Gulf shall notify the appropriate local authority, such as the coroner or medical examiner, as soon as possible, of the fatality explaining the requirements of the USCG Federal testing regulations. Harvey Gulf will provide the specimen collection and shipping kit and request that the local authority assist in obtaining the necessary specimens. When the custodian of the remains is a person other than the local authority, Harvey Gulf shall request the custodian to cooperate in obtaining the specimens required under this part.

If the local authority or custodian of the remains declines to cooperate in obtaining the necessary specimens, Harvey Gulf shall provide an explanation of the circumstances on Form CG-2692B (Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident).

Harvey Gulf is responsible for shipping and/or having shipped the blood specimens collected of the deceased Crewmember. Harvey Gulf will utilize medical personnel qualified for the collection of the blood specimens. The medical personnel will promptly ship the specimen to the testing laboratory outlined in Appendix C. Proper chain of custody will be maintained for each specimen from the time of collection through the authorized disposition of the specimen. Blood specimens must be shipped to the laboratory in a cooled condition by any means adequate to ensure delivery within twenty-four (24) hours of receipt by the carrier.

Reasonable cause testing requirements

Harvey Gulf shall require any Crewmember suspected of using a Drug to undergo a Drug Test. The determination will be made by two persons in supervisory positions if practical. If not practical one supervisor can make the determination to have the Crewmember tested. The Supervisors are to have received specific reasonable suspicion determination training and will make their decision to test on the reasonable belief that the Crewmember has used a Drug. They will make their determination on specific, contemporaneous, physical, behavioral indicators or on performance indicators. The supervisor of Harvey Gulf will inform the crewmember of the facts and direct the employee to provide a urine specimen as soon as possible. The supervisor will escort the employee to the collection facility. The facts of the reasonable belief are to be entered into the vessel's official log book if a book is required. If the crewmember refuses to provide the urine specimen when directed, this will also be entered in the vessel's official log book. The reasonable suspicion check form in Appendix H can be utilized to help documenting this determination.

Periodic

An applicant for an original issuance or a renewal of a license or a certificate of registry (COR), a raise in grade of a license, a higher grade of COR, an original issuance of a merchant mariner's document (MMD), the first endorsement as an able seaman, lifeboatman, qualified member of the engine department, or tankerman, or a reissuance of an MMD with a new expiration date shall be required to pass a Drug Test. Periodic tests are the responsibility of the individual mariner, not the marine employer, for transactions involving licenses, CORs, or MMDs. The tests can be conducted using Harvey Gulf's custody and control forms. Harvey Gulf may require for reimbursement

for the cost of the periodic test.

The applicant shall provide the results of the test to the USCG Regional Examination Center (REC) at the time of submitting an application. The test results must be completed and dated not more than 185 days prior to submission of the application.

Any pilot required by the USCG regulations to receive an annual physical examination must pass a chemical test for Drugs as a part of that examination. The individual shall provide the results of each test required by this section to the REC when the pilot applies for a license renewal or when requested by the USCG.

If the applicant or pilot is not required to submit for a Drug Test if they have passed a test within the previous six months and has no positive tests during that six month period. If the employee has been in a continuous random testing program with in the last 6 months and in the last 60 days of that program did not fail or refuse to test, the applicant or pilot is not required to provide a periodic test.

E. EMPLOYEE ASSISTANCE PROGRAMS

Harvey Gulf shall provide an Employee Assistance Program (EAP) for all Crewmembers. Each Crewmember will be given a copy of this company policy and the Employee Handbook at the initial pre-employment process. This handbook and policy will be available in a common area such as a break room for all Crewmembers to review when needed. Harvey Gulf will post employee assistance phone numbers in the break room as well. Our EAP is Addiction Recovery Resources, 4933 Wabash St., Metairie, LA 70001, (504)-780-2766.

F. MEDICAL REVIEW OFFICER (MRO)

Harvey Gulf's Medical Review Officer is a qualified MRO as defined by the Department of Transportation. The MRO's responsibility includes knowledge of the collection procedure for urine specimens, chain of custody, reporting and recordkeeping, interpretation of drug and validity test results. Upon a positive, adulterated or substituted result reported by the laboratory, The MRO will provide a confidential interview of the employee / applicant for possible prescriptions that could cause the specimen to be positive before reporting to the Designated Employer Representative (DER). Once the interview has been conducted and the findings are confirmed positive, The MRO will report immediately to the employer the result. The employee will be removed from performing safety-sensitive functions immediately.

If the MRO is unable to contact the employee/applicant in 24 hours, the MRO will ask the DER to contact the employee/applicant. If, as the DER, you have made all reasonable efforts to contact the employee but failed to do so, you may place the employee on temporary medically unqualified status or medical leave. Reasonable efforts include, as a minimum, three attempts, spaced reasonably over a 24-hour period, to reach the employee at the day and evening telephone numbers listed on the CCF. If Harvey Gulf is unable to contact the employee/applicant within 24 hours, Harvey Gulf is allowed to leave a message on the employee/applicant's answering machine asking them to contact the MRO. These attempts are to be documented and reported to the MRO.

The MRO will inform you of your right to request a test of your "split specimen" at a different laboratory. Harvey Gulf may charge the cost of testing your split specimen back to you if your split specimen test result is positive; and you only have 72 hours to make this request.

If the laboratory reports the test result as negative-dilute, the MRO shall report the result as negative-dilute.

If the MRO reports a negative dilute test that is has a creatinine concentration greater than 5 mg/dL per 49 CFR Part 40.197 (b)(2), Harvey Gulf has the opportunity to have an immediate recollection of the employee. This test will **not** be conducted under direct observation per the regulations unless the MRO directs you to do so. All employees with a negative dilute test reported will be asked to proceed to the collection facility for the recollection under the original reason for test. The regulation states if Harvey Gulf conducts negative dilute tests they must be performed for every employee or perspective employee for all reasons for test Harvey Gulf dictates in this Policy. The employee must be treated the same. Harvey Gulf requires a recollection for negative dilutes on every **pre-employment test.**

If the second test result is also negative dilute, the second test result is the result of record. If the employee declines to take the test as directed, the employee will be considered to have refused to test, which will result in discipline, as per this Policy.

G. ADDITIONAL EMPLOYEE REQUIREMENTS

Prescription Medications

An employee who is taking a prescription drug is required to present to the company a statement from the prescribing physician that the prescription drug will not impair the employee's work performance.

You must use the medication at the doctor's prescribed or authorized dosage. **Use Only Prescriptions in Your Name.** You may only legally use medications prescribed for you. You are not authorized to use medication prescribed for someone else, such as medications prescribed for your spouse, parents, or children. Using someone else's prescription drugs can result in a positive Federal test result.

H. MEDICAL COLLECTION FACILITY AND PROCEDURES

Harvey Gulf through the DISA system, has a listing of collection facilities that are trained in accordance with DOT procedures for the collection

Collection Procedures

The employee will be asked to provide appropriate identification to the collector upon arrival at the collection site. Acceptable forms of identification include a photo identification (e.g., drivers license, employee badge issued by the employer, or any other picture identification issued by a Federal, state, or local government agency), or

identification by an employer or employer representative.

If the employee cannot produce positive identification, the collector will contact the DER to verify the identity of the employee.

The collector will explain the basic collection procedures to the employee and reviews the instructions on the back of the CCF with the employee.

The collector will ask the employee to remove any unnecessary outer clothing (e.g., coat, jacket, hat, etc.) and to leave any briefcase, purse, or other personal belongings he or she is carrying with the outer clothing. The employee can retain his or her wallet. In most cases, lockers are provided for the employee and the employee is provided the key. If the employee asks for a receipt for any belongings left with the collector, the collector must provide one.

The collector will direct the employee to empty his or her pockets and display the items to ensure that no items are present that could be used to adulterate the specimen. If nothing is there, the employee places the items back into the pockets and the collection procedure continues. If the employee refuses to empty his or her pockets, this is considered a refusal to cooperate in the testing process. The DER will be called and the DER will submit a Refusal to Submit form to DISA for entry into the data management system. Refusals are considered a positive result that has the same requirements as if the employee tested positive for a drug substance.

The collector will instruct the employee to wash and dry his or her hands while the collector observes and the collector will direct the employee that they cannot wash their hands until directed to do so.

The collector will either give the employee or allow the employee to select the collection kit or collection container (if it is separate from the kit) from the available supply. Either the collector or the employee, with both present, then unwraps or breaks the seal of the kit or collection container.

The collector will direct the employee to go into the room used for urination and provide a specimen of at least 45 mL. The employee will be directed to not flush the toilet, and return with the specimen as soon as possible after completing the void. The collector may set a reasonable time limit for the employee to be inside the bathroom and this time frame should be explained to the employee. This is to the employees benefit as once the urine is voided in the specimen container, it begins to cool down. The specimen must be in the 90 to 100 range to be an acceptable specimen.

The collector will check the temperature of the specimen as soon as the employee hands over the specimen, but no later than four minutes after the employee comes out of the restroom.

After the employee hands the collection container to the collector, the collector unwraps or opens the specimen bottles.

The collector then pours at least 30 mL of urine from the collection container into a

specimen bottle and places the lid/cap on the bottle. This will be the primary specimen or "A" bottle. The collector, then pours at least 15 mL into a second bottle and places the lid/cap on the bottle. This will be the "B" bottle used for the split specimen.

The collector will remove the tamper-evident seals from the CCF and place them on each bottle. The collector writes the date on the seals and the employee will be asked to initial the seals. If the employee fails or refuses to initial the seals, the collector will note this in the “Remarks” line of the CCF and complete the collection process. This is <u>not</u> considered a refusal to test.

The collector will now direct the employee to read, sign, and date the certification statement, and provide date of birth, printed name, and day and <u>evening</u> contact telephone numbers in Step 5 of Copy 2 of the CCF.

The collector completes the collector’s portion of the chain of custody on the CCF.

The collector will ensure that all copies of the CCF are legible and complete and will remove Copy 5 from the CCF and give it to the employee. The collector may suggest the employee is to list any prescription or over-the-counter drugs on the employees copy of the CCF. This information may help the employee remember what medications he or she may have taken if a positive result is reported by the laboratory to the MRO.

The collector will place the specimen bottles and Copy 1 of the CCF inside the appropriate pouches of the leak-resistant plastic bag, and seals both pouches. The collector will allow the employee to wash his or her hand at this time and can now leave the collection site.

Direct Observation Urine Collection

Federal regulations require a collector or observer to directly observe the employee while that employee provides their urine specimen if:

- the employee’s previous urine specimen was out of normal temperature range
- the collector previously observed the employee attempting to tamper or substitute a specimen

- the employee's previous test result was invalid due to an interfering substance and the employee did not have a legitimate medical explanation
- the employee's split specimen could not be tested following a non-negative test result
- the test is for a return-to-duty and follow-up test.

The collector (or the observer) must be of the same gender as the employee for direct observation collections.

The collector will ask the employee to raise their shirt and lower their pants and underwear above the knee and then the employee must turn around. The collector is checking for devices that may have been brought into the collection facility to substitute the specimen. If no device is discovered, the employee will put their clothing back in place and the direct observation test will continue. If a device is found, the collection

will be discontinued and this is a refusal to test.

Shy Bladder (If you have difficulty providing a urine specimen)

After the employees first unsuccessful attempt to provide an acceptable specimen, you have up to 3 hours to produce a single specimen of sufficient volume (you can't combine specimens). The employee is allowed to consume up to 40 ounces of fluid. If the employee does not provide a specimen within those 3 hours, the employee must undergo a medical evaluation to determine if there was a medical reason for your inability to do so. If a physician determines that there was no medical reason for not providing the sample, this will be considered a refusal to test and the employee will be immediately removed from performing safety-sensitive functions and could result in termination of employment.

I. RECORDS

Harvey Gulf will make available for the USCG statistical reports provided by DISA, Inc. that specifies the number of people in the random testing pool and all testing of the Crewmembers associated with Harvey Gulf's program. The MIS report is generated from the DISA system during the first week of February.

Additionally, Harvey Gulf will provide the MIS report yearly to the USCG with the compiled report provided by DISA, Inc. Harvey Gulf is responsible for completing its information on the MIS report and reporting directly to the Coast Guard by March 15. The address for submission of the MIS report is:

Commandant (G-MOA),
2100 Second Street, SW,
Washington, DC, 20593-0001

or by Internet at http://www.uscg.mil/hq/g-m/moa/dapip.htm.

VII. EMPLOYEE REPORTING REQUIREMENT

Employees must notify the CEO, General Counsel or VP. Personnel of any DWI, DUI, or other criminal alcohol or drug related arrest and/or conviction no later than five days after any such arrest and/or conviction. At the sole discretion of Harvey Gulf, any employee convicted of an alcohol or drug offense may be disciplined or terminated, or may be required to complete an alcohol or drug rehabilitation program as a condition of continued employment.

An employee who is under the influence of drugs, alcohol or prohibited substances, or is otherwise violating any aspect of this Policy, must immediately notify his or her supervisor of that fact.

An employee must also immediately notify his or her supervisor if the employee reasonably believes that another employee is under the influence of Drugs, Alcohol or Prohibited Substances or is otherwise violating any aspect of this Policy. Alternatively, an employee who reasonably suspects that another employee is under the influence of Drugs, Alcohol or Prohibited Substances or is otherwise violating any aspect of this Policy may report that belief to Harvey Gulf by calling the hot-line telephone number that has been established for that purpose. Harvey Gulf will

investigate all such reports to determine if further action and/or reasonable suspicion testing is warranted.

Failure to report violations of this Policy shall be treated as violations of the Policy and will result in disciplinary action, up to and including termination, even for a first offense.

VIII. DRUG AND ALCOHOL USE POLICY: RELATIONSHIP TO EMPLOYEE ASSISTANCE PROGRAM

Harvey Gulf maintains an Employee Assistance Program ("EAP") for its employees. Educational information and materials are displayed, distributed, and/or presented at Harvey Gulf's Operations office. These materials cover: Harvey Gulf's Drug, Alcohol, Firearms and Controlled Substances Policy, information on Drugs, Alcohol and Prohibited Substances and their effects, and a hot-line number for employee assistance. Harvey Gulf also provides training to supervisors and Crewmembers as required by USCG regulations.

An employee's decision to seek assistance from the Employee Assistance Program before a violation of this Drug and Alcohol Policy will not be used as a basis for disciplinary action and will not be used against the employee in any disciplinary proceeding. On the other hand, it is the responsibility of each employee to seek assistance from the Employee Assistance Program <u>before</u> Alcohol and Drug problems lead to disciplinary action, which can include discharge for a first offense. Once a violation of this Policy occurs, subsequently using the EAP on a voluntary basis will not necessarily lessen disciplinary action and may, in fact, have no bearing on the determination of appropriate disciplinary action.

Accordingly, the purposes and practices of this Policy and the EAP are not in conflict and are distinctly separate in their application.

IX. CONSEQUENCES FOR CREWMEMBER OF POSITIVE TEST RESULT AS RESPECTS THE UNITED STATES COAST GUARD

Consequences of a Positive or a Refusal Test (For unlicensed/undocumented mariners)

Any Crewmember that fails or refuses a required chemical test for Drugs must be removed from duties which directly affect the safe operation of the vessel as soon as practicable (or denied employment in the case of a pre-employment test). Any Crewmember that fails or refuses to take a chemical test for Alcohol must be removed from duties which directly affect the safe operation of a vessel as soon as practicable.

Consequences of a Positive or Refusal to Test (For mariners who hold a license, COR, or MMD)

Any mariner who holds a Coast Guard issued license, Certificate of Registry (COR), or Merchant Mariner's Document (MMD) who fails or refuses to take a chemical test for Drugs must be removed from duties which directly affect the safe operation of a vessel as soon as practicable (or denied employment in the case of a pre-employment test).

Any mariner who fails or refuses to take a chemical test for alcohol must be removed from duties which directly affect the safe operation of a vessel as soon as practicable. If an individual refuses to submit to or cooperate in the administration of a timely chemical test when directed by a law

enforcement officer, evidence of the refusal is admissible in evidence in any administrative proceeding and the individual will be presumed intoxicated.

Marine employers, or prospective employers must report positive or refused tests to the USCG for persons holding licenses, CORs, or MMDs. Those personnel should expect revocation of their Coast Guard issue credentials for drug use, and revocation or suspension of their Coast Guard issued credentials for alcohol intoxication.

Marine Employers

Marine employers or prospective marine employers must make a written report to the Coast Guard of all positive drug tests resulting from any required testing of any individual who has a license, COR, or MMD issued by the Coast Guard. The marine employer must make this report whether or not the individual was hired or not hired, and regardless if the position was one where a license, COR, or MMD is required. As long as the person has credentials issued by the Coast Guard, and if they test positive, a report must be made to the Coast Guard.

If an individual who holds a license, certificate of registry, or merchant mariner’s document refuses to take or fails to pass a required drug or alcohol test, Harvey Gulf will report such refusal or failure in writing to the nearest Coast Guard officer in Charge, Marine Inspection (OCMI). The individual shall also be denied employment as a crewmember or removed from duties that directly affect the safe operation of the vessel as soon as practicable. The individual may then be subject to USCG suspension and revocation proceedings against his or her license, certificate of registry, or merchant mariner’s document.

If an individual who does not hold a license, certificate of registry, or merchant mariner’s document refuses to take or fails to pass a required Drug or Alcohol test, the individual shall be denied employment as a Crewmember or removed from duties that directly affect the safe operation of the vessel as soon as possible.

An individual who has failed, refused to take or failed to pass a required Drug or Alcohol test may not be considered for reemployment aboard a vessel until the requirements of 46 C.F.R. § 16.370(d) and 46 C.F.R. part 5 (if applicable) have been satisfied.

X. CONFIDENTIALITY

Due to the extremely sensitive nature of Drug and Alcohol testing, test results will be held in strict confidence. Disclosure will be made only on a business, need-to-know basis, and for the purpose of properly administering this Drug and Alcohol Policy, or as required or allowed by federal or state law.

XI. MAINTENANCE AND CURE, WORKER'S COMPENSATION AND UNEMPLOYMENT COMPENSATION

Under maritime law, injuries caused by use of drugs, alcohol and/or prohibited substances may not be compensable under the doctrine of maintenance and cure. Under Louisiana law, any injuries caused by use of drugs, alcohol and/or prohibited substances may not be compensable under worker's compensation. In addition, unemployment compensation benefits may be denied to an employee who tests positive for Drugs, Alcohol and/or Prohibited Substances.

XII. EMPLOYMENT-AT-WILL

This is not intended to create an express or implied contract or covenant of any type between Harvey Gulf and its employees. Unless otherwise provided in a written agreement and signed by an officer of Harvey Gulf, all employees are hired for an indefinite period of time and are "at will" employees; either the employee or Harvey Gulf is free to terminate the employment relationship at any time with or without cause or notice.

XIII. ACKNOWLEDGEMENT OF THIS POLICY

Every employee is required to sign a written acknowledgement that the employee has received a copy of this Policy, and understands that as a condition of employment, he or she is expected and required to read the Policy (or have it read to him or her) and to comply with all aspects of the Policy. An employee's failure or refusal to sign the acknowledgement shall be considered a violation of this Policy and may result in disciplinary action, up to and including termination.

APPENDIX A

DESIGNATED EMPLOYER REPRESENTATIVE (DER)

NAME: Corby Autin

TITLE: Corporate QHSSE Director

COMPANY: Harvey Gulf International Marine

ADDRESS: 701 Poydras St. Suite 3700 New Orleans, La. 70139

ADDRESS: 18399 East Main St. Galliano, La. 70354

PHONE: (504) 348-2466 (985) 677-0360

HOURS WHEN AVAILABLE: 24/7

APPENDIX B

MEDICAL REVIEW OFFICER

NAME: Dr. Barry Sachs, Lennox Healthcare Services

ADDRESS: 12600 Northborough St., Houston, TX 77067

PHONE: 281-673-2573

APPENDIX C

DEPARTMENT OF HEALTH & HUMAN SERVICES (DHHS) LABORATORIES

Quest Diagnostics Incorporated, 3175 Presidential Dr., Atlanta, GA 30340, 770-452-1590/800-729-6432.

Quest Diagnostics Incorporated, 400 Egypt Road, Norristown, PA 19403, 610-631-4600/877-642-2216.

Quest Diagnostics Incorporated, 7600 Tyrone Ave., Van Nuys, CA 91405, 866-370-6699/818-989-2521.

LabOne, Inc. d/b/a Quest Diagnostics, 10101 Renner Blvd., Lenexa, KS 66219, 913-888-3927/800-873-8845 (Formerly: Quest Diagnostics Incorporated; LabOne, Inc.; Center for Laboratory Services, a Division of LabOne, Inc.)

OR

Kroll Laboratory Specialists, Inc., 1111 Newton St., Gretna, LA 70053, 504-361-8989/800-433-3823, (Formerly: Laboratory Specialists, Inc.).

APPENDIX D

MEDICAL COLLECTION FACILITY

(ATTACH LIST IF NECESSARY)

NAME: Complete Occupational Health Services, LLC

ADDRESS: 18838 HWY 3235 Galliano, La. 70354

PHONE: (985) 475-8277

Drug and Alcohol Testing Program
Emergency Contact Information

AFTER-HOURS TESTING
DISA 24 Hour Hotline - 1-800-752-6432

DISA, Inc, provides a 24/7 drug and alcohol testing services hotline. The hotline will assist you in after-hours post accident drug and alcohol testing collections. In these circumstances, it may be a mobile service. To use the service, please note the following procedures and guidelines:

- Contact DISA, Inc immediately once the decision to test has been made.
- Provide the answering service with your Name and Phone Number along with the Employee Name (Donor) and Social Security Number (SSN), or Employee ID#.
- When a DISA Rep contacts you, within 30 minutes, please have the following information ready:
  - Donor(s) Name and Social Security Number
  - Time of Accident
  - Tests Required: DOT or Non-DOT drug and breath alcohol tests
  - Inform them if the donor will or will not have chain of custody forms available
  - Full address of where the donor will be, (if available the donor's cell phone number). The collection point must have a restroom with running water and electricity.
    - Collector **will not** be dispatched to the scene of the accident.
    - Collector **will not** transport employee to nor from any collection point.
    - Collector **will not** enter into a private residence.
    - Collector **will not** perform collections in situations perceived to be dangerous (such as remote rest stop areas).
- DISA, INC WILL MAKE ARRANGEMENTS WITH THE NEAREST MOBILE COLLECTOR IN THE AREA TO MEET YOUR EMPLOYEE AT THE PRE-DESIGNATED LOCATION. DISA, INC WILL CALL YOU BACK WITH AN ESTIMATED TIME OF ARRIVAL

(ETA)**. ETA WILL DEPEND ON THE DISTANCE THE COLLECTOR MUST TRAVEL. PLEASE MAKE SURE THE CONTACT OR DONOR REMAINS AVAILABLE.**

APPENDIX E

DRUG PANEL

The following is a list of the 5 drugs (called a NIDA 5 PANEL on the Custody and Control form), screen (or initial) levels and confirmatory levels:

The following table list the drugs tested for. Initial and confirmation cutoff concentrations are expressed in nanograms per milliliter (ng/mL).

Initial Test Analyte	Initial Test Cutoff Concentration	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Marijuana metabolites	50 ng/mL	THCA[1]	15 ng/mL
Cocaine metabolites	150 ng/mL	Benzoylecgonine	100 ng/mL
Opiate metabolites			
Codeine/Morphine[2]	2000 ng/mL	Codeine	2000 ng/mL
		Morphine	2000 ng/mL
6-Acetylmorphine	10 ng/mL	6-Acetylmorphine	10 ng/mL
Phencyclidine	25 ng/mL	Phencyclidine	25 ng/mL
Amphetamines[3]			
AMP/MAMP[4]	500 ng/mL	Amphetamine	250 ng/mL
		Methamphetamine[5]	250 ng/mL
MDMA[6]	500 ng/mL	MDMA	250 ng/mL
		MDA[7]	250 ng/mL
		MDEA[8]	250 ng/mL
[1]Delta-9-tetrahydrocannabinol-9-carboxylic acid (THCA)			
[2]Morphine is the target analyte for codeine/morphine testing			
[3]Either a single initial test kit or multiple initial test kits may be used provided the single test kit detects each target analyte independently at the specific cutoff			
[4]Methamphetamine is the target analyte for amphetamine/methamphetamine testing			
[5]To be reported positive for methamphetamine, a specimen must also contain amphetamine at a concentration equal to or greater than 100 ng/mL			
[6]Methylenedioxymethamphetamine (MDMA)			
[7]Methylenedioxyamphetamine (MDA)			
[8]Methylenedioxyethylamphetamine (MDEA)			

On an initial drug test, a result below the cutoff concentration is a negative. If the result is at or above the cutoff concentration the lab must conduct a confirmation test.

On a confirmation drug test, a result below the cutoff concentration is a negative. If the result is at or above the cutoff concentration it is a "lab report" confirmed positive requiring an MRO review.

All specimens will undergo a validity test to determine if the specimen is consistent with normal human urine. The purpose of validity testing is to determine whether adulterants or foreign substances were added to the urine, if the urine was diluted, or if the specimen was substituted.

APPENDIX F

EMPLOYEE ACKNOWLEDGEMENT OF RECEIVING SAP INFORMATION

U.S. Department of Transportation (DOT) 49 CFR Part §40.287 requires an employer provide to each employee (including an applicant or new employee) who violates a DOT drug and alcohol regulation a listing of Substance Abuse Professional's (SAPs) readily available to the employee and acceptable to the employer, with names, addresses, and telephone numbers. Attached is a list of resources available to you.

The requirements in order to return to a safety sensitive job are:

1. Be evaluated by a SAP
2. Be in Compliance with prescribed education and /or treatment plan
3. Have a negative return to duty test result and/ or an alcohol concentration of less than 0.020
4. Be subject to at least 6 follow up test during the next 12 months
5. Follow up testing may occur up to 60 months
6. All return to duty and follow up tests must be conducted using direct observation collection procedures.

By virtue of signing this form, I acknowledge that I have received a list of Substance Abuse Professionals available to me for achieving an assessment as required by the regulation.

______________________________	________________________
NAME OF EMPLOYEE (PRINT)	SOCIAL SECURITY NUMBER
______________________________	________________________
SIGNATURE OF EMPLOYEE	DATE
______________________________	________________________
SIGNATURE OF SUPERVISOR	DATE

If the employee should refuse to sign this form, two supervisors should sign and note that an attempt was made to give the employee the information but that the employee refused to sign.

SUBSTANCE ABUSE PROFESSIONAL (SAP)

NAME: Tina Taylor

ADDRESS: 2238 1st Street Slidell, La. 70458

PHONE: (800) 749-3277

APPENDIX G

DOT "REFUSAL TO SUBMIT A SPECIMEN" FORM

I. **POLICY VIOLATION**

(a) As an employee, you have refused to take a drug and/or alcohol test if you:

(1) Fail to appear for any test (except a pre-employment test) within a reasonable time, as determined by the employer, consistent with applicable DOT agency regulations, after being directed to do so by the employer. This includes the failure of an employee (including an owner-operator) to appear for a test when called by a C/TPA;

(2) Fail to remain at the testing site until the testing process is complete; Provided, that an employee who leaves the testing site **before** the testing process commences for a pre-employment test is not deemed to have refused to test;

(3) Fail to provide a urine specimen for any drug test required by part 40 or DOT agency regulations; Provided, that an employee who does not provide a urine specimen because he or she has left the testing site before the testing process commences for a pre-employment test is not deemed to have refused to test;

(4) In the case of a directly observed or monitored collection in a drug test, fail to permit the observation or monitoring of your provision of a specimen;

(5) Fail to provide a sufficient amount of urine when directed, and it has been determined, through a required medical evaluation, that there was no adequate medical explanation for the failure;

(6) Fail or decline to take an additional drug test the employer or collector has directed you to take;

(7) Fail to undergo a medical examination or evaluation, as directed by the MRO as part of the verification process, or as directed by the DER under part §40.193(d). In the case of a pre-employment drug test, the employee is deemed to have refused to test on this basis only if the pre-employment test is conducted following a contingent offer of employment. If there was no contingent offer of employment, the MRO will cancel the test; or

(8) Fail to cooperate with any part of the testing process (e.g., refuse to empty pockets when so directed by the collector, behave in a confrontational way that disrupts the collection process, refuses to remove hat, coat, gloves, coveralls when directed or failure to wash hands as directed).

(9) For an observed collection, fail to follow the observer's instructions to raise your clothing above the waist, lower clothing and underpants, and to turn around to permit the observer to determine if you have any type of prosthetic or other device that could be used to interfere with the collection process;

(10) Possess or wear a prosthetic or other device that could be used to interfere with the collection process;

(11) Admit to the collector that you adulterated or substituted the specimen.

(12) The confirmed specimen reported to the MRO by the laboratory was adulterated or substituted.

(13) Fail to sign the certification statement at Step 2 of the Alcohol Testing Form (ATF).

(14) Fail to cooperate with any part of the alcohol testing process.

Note to employee:
If you refuse to take a drug test, you incur the consequences specified under DOT agency regulations for a violation of those DOT agency regulations.

II. RESPONSIBILITIES

It is the employer's responsibility to circle the appropriate policy violation that caused the refusal to test policy violation and to witness the employees' signature. Please have the employee read the above policy violation that caused the refusal. If the employee refuses to sign the form, please make check the appropriate box below. **Fax this form immediately along with the CCF that has comments to the MRO Department at 281-673-1008.**

Any comments as to what occurred:

____

____

III. SIGNATURE AND WITNESS

____ ____________________

Company Name Client I.D. Number

____

Reason for Test (i.e., Pre-employment, Random, Reasonable Suspicion, Post-Accident/SMI, Return-to-Duty, Follow-up)

____

Employee Name (Please Print) Social Security Number

____

Employee Signature Date

PLEASE CHECK HERE IF DONOR REFUSED TO SIGN FORM

____

Witness Signature and print name Date

REQUEST FOR DOT DRUG AND ALCOHOL TESTING INFORMATION FROM PREVIOUS EMPLOYER

EFFECTIVE AUGUST 1, 2001, 49 CFR part 40, U.S. Department of Transportation, Procedures for Transportation Workplace Drug and Alcohol Testing Programs requires employers to do a background check of all new employees hired (or current employees transferred) to perform safety sensitive covered functions. Enclosed with this document is a suggested form for requesting that information. The following is the regulation.

§49 CFR part 40.25 Must an employer check on the drug and alcohol testing record of employees it is intending to use to perform safety-sensitive duties?

(a) Yes, as an employer, you must, after obtaining an employee's written consent, request the information about the employee listed in paragraph (b) of this section. This requirement applies only to employees seeking to begin performing safety-sensitive duties for you for the first time (i.e., a new hire, an employee transfers into a safety-sensitive position). If the employee refuses to provide this written consent, you must not permit the employee to perform safety-sensitive functions.

(b) You must request the information listed in this paragraph (b) from DOT-regulated employers who have employed the employee during any period during the two years before the date of the employee's application or transfer:
(1) Alcohol tests with a result of 0.04 or higher alcohol concentration;
(2) Verified positive drug tests;
(3) Refusals to be tested (including verified adulterated or substituted drug test results);
(4) Other violations of DOT agency drug and alcohol testing regulations; and
(5) With respect to any employee who violated a DOT drug and alcohol regulation, documentation of the employee's successful completion of DOT return-to-duty requirements (including follow-up tests). If the previous employer does not have information about the return-do-duty process (e.g., an employer who did not hire an employee who tested positive on a pre-employment test), you must seek to obtain this information from the employee.

(c) The information obtained from a previous employer includes any drug or alcohol test information obtained from previous employers under this section or other applicable DOT agency regulations.

(d) If feasible, you must obtain and review this information before the employee first performs safety-sensitive functions. If this is not feasible, you must obtain and review the information as soon as possible. However, you must not permit the employee to perform safety-sensitive functions after 30 days from the date on which the employee first performed safety-sensitive functions, unless you have obtained or made and documented a good faith effort to obtain this information.

(e) If you obtain information that the employee has violated a DOT agency drug and alcohol regulation, you must not use the employee to perform safety-sensitive functions unless you also obtain information that the employee has subsequently complied with the return-to-duty requirements of Subpart O of this part and DOT agency drug and alcohol regulations.

(f) You must provide to each of the employers from whom you request information under paragraph (b) of this section written consent for the release of the information cited in paragraph (a) of this section.

(g) The release of information under this section must be in any written form (e.g., fax, e-mail, letter) that ensures confidentiality. As the previous employer, you must maintain a written record of the information released, including the date, the party to whom it was released, and a summary of the information provided.

(h) If you are an employer from whom information is requested under paragraph (b) of this section, you must, after reviewing the employee's specific, written consent, immediately release the requested information to the employer making the inquiry.

(i) As the employer requesting the information required under this section, you must maintain a written, confidential record of the information you obtain or of the good faith efforts you made to obtain the information. You must retain this information for three years from the date of the employee's first performance of safety-sensitive duties for you.

(j) As the employer, you must also ask the employee whether he or she has tested positive, or refused to test, on any pre-employment drug or alcohol test administered by an employer to which the employee applied for, but did not obtain, safety-sensitive transportation work covered by DOT agency drug and alcohol testing rules during the past two years. If the employee admits that he or she had a positive test or a refusal to test, you must not use the employee to perform safety-sensitive functions for you, until and unless the employee documents successful completion of the return-to-duty process (see paragraphs (b)(5) and (e) of this section).

REQUEST FOR DOT DRUG AND ALCOHOL TESTING INFORMATION FROM PREVIOUS EMPLOYER – SUGGESTED FORM

PLEASE RETURN TO:

COMPANY: ______________________________

ADDRESS: ______________________________

CITY, ST. ZIP: ______________________________

ATTENTION: ______________________________ PHONE: ______________
(Name of individual requesting information)

APPLICANT NAME: ______________________________ SSN: ______________

Pursuant to Federal Regulation 49 CFR part 40.25, please furnish the requested information.

I hereby authorize ______________________________
(Previous employer's name)
to release the alcohol and controlled substances testing information listed below to the above named company.

SIGNED: ______________________________ DATE: ______________
(Signature of employee)

WITNESS: ______________________________ DATE: ______________

Previous employer must supply the following information regarding the above named individual during the past two years <u>while employed to perform DOT covered safety sensitive functions</u>:

		YES	NO
1.	Alcohol tests with a result of 0.04 or higher alcohol concentration?	( )	( )
2.	Verified positive drug tests?	( )	( )
3.	Refusals to be tested (including verified adulterated or substituted drug test results)?	( )	( )
4.	Other violations of DOT agency drug and alcohol testing regulations?	( )	( )
5.	Did a previous employer report a drug and alcohol rule violation to you?	( )	( )
7.	If you answered "yes" to any of the above items, did the employee complete the return-to-duty process?	( )	( )

SIGNED: ______________________________ DATE: ______________
(Signature of individual supplying information)
NOTE: If you answer "yes" to item 5, you must provide the previous employer's report. If you answer "yes" to item 6, you must also transmit the appropriate return-to-duty documentation (e.g., SAP report(s), follow-up testing record).

Please identify the Substance Abuse Professional you referred the employee to if he/she had an alcohol test of 0.04 or higher, a verified positive controlled substance test, or refused testing.

NAME: ______________________________

ADDRESS: ______________________________

CITY, ST. ZIP: ______________________________ PHONE: ______________

U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
CG-2692B (04-06)

REPORT OF REQUIRED CHEMICAL DRUG AND ALCOHOL TESTING FOLLOWING A SERIOUS MARINE INCIDENT

(See instructions on reverse)

APPROVED OMB NO. 1625-0001

USCG MISLE ACTIVITY NUMBER

SECTION I—VESSEL INFORMATION

1. Name of vessel	2. Official Number	3. Call Sign	4. Nationality
5. Vessel Type *(Freight, Towing, Fishing, MODU, etc.)*	6. Length	7. Gross Tons	8. Year Built

9. Operating Company	10. Master or Person in Charge
Name:	Name:
Address:	Address:
Telephone Number:	Telephone Number:

SECTION II—INCIDENT INFORMATION

11. Type of Serious Marine Incident *(Check Appropriate Box(es)). (See Instructions on Reverse)*

- ☐ a. Death *(Append to Form CG-2692)*
- ☐ b. Injury requiring medical treatment *(Append to Form CG-2692)*
- ☐ c. Property damage in excess of $100,000 *(Append to Form CG-2692)*
- ☐ d. Loss of inspected vessel *(Append to Form CG-2692)*
- ☐ e. Loss of uninspected, self-propelled vessel of over 100 gross tons *(Append to Form CG-2692)*
- ☐ f. Discharge of oil of 10,000 gallons or more into U.S. waters
- ☐ g. Discharge of a reportable quantity of hazardous substance into U.S. waters
- ☐ h. Release of a reportable quantity of hazardous substance into U.S. environment

12. Date of Incident	13. Time *(local)* of Incident	14. Location of Incident *(Latitude and Longitude or River and Milepost)*

SECTION III—PERSONNEL / TESTING INFORMATION

15. Personnel Directly Involved in Serious Marine Incident

16. Drug and Alcohol Testing *(See instructions on reverse)*

15a. Name *(Last, First, Middle Initial)*	15b. Licensing/Certification (Check Appropriate Box(es)) USCG License	USCG MMD	Neither	16a. Drug Test Urine Specimen provided within 32 hours? YES	NO	16b. Alcohol Test Specimen provided within 2 hours? YES	NO	Alcohol Test Specimen Source: Saliva	Blood	Breath	Alcohol Test Results
______	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	______
______	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	______
______	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	______
______	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	______
______	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	______

17. SAMHSA Accredited Laboratory Conducting Chemical Drug Tests	18. Laboratory conducting blood alcohol test(s) or individual conducting saliva or breath alcohol test(s)
Name:	Name:
Address:	Address:
Telephone Number:	Telephone Number:

19. Person Making This Report *(Please Print)*	20. Signature	21. Date
Name:		
Address:		
Telephone Number:	Title:	

22. Remarks *(See Instructions on Reverse)*

SN 7530-01-GF3-2380

ACKNOWLEDGMENT AND AUTHORIZATION

By my signature below, I, (Please Print) ______________________ hereby acknowledge that I have received my own personal copy of the Drug, Alcohol, Firearms and Controlled Substances Policy of Harvey Gulf International Marine, LLC. I agree that I will, as a condition of my employment, read the Drug, Alcohol, Firearms and Controlled Substances Policy (or have it read to me).

I understand and agree that I am required, as a condition of employment, to know and follow the policies, rules and procedures contained in the Drug, Alcohol, Firearms and Controlled Substances Policy. I further understand and agree that violation of the Drug, Alcohol, Firearms and Controlled Substances Policy in any respect is grounds for disciplinary action up to and including termination of my employment, even for a first offense.

I understand that as a condition of employment, I must consent to testing for Drugs, Alcohol and/or Prohibited Substances under the circumstances underlined in the Drug, Alcohol, Firearms and Controlled Substances Policy. I hereby authorize Harvey Gulf, through its authorized representative, to conduct such testing for Drugs, Alcohol and/or Prohibited Substances, and I release Harvey Gulf and those involved in conducting any aspect of such testing from all legal responsibility arising out of or related to such testing. I also authorize Harvey Gulf and those involved in conducting any aspect of such testing to disclose the results of such testing on a business, need-to-know basis and as necessary for the purpose of properly administering the Drug, Alcohol, Firearms and Controlled Substances Policy, and/or as required or allowed by federal or state law.

I understand that as a condition of employment, I must consent to unannounced searches for Possession of Drugs, Alcohol, Prohibited Substances and/or Drug Paraphernalia under the circumstances outlined in the Drug, Alcohol, Firearms and Controlled Substances Policy. I hereby authorize Harvey Gulf and its designees, to conduct such searches for Drugs, Alcohol, Prohibited Substances and/or Drug Paraphernalia, and I release Harvey Gulf and those involved in conducting any aspect of such searches from all legal responsibility arising out of or related to such searches. I also authorize Harvey Gulf and those involved in conducting any aspect of such searches to disclose the results of such searches on a business, need –to-know basis for the purpose of properly administering the Drug, Alcohol, Firearms and Controlled Substances Policy, and/or as required or allowed by federal or state law.

______________________________ ____________________________
Employee Signature Date

____
Witness Signature

FORM 80119
LNG Powered Vessels - Mandatory Safety Meeting and Drill Matrix
31-Dec-23 - 28-DEC-24

Revision Number: 08
[illegible] 31-Dec-[illegible]
Written By: QHSSE Department
Approved By: TAR

This training guide is designed to assist the Masters of HGIM vessels with on-board training. Each week there are assigned topics to be discussed, drills to conduct and any additional training and lessons learned can be added as needed. A Safety Meeting Report Form must be completed and returned to the Safety Department for tracking. All crewmembers on the vessel that week must attend these trainings.

Week of 2024	Date	Drills	Procedure	Reference HS&E Manual	Tips	Related Videos/Training Material
1	Dec. 31 - Jan. 6	Fire/E-Steering-Loss of Propulsion	HGIM Quality Manual (ISO)		Review HGIM Quality Manual (ISO) Manual/Test E Steering-Loss of propulsion U/W in port.	HGIM Quality Manual (ISO) Manual
2	Jan. 7 - 13	Abandon Ship/Enclosed Space Drill/Line Gun	HGIM Safety Management System (ISM)		Review HGIM Safety Management System (ISM) Manual	HGIM Safety Management System (ISM) Manual
3	Jan. 14 - 20	LNG Fire/***Man Overboard***/Medical Evac. Drill	Introduction / Overview	Chapter 1 LNG Emergency Response Book	Review Policy	HGIM CIMS Manual LNG Emergency Response Plan
4	Jan. 21 - Jan. 27	Abandon Ship/LNG Spill and Vapor Cloud Control/Oil Spill	HSE Roles and Responsibilities	Chapter 2 LNG Emergency Response Book	Review each others Roles and Responsibilities as a crew/Abandon ship due to Heavy Weather Damage/Flooding of vessel.	HGIM CIMS Manual LNG Emergency Response Plan
5	Jan. 28 - Feb. 3	Fire	Management of Change	Chapter 3	Discuss the process and why MOC is Necessary	HGIM CIMS Manual
6	Feb. 4 - 10	Abandon Ship/Line Gun/E-Steering-Loss of Propulsion	Accident / Incident / Illness / Near Miss/ SWA Reporting	Chapter 4	Review Policy/Test E Steering-Loss of propulsion U/W offshore	HGIM CIMS Manual
7	Feb. 11 - 17	Fire/Man Overboard	Alcohol, Firearms and Controlled Substance Policy	Chapter 5	Review the drug and alcohol policy and how to recognize the use of drugs and alcohol	HGIM CIMS Manual
8	Feb. 18 - 24	Night Abandon Ship/Oil Spill	Infectious Diseases	Chapter 6	Review Policy/Night abandon ship due to loss of comms with vessel/collision/structural flooding. Simulate response to spill.	HGIM CIMS Manual
9	Feb. 25 - Mar. 2	Fire	Company Vehicles, Teamwork & No Harassment, Smoking Policy, & Visitors	Chapters 7, 8, 28, & 33	Review Each Policy	HGIM CIMS Manual
10	Mar. 3 - 9	Abandon Ship/Line Gun/E-Steering-Loss of Propulsion	Safety Meetings & Emergency Drills	Chapter 9	Review the importance of Safety Meetings and participation and discuss the importance of each drill/Test E Steering-Loss of propulsion U/W in port.	HGIM CIMS Manual
11	Mar. 10 - 16	Fire/Man Overboard	Emergency Response	Chapter 10	Discuss the different roles and responsibilities for all emergency cases	HGIM CIMS Manual
12	Mar. 17 - 23	Abandon Ship/Oil Spill(***QI Drill***)	Environmental Protection (Ensure Inflatable PFD's are inspected for the quarter)	Chapter 11	Discuss ways to protect the environment, and the safety and health of employees/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
13	Mar. 24 - 30	Fire	JSEA Program	Chapter 12	Review the importance of JSEA's and Pre-Job Meetings	HGIM CIMS Manual
14	Mar. 31 - Apr. 6	Abandon Ship/Enclosed Space Drill	Permit to Work System - Confined Space, LOTO, Hot Work	Chapters 13, 14, 15, & 16	Review Policies and discuss the usage and importance of each Permit	HGIM CIMS Manual
15	Apr. 7 - 13	LNG Fire/***Man Overboard***/E-Steering-Loss of Propulsion	Fire Prevention / Protection	Chapter 17, LNG Emergency Response Book	Review Policy and proper procedures for usage of fire fighting equipment/Test E Steering-Loss of propulsion U/W offshore.	HGIM CIMS Manual LNG Emergency Response Plan
16	Apr. 14 - 20	Abandon Ship/LNG Spill and Vapor Cloud Control	Personal Protective Equipment, 18-Life Saving Rules	Chapter 18 LNG Emergency Response Book	Review Policy and discuss proper PPE for the job	HGIM CIMS Manual LNG Emergency Response Plan
17	Apr. 21 - 27	Fire/Oil Spill/Line Gun	Respiratory Protection Program	Chapter 19	Review Policy and discuss the importance of properly maintaining and using respiratory equipment	HGIM CIMS Manual
18	Apr. 28 - May 4	Abandon Ship	Hearing Conservation	Chapter 20	Review Policy and discuss the importance of properly wearing hearing protection/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
19	May 5 - 11	Fire/Man Overboard/E-Steering-Loss of Propulsion	Fall Protection / Stairs, Ladders, & Gangways	Chapters 21 & 22	Review Policies and discuss properly maintaining all fall protection equipment/Test E Steering-Loss of propulsion in port.	HGIM CIMS Manual
20	May 12 - 18	Abandon Ship/Oil Spill	General Safety, Back Safety, & Rigging Safety	Chapters 23, 24, & 25	Review Policies	HGIM CIMS Manual
21	May 19 - 25	Fire/Line Gun	First Aid	Chapter 26	Review Policy	HGIM CIMS Manual
22	May 26 - June 1	Night Abandon Ship	Hazardous Materials and Communications	Chapter 27	Review Policy and discuss the importance of protecting employees and the environment./Abandon ship due to loss of comms with vessel/collision/structural flooding.	HGIM CIMS Manual
23	June 2 - 8	Fire/Man Overboard/E-Steering-Loss of Propulsion	Vessel Inspection and Maintenance	Chapter 29	Review Policy and how often vessel should be inspected/Test E Steering-Loss of propulsion U/W offshore.	HGIM CIMS Manual
24	June 9 - 15	Abandon Ship/Oil Spill(***QI Drill***)	Vessel Operation and Navigation	Chapter 30	Review Policy/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
25	June 16 - 22	Fire/Line Gun	(SSE) & Behavioral Base Safety (Ensure Inflatable PFD's are inspected for quarter)	Chapter 31 & 32	Review Policies and Assigned Mentors	HGIM CIMS Manual

***A full launch, maneuvering, and retrieval of rescue boat(if fitted) is required if not completed previously in quarter.

26	June 23 - 29	Abandon Ship/Enclosed Space Drill	Light Duty & Wellness Plan Safe Food Handling Practices	Chapters 34, 35, & 37	Review Policies Safe Food Hanlinig Practices Manual	HGIM CIMS Manual
Week of 2024	Date	Drills	Procedure	Reference HS&E Manual	Tips	Related Videos/Training Material
27	June 30 - July 6	LNG Fire	HGIM Quality Manual (ISO)		Review HGIM Quality Manual (ISO) Manual.	HGIM Quality Manual (ISO) Manual
28	July 7 - 13	Abandon Ship/***Man Overboard***/E-Steering-Loss of Propulsion	HGIM Safety Management System (ISM)	LNG Emergency Response Book	Review HGIM Safety Management System (ISM) Manual/Test E Steering-Loss of propulsion U/W in port. Abandon ship due to Heavy Weather Damage/Flooding of Vessel	HGIM Safety Management System (ISM) Manual LNG Emergency Response Plan
29	July 14 - 20	Fire/LNG Spill and Vapor Cloud Control/Oil Spill	Introduction / Overview	Chapter 1 LNG Emergency Response Book	Review Policy	HGIM CIMS Manual LNG Emergency Response Plan
30	July 21 - 27	Night Abandon Ship/Line Gun	HSE Roles and Responsibilities	Chapter 2	Review each others Roles and Responsibilities as a crew/Abandon ship due to loss of comms with vessel/collision/structural flooding.	HGIM CIMS Manual
31	July 28 - Aug 3	Fire/Medical Evac. Drill	Management of Change	Chapter 3	Discuss the process and why MOC is Necessary.	HGIM CIMS Manual
32	Aug. 4 - 10	Abandon Ship/Man Overboard/E-Steering-Loss of Propulsion	Accident / Incident / Illness / Near Miss/ SWA Reporting	Chapter 4	Review Policy/Test E Steering-Loss of propulsion U/W offshore	HGIM CIMS Manual
33	Aug. 11 - 17	Fire/Oil Spill/Enclosed Space Drill	Alcohol, Firearms and Controlled Substance Policy	Chapter 5	Review the drug and alcohol policy and how to recognize the use of drugs and alcohol	HGIM CIMS Manual
34	Aug. 18 - 24	Abandon Ship	Infectious Diseases	Chapter 6	Review Policy/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
35	Aug. 25 - 31	Fire/Line Gun	Company Vehicles, Teamwork & No Harassment, Smoking Policy, & Visitors	Chapters 7, 8, 28, & 33	Review Each Policy	HGIM CIMS Manual
36	Sept. 1 - 7	Abandon Ship/Man Overboard/E-Steering-Loss of Propulsion	Safety Meetings & Emergency Drills	Chapter 9	Review the importance of Safety Meetings and participation and discuss the importance of each drill/Test E Steering-Loss of propulsion U/W in port.	HGIM CIMS Manual
37	Sept. 8 - 14	Fire/Oil Spill(***QI Drill***)/Enclosed Space Drill	Emergency Response	Chapter 10	Discuss the different roles and responsibilities for all emergency cases	HGIM CIMS Manual
38	Sept. 15 - 21	Abandon Ship /Line Gun	Environmental Protection (Ensure Inflatable PFD's are inspected for the quarter)	Chapter 11	Discuss ways to protect the environment, and the safety and health of employees	HGIM CIMS Manual
39	Sept. 22 - 28	Fire	JSEA Program	Chapter 12	Review the importance of JSEA's and Pre-Job Meetings	HGIM CIMS Manual
40	Sept. 29 - Oct. 5	Abandon Ship	Permit to Work System - Confined Space, LOTO, Hot Work	Chapters 13, 14, 15, & 16	Review Policies and discuss the usage and importance of each Permit	HGIM CIMS Manual
41	Oct. 6 - 12	Fire/***Man Overboard***/E-Steering-Loss of Propulsion	Fire Prevention / Protection	Chapter 17	Review Policy and proper procedures for usage of fire fighting equipment/Test E Steering-Loss of propulsion U/W offshore.	HGIM CIMS Manual
42	Oct. 13 - 19	Abandon Ship/Oil Spill/Line Gun	Personal Protective Equipment 18-Life Saving Rules	Chapter 18	Review Policy and discuss proper PPE for the job/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
43	Oct. 20 - 26	LNG Fire/LNG Spill and Vapor Cloud Control	Respiratory Protection Program	Chapter 19 LNG Emergency Response Book	Review Policy and discuss the importance of properly maintaining and using respiratory equipment	HGIM CIMS Manual LNG Emergency Response Plan
44	Oct 27 - Nov. 2	Night Abandon Ship	Hearing Conservation	Chapter 20	Review Policy and discuss the importance of properly wearing hearing protection./Abandon ship due to loss of comms with vessel/collision/structural flooding.	HGIM CIMS Manual
45	Nov. 3 - 9	Fire/Man Overboard/E-Steering-Loss of Propulsion	Fall Protection / Stairs, Ladders, & Gangways	Chapters 21 & 22	Review Policies and discuss properly maintaining all fall protection equipment/Test E Steering-Loss of propulsion in port.	HGIM CIMS Manual
46	Nov. 10 - 16	Abandon Ship/Oil Spill/Enclosed Space Drill	General Safety, Back Safety, & Rigging Safety	Chapters 23, 24, & 25	Review Policies	HGIM CIMS Manual
47	Nov. 17 - 23	Fire/Line Gun	First Aid	Chapter 26	Review Policy	HGIM CIMS Manual
48	Nov. 24 - 30	Abandon Ship	Hazardous Materials and Communications	Chapter 27	Review Policy and discuss the importance of protecting employees and the environment	HGIM CIMS Manual
49	Dec. 1 - 7	Fire/E-Steering-Loss of Propulsion	Vessel Inspection and Maintenance	Chapter 29	Review Policy and how often vessel should be inspected/Test E Steering-Loss of propulsion U/W offshore.	HGIM CIMS Manual
50	Dec. 8 - 14	Abandon Ship/Oil Spill(***QI Drill***)	Vessel Operation and Navigation	Chapter 30	Review Policy/Abandon ship due to Heavy Weather Damage/Flooding of vessel	HGIM CIMS Manual
51	Dec 15 - 21	Fire/Man Overboard	(SSE) & Behavioral Base Safety (Ensure Inflatable PFD's are inspected for quarter)	Chapter 31 & 32	Review Policies and Assigned Mentors	HGIM CIMS Manual
52	Dec. 22 - 28	Abandon Ship/Line Gun	Light Duty & Wellness Plan Safe Food Handling Practices	Chapters 34, 35, & 37	Review Policies Safe Food Handlinig Practices Manual	HGIM CIMS Manual

***A full launch, maneuvering, and retrieval of rescue boat(if fitted) is required if not completed previously in quarter.

Establishment Search

Reflects inspection data through 05/23/2025

Use our establishment search to locate OSHA enforcement inspections by establishment name. You can also search by a specific inspection number or inspections within a specific industry using NAICS or SIC.

You can now find citation information for violations that Federal OSHA has cited.

For violation and citation results:

- Enter the establishment name in the "Establishment" box and select the "Search" button at the bottom;
- Select the Activity Number (inspection) in the search results;
- If a citation was issued, it will appear under "Violation Items"; and
- Select the "Citation ID" to view the details for that specific citation.

Continue to check back for updates, as citations or violations may be modified during the investigation process.

Note: Before using our establishment search, please read important information below on how to interpret the results.

Search By:

Your search did not return any results.

Enter an Establishment name, select an OSHA Office, or enter a Site Zip Code.

Establishment: Shell NA LNG LLC
(This field can also be used to search for a State Activity Number for the following states: NC, SC, KY, OR, WA, IN (before April 2022) and AZ (after June 2021))

State: All States | Fed & State

OSHA Office: All Offices

Site Zip Code:

Case Status: (•) All ( ) Closed ( ) Open

Violation Status ◉ All ○ With Violations ○ Without Violations

Inspection Date

Start Date May 27 2020

End Date May 27 2025

Search Reset

Can't find it?

For Wildcard search, use %

Establishment Search Help

Search Basics and Search Syntax Examples

NOTE TO USERS

The Integrated Management Information System (IMIS) was designed as an information resource for in-house use by OSHA staff and management, and by state agencies which carry out federally-approved OSHA programs. Access to this OSHA work product is being afforded via the Internet for the use of members of the public who wish to track OSHA interventions at particular work sites or to perform statistical analyses of OSHA enforcement activity. It is critical that users of the data understand several aspects of the system in order to accurately use the information.

The source of the information in the IMIS is the local federal or state office in the geographical area where the activity occurred. Information is entered as events occur in the course of agency activities. Until cases are closed, IMIS entries concerning specific OSHA inspections are subject to continuing correction and updating, particularly with regard to citation items, which are subject to modification by amended citations, settlement agreements, or as a result of contest proceedings. THE USER SHOULD ALSO BE AWARE THAT DIFFERENT COMPANIES MAY HAVE SIMILAR NAMES AND CLOSE ATTENTION TO THE ADDRESS MAY BE NECESSARY TO AVOID MISINTERPRETATION.

The Integrated Management Information System (IMIS) is designed and administered as a management tool for OSHA to help it direct its resources. When IMIS is put to new or different uses, the data should be verified by reference to the case file and confirmed by the appropriate federal or state office. Employers or employees who believe a particular IMIS entry to be inaccurate, incomplete or out-of-date are encouraged to contact the OSHA field office or state plan agency which originated the entry.

Occupational Safety and Health
Administration
200 Constitution Ave NW
Washington, DC 20210
1-800-321-OSHA
1-800-321-6742
www.osha.gov

FEDERAL GOVERNMENT

White House

Benefits.gov

Coronavirus Resources

Disaster Recovery Assistance

DisasterAssistance.gov

USA.gov

Notification of EEO Violations

No Fear Act Data

U.S. Office of Special Counsel

OCCUPATIONAL SAFETY & HEALTH

Frequently Asked Questions

A - Z Index

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Facilities Search Results

Criteria selected:

Facility Name = Shell NA LNG LLC

Searching For = Search all facilities

For additional information, select the hyperlinks under "Data Links" where available.

D - Provides a list of electronic documents associated with the facility.

F - Provides a facility summary report.

P - Provides facility-related permit information.

M - Provides a GIS map focused on the facility.

Q - Provides a contact for user questions and quality control.

Records on this page = 0 of 0

There are no facilities that meet your criteria.

ENVIROS

Enforcement Action Advanced Search

Search | Reset

No information was found matching your selection criteria. Please try again.

Enforcement Action Number:

House Number: To:

Street: (All) (All)

Direction **Street Name** **Street Type** **Suite**

City: (All) Zip: (All)

Section: (All) Township: (All) Range: (All)

Respondent: Shell NA LNG LLC

Commitment to Environmental Protection

Respecting the environment and local communities has been integral to the way we do business for many years. As a business, we use natural resources such as land, water and materials for our operations. Our activities can have an impact on nature through discharges and emissions to the environment, and through changes to the use of land and water including oceans.

Our respecting nature ambition. Our ambition is to have a positive impact on biodiversity, aim for zero waste and use water, other resources and materials efficiently.

Biodiversity and ecosystems.

Our approach to biodiversity. What we do as an energy company can affect local habitats and the communities that depend on them. When planning a new project on land or offshore in the marine environment, we use the mitigation hierarchy – a decision-making framework that involves a sequence of **four key actions: avoid, minimise, restore and offset.** We assess the potential impact of projects on biodiversity as part of our Impact Assessment process.

First our aim is to avoid negatively impacting biodiversity and ecosystems. For example, by avoiding certain areas and timing our activities so that we do not disturb sensitive species. Where we cannot avoid, we aim to minimise our impact, for example by designing parts of our operations to reduce their effect on local wildlife.

Where our operations have affected biodiversity, we take steps to restore habitats, for example by planting native vegetation which enhances biodiversity. We also look for opportunities to make a positive contribution to conservation, such as taking part in environmental research projects or conservation initiatives.

Our nature-based solution projects can protect and restore biodiversity. We are investing to protect and enhance natural ecosystems that capture CO_2 emissions, benefit local communities, and improve biodiversity. We use the carbon credits these projects generate to help customers decarbonise by compensating for their emissions.

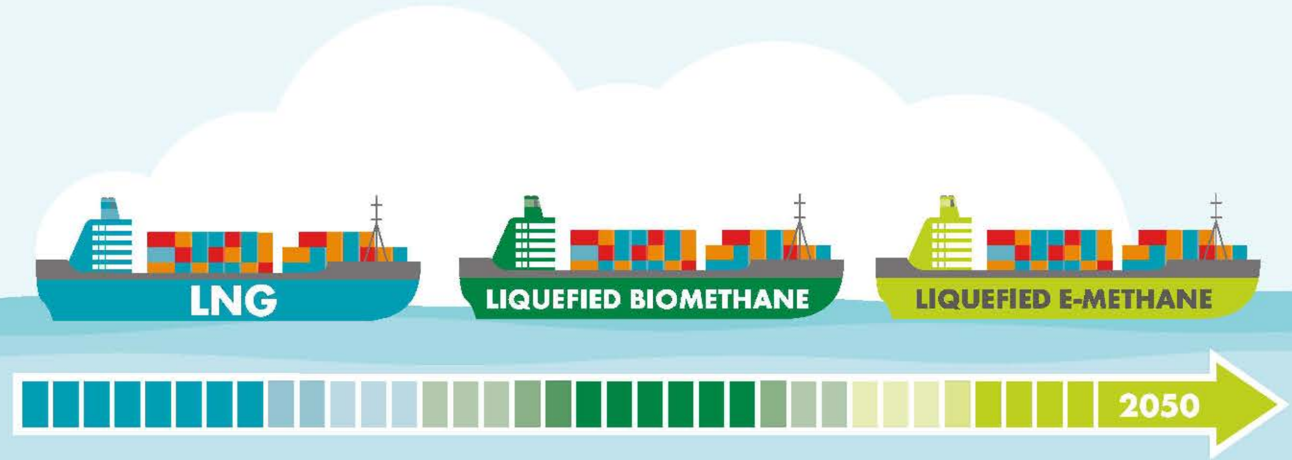
World Heritage Sites

We believe some areas are too sensitive to enter. We will not to explore for, or develop oil and gas resources, in natural and mixed World Heritage sites. This applies to both land and in the marine environment.'

We work to protect biodiversity near our existing operations and projects both on land and in marine environments.

Sustainability is also one of the considerations for biofuels,

REACH NET ZERO BY 2050 OR SOONER BY CHOOSING LNG TODAY



Liquefied Natural Gas
Reduces:
- GHG emissions by up to 23% vs conventional fuel
- NOx up to 95%
- SOx & PM up to 99%

Liquefied Biomethane
- Produced from sustainable feedstocks
- Drop in fuel
- Reduces GHG emissions by between 65% and 100%

Liquefied E-methane
- Renewable H_2 based fuel
- Drop in fuel
- Reduces GHG emissions by up to 92% with potential to reach 100%

Achieve more emission reductions with Carbon Reduction Solutions...

CARBON REDUCTION SOLUTIONS

- Carbon Capture and Storage
- Energy Efficiency Technologies
- Fuel Cell

Compensate your remaining CO_2 emissions with Nature Based Solutions.

CO_2 CREDIT

Find all the references and additional information on our website

START YOUR TRANSITION BY TALKING TO US

Learn more at
www.shell.com/marine/LNG

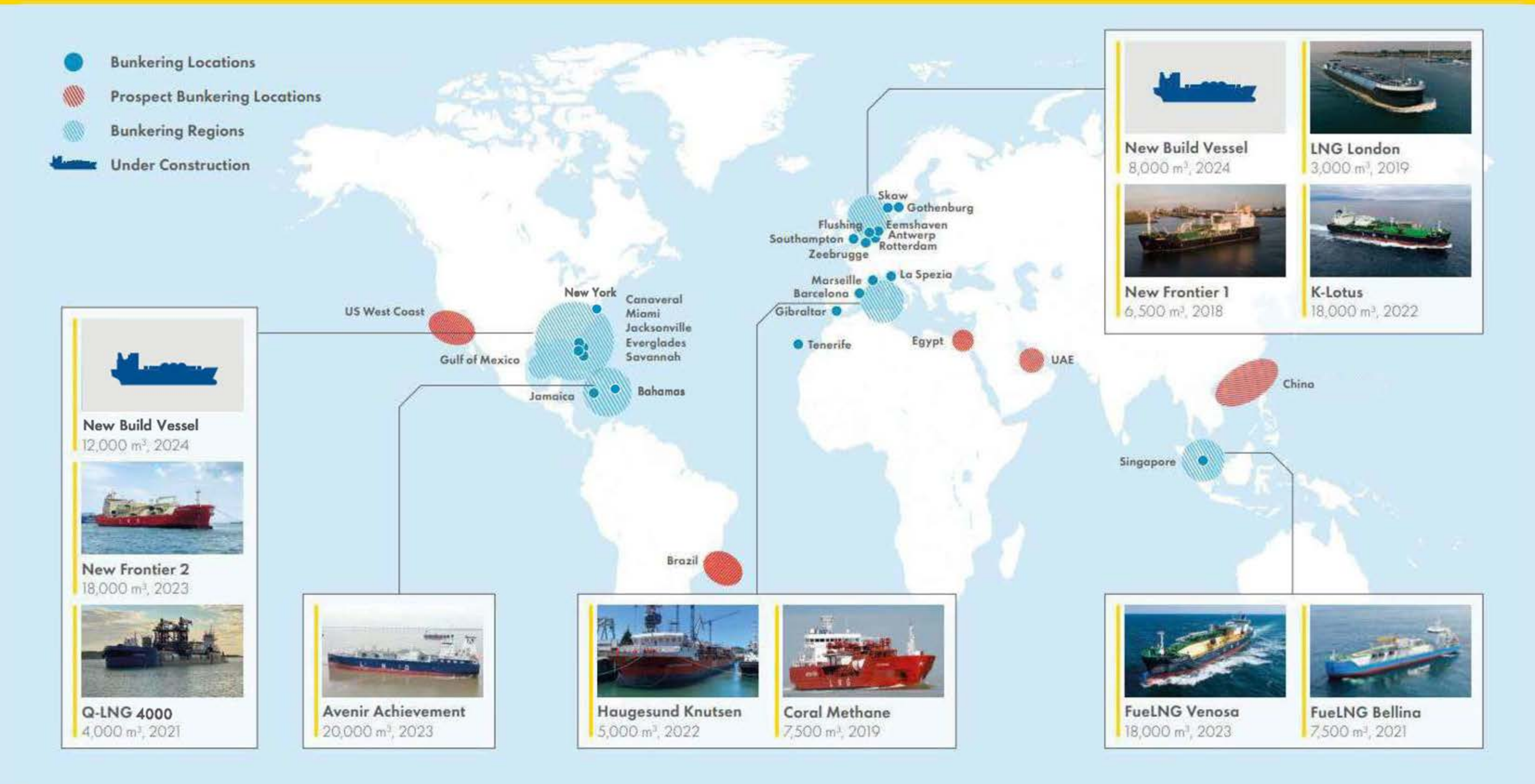
SHELL HAS THE LARGEST GLOBAL LNG BUNKERING NETWORK

13 COUNTRIES

22 BUNKERING LOCATIONS

12 BUNKERING VESSELS

1700+ BUNKERING OPERATIONS



U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

Stop 7516
2703 Martin Luther King Jr. Ave SE
Washington, DC 20593-7516
CG-MER-1 (VRP)
202-372-1005
202-372-8376
vrp@uscg.mil

16450
February 05, 2024

HARVEY GULF INTERNATIONAL MARINE, LLC
701 Poydras Street
Suite 3700
New Orleans, Louisiana 70139

Q-LNG 4000 (1284183):

In accordance with the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), your submission, for plan control number 29581, has been reviewed and found to be in compliance with the following requirements:

1. Regulation 37 of Annex I, Shipboard Oil Pollution Emergency Plan (SOPEP); and
2. Regulation 17 of Annex II, Shipboard Marine Pollution Emergency Plan (SMPEP).

* This SMPEP approval alone does not constitute approval to carry Noxious Liquid Substances (NLS). The authorization/certification to carry NLS will be noted on the vessel's Certificate of Inspection and/or appropriate IMO certificate.

This approval will remain valid until **February 05, 2029**. You must review your plan annually within 1 month of the anniversary date of the plan's expiration date and submit a letter to this office certifying that the review has been completed. Any alteration or revision made to the plan, with the exception of those made to the appendices and non-mandatory provisions must be submitted to this office for review and approval prior to the implementation of the revision. Further, the entire plan must be resubmitted to the Coast Guard for reapproval 6 months before the end of the approval period of the plan.

I remind you that your plan is a vital working document and that implementing the plan will help ensure effective response and mitigation in the event of an oil pollution incident. Please be sure that all parties with responsibilities under the plan are familiar with the plan's procedures and requirements.

This letter shall be maintained onboard the vessel and placed in the front of the plan.

Sincerely,

ADRIANA GAENZLE
Lieutenant Commander
Acting Chief, Industry Preparedness and Incident Coordination Division
U.S. Coast Guard
By direction

The action has been thoroughly reviewed by the USCG, and determined to be categorically excluded under current USCG CE(s) # 31 from further environmental documentation, in accordance with Section 2.B.2. and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1D, as authorized by DHS MD 5100.1.

Serpa, Paula

From: Merritt, Sara <Sara.Merritt@dep.state.fl.us>
Sent: Monday, January 8, 2024 11:22 AM
To: Marino Hwang
Cc: Gillman, Mark; Bristol, Susan
Subject: RE: DPRC Requirement Questions

CAUTION EXTERNAL EMAIL: This email originated from outside of the organization. Do not click links or open attachments unless you recognized and verify the sender and know the content is safe.

Good Morning,
According to the definition of Terminal Facility located in Section 376.031(23), Florida Statutes, "In the event of a ship-to-ship transfer of pollutants, the vessel going to or coming from the place of transfer and a terminal facility shall also be considered a terminal facility." With this in mind, your Tug and Barge would be considered a Terminal Facility.

A DPRC is only required if you are transferring a pollutant. Liquified Natural Gas is not considered a pollutant for this purpose, so a DPRC is not required for this activity.

Please feel free to contact me with any other questions you might have.

Have a great day,
Sara

Sara Merritt
Florida Department of Environmental Protection
Northwest District
Compliance Assurance Program
Waste Management – Storage Tanks
160 W. Government Street, Suite 308
Pensacola, FL 32502
Sara.Merritt@FloridaDEP.gov
Office: 850-595-0589
Fax: 850-595-8097

Would you please take a moment to complete this brief survey and rate my service?
Your response will be completely anonymous. DEP Customer Survey.

From: Marino Hwang <MHwang@McAllisterTowing.com>
Sent: Monday, January 8, 2024 9:40 AM
To: Gillman, Mark <Mark.Gillman@FloridaDEP.gov>; Bristol, Susan <Susan.Bristol@dep.state.fl.us>; Merritt, Sara <Sara.Merritt@dep.state.fl.us>
Subject: DPRC Requirement Questions

EXTERNAL MESSAGE
This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.