



VERMILION
ENERGY



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Vermilion Energy Inc.
Values Matter || 2024 SUSTAINABILITY REPORT
Excellence. Trust. Respect. Responsibility.

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- The terms "ESG", "sustainability" and "net-zero" and similar terms, taxonomies and criteria are evolving, and Vermilion's use of such terms may change to reflect such evolution.
- Vermilion may need to purchase carbon and clean energy instruments, including carbon offset credits, to meet its sustainability and ESG-related objectives. The market for these instruments is still developing and their availability may be limited. The maturity, liquidity and economics of this market may make it more difficult than expected for Vermilion to achieve its sustainability and ESG-related objectives.

This is an evolving area, and as such our historical statements may not reflect our current approach of sustainability-related practice. While Vermilion will continue to monitor and adapt its reporting accordingly, the Company is not under any duty to update or revise the related data or statements except as required by applicable securities laws.

This document is not required to be prepared or filed by Vermilion under applicable securities laws, and the information contained herein should not be read as necessarily rising to the level of materiality of disclosure required in our securities law filings to be considered to be incorporated into such filings.

Abbreviations & Terms

Term/Abbreviation	Definition
bbl(s)	barrel(s)
bbls/d	barrels per day
boe	barrel of oil equivalent, including: crude oil, natural gas liquids and natural gas (converted on the basis of 1 boe = 6 mcf of natural gas)
boe/d	barrel of equivalent per day
CO2e	carbon dioxide equivalents
DEI	Diversity, Equity and Inclusion
EESG	Economic, Environmental, Social and Governance Issues
GHG	Greenhouse gas
GJ	Gigajoules
HSE	Health, Safety, Environment
\$M	thousand dollars (Canadian currency unless specified otherwise)
\$MM	million dollars
mbbls	thousand barrels
mboe	thousand barrel of oil equivalent
mmboe	million barrel of oil equivalent
MWh	megawatt hour
NGLs	natural gas liquids
PPE	Personal Protective Equipment

Highlights

Economic

In 2023, Vermilion produced approximately 31 million boe of oil and natural gas, thereby investing approximately:

- \$199 million in wages and benefits to our employees
- \$160 million in shareholder dividends and share repurchases
- \$1.2 billion in 7,373 entities in our supply chain
- \$235 million in taxes and royalties
- \$82 million in protecting our environment

Key changes in 2023:

- We closed one divestment, of approximately 5,500 boe/d of non-core light oil production in southeast Saskatchewan
- We closed one acquisition, of Equinor Energy Ireland Limited, thereby increasing our operated interest in the Corrib asset to 56.5%. This made Vermilion the largest provider of domestic natural gas in Ireland.

Community

We provided over \$2 million in community investment donations to non-profit and charitable organizations around the world.

We are in the third year of our \$1.2 million commitment to Inn from the Cold, the largest organization in the Calgary region that is dedicated solely to families experiencing a housing crisis. We believe as they do: that a community is possible where no child or family is homeless.

Environment

In 2023, we reduced our Scope 1 emission intensity to just below 0.017 tCO₂e/operated boe, reflecting a 12% reduction from our baseline year of 2019 and making progress towards our 2025 target of a 15-20% reduction below our 2019 baseline.

We reduced our spill count by 30% between 2022 and 2023, with a particular focus in Canada.

We invested approximately \$57 million in asset retirement obligation expenditures, including abandonment activity on some 250 wells. We also divested approximately 4,860 wells (gross; 3,250 net) via our sale of non-core assets in southeast Saskatchewan.

ESG

- 2023 CDP Climate Change and Water Security: submitted under the non-scoring option (previous scores: 2022 Climate Change A-; 2022 Water Security: B; 2022 Supplier Engagement Rating: A)
- June 2024 MSCI ESG Ratings assessment:
 - AAA¹
- June 2024 ISS Quality Score
 - 1st (top) decile - Environmental
 - 2nd decile - Social
- 2023 Great Place to Work Survey: Best Workplace certification in Australia, Canada, Germany, Netherlands and United States

¹ The use of any MSCI ESG Research LLC or its affiliates ("MSCI") data, and MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement, recommendation, or promotion of Vermilion by MSCI. MSCI services and data are the property of MSCI or its information providers, and are provided "as-is" and without warranty. MSCI names and logos are trademarks or service marks of MSCI.

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Our front cover photo features a view of the Peace River in early autumn as the leaves change colour, just north of the Mica field. The image was taken from a drone by Construction Supervisor Brett Delhez.

President and CEO's Message

Reflecting on Progress

I am pleased to share our progress on key sustainability initiatives. We continue to make steady gains towards our Scope 1 emissions intensity target of a 15-20% reduction below our 2019 baseline by 2025, having reached a 12% reduction at the end of 2023.

We have achieved this through various means, including operational changes such as converting high-bleed pneumatic devices to low-bleed units in Canada, divesting non-core assets in southeast Saskatchewan, and developing lower emission assets in Ireland and Mica, and refining our approach to emissions measurement and methodology.

In addition, through setting internal targets on spill prevention, we reduced spill volumes by over 80% in 2023 compared to 2022, with particular progress in Canada and the United States.

We are also focused on freshwater, via our water recycling hub in Mica and the replacement of a groundwater well with a produced water pipeline in France. Both projects enable us to recycle produced water, reducing the need for freshwater in our drilling and production programs.

Finally, we increased our investment in abandonment, which resulted in abandonment activity on 250 wells in 2023. We also reduced our standing well count by approximately 4,860 wells (gross; 3,250 net) through our sale of non-core assets in southeast Saskatchewan.

Looking forward, our target of net zero Scope 1 and 2 emissions by 2050 remains aspirational, but we have spent much of 2023 working on the initial steps to support it, primarily on the period between now and 2030.

We expect this plan will evolve over the next six years as technological and economic factors evolve. As we progress towards the end of the decade, we expect to be able to map out the 2030s with more certainty.

We have based this - our climate strategy - on four pillars:

- **Reduce** emissions, with methane a priority.
- **Calibrate** our portfolio by ensuring that emission intensities are considered in acquisitions and divestments.
- **Adapt** our portfolio to new energy, considering carbon capture and storage, renewable energy associated with our core

operations such as biogas, hydrogen and geothermal production, and other new technologies.

- **Offset** as a solution for the emissions that cannot be eliminated.

Within this strategy, we are transparent that there is an important role for us to play in producing oil and natural gas for as long as it is necessary to support energy security and accessibility. This is embedded in our purpose, in the responsible production of essential energy.

At the same time, we are carefully researching and developing alternatives that are close to our core infrastructure and competencies.

None of this would be possible without the dedicated efforts of our people. We succeed as a company through their commitment to keeping each other safe, to operational excellence, and to giving back to our communities.

I would like thank them for all that they do, especially when it comes to volunteering, whether it's at the local food bank, planting trees or preparing and serving meals at a shelter. Your efforts make a difference for so many, and I am both inspired and proud to see the results.

You can find more details about all of these topics within the pages of this report. As always, we appreciate your interest in our sustainability reporting, and welcome questions or suggestions, at: sustainability@vermilionenergy.com.

Sincerely,



Dion Hatcher
President and CEO
July 2024



Vermilion is guided by our core values:

- **Excellence**
- **Trust**
- **Respect**
- **Responsibility**

Introduction

Vermilion at a Glance

Our Focus

Founded in 1994, Vermilion is a publicly traded, widely held, international energy producer headquartered in Calgary, Canada.

We seek to create value through the acquisition, exploration, development and optimization of producing properties in North America, Europe and Australia. This international diversification has been a key factor in our success over time.

Our Purpose

At the core of our business is our purpose:

To responsibly produce essential energy while delivering long-term value to our people, shareholders, customers, partners and communities.

We believe that providing energy to the many people and businesses around the world that rely on it to meet their daily needs and sustain their quality of life is both a great privilege and a great responsibility.

Our Priorities

We prioritize health and safety, the environment, and profitability, in that order. Nothing is more important to us than the safety of the public and those who work with us, and the protection of our natural surroundings.

Our energy transition strategy focuses on reducing environmental impacts of traditional oil and natural gas production while developing renewable energy projects closely related to our core competencies.



Although we contribute to many of the Sustainable Development Goals, we most closely align our impacts with the following: ¹⁰²⁻¹⁵



Our Business

Our Operations

Vermilion's operations are focused on the exploitation of light oil and liquids-rich natural gas conventional and unconventional resource plays in North America and the exploration and development of conventional natural gas and oil opportunities in Europe and Australia.

Our Business Model

Vermilion's business model relies on long-standing core business principles, which are based on a conservative, long-term focus on balance sheet strength and capital discipline to create long-term shareholder value.

They include:

- Maintaining a strong balance sheet with low leverage
- Maintaining a robust asset base, with a rolling 10-year plan for stable production while retaining our international weighting
- Providing a resilient and increasing base dividend
- Increasing return of capital as debt decreases
- Maintaining a strong corporate culture.

Our Strategic Plan

Vermilion's Strategic Plan includes six Matters of Importance, with strategic objectives that guide the Company's business plans to 2030:

- Extraordinary People and Culture
- Health, Safety and Environment
- Financial Discipline
- Robust and Profitable Portfolio
- Business and Operational Excellence
- Integrated Sustainability

These provide short, mid- and long term targets for the company and our people. We set annual commitments within each, and track achievements quarterly, reporting to senior management and our Board of Directors. Progress is reported annually in our Information Circular, and is also tracked using key performance indicators within our Short and Long Term Scorecards to assess company and individual performance, which is linked directly to compensation for our executives and permanent employees alike.

In addition to economic and investment metrics, our strategic objectives are guided by feedback from our stakeholders, including voting results at our Annual General Meeting, annual staff survey, and input from governance, investment and sustainability analysts and our communities.

Our Value Chain

Our success is made possible thanks to close to 1,000 employees and contractors, as of December 2023, throughout our operations, and through an extensive supply chain.

Our supply chain encompasses a wide range of inputs, including specialized field expertise and technology, supplies ranging from drilling mud to event facilities, and expert consultant advice. It is important to us that our suppliers not only deliver a sound financial investment in their goods and services, but operate in a manner that aligns with the values that guide our own corporate culture. As a result, we have clear requirements for third-party contractors who do business with Vermilion.¹⁰²⁻²⁹

Our asset base comprises a diversified product and project portfolio that receives premium advantage pricing. This increases the stability of our cash flows and our flexibility in allocating our exploration and development capital. Our exposure to robust end markets includes:

- North American-based midstream and downstream refiners
- Asia Pacific-based refining and lubricant markets
- European downstream refiners, and
- Key aggregators and utilities.¹⁰²⁻⁶

Sourcing Our Energy

Hydrocarbon Basics

Vermilion focuses on conventional exploration and development in Europe and Australia, and on conventional, semi-conventional and unconventional exploration and development in North America.

Rocks and Reservoirs Explained

All hydrocarbons (including oil and natural gas) are created from microscopic plants and organisms that lived predominantly in the ocean millions of years ago. When these plants and organisms died, they sank to the ocean floor, became preserved as kerogen and were covered by layer upon layer of sediment over millions of years. As the layers became more deeply buried and compacted, the heat and pressure within them began to rise, ultimately transforming kerogen into the hydrocarbons we know today.

Source rocks are the organic-rich layers of rock in which hydrocarbons are formed.

The pressure surrounding them generally forces the hydrocarbons to migrate upward from the compact or “tight” source rock into more porous and permeable layers of rock, known as **reservoir rock**.

The classification of a reservoir as conventional, semi-conventional or unconventional depends on the specific geology of the rock and the reservoir conditions encountered at depth.

Conventional Deposits

Generally, **conventional reservoir rocks** such as sandstones, siltstones and carbonates have sufficient porosity (the vacant space within the rock) and permeability (the connectivity between pore spaces) to allow fluids such as crude oil, natural gas and water to flow within and through the rock. Left unimpeded, the hydrocarbons continue their migration up towards the surface and escape as natural gas vents or oil seeps.

This upward migration, however, is often blocked by a layer of impermeable rock or other geologic formation. This traps the hydrocarbons, which then accumulate to form a **hydrocarbon deposit**.

If the reservoir rock has sufficient permeability to allow the hydrocarbons to naturally migrate within and through the rock, they are often referred to as **conventional pools or deposits**.

Recovering these hydrocarbons is generally referred to as conventional

oil and natural gas exploration and development. Once the deposit is accessed, the hydrocarbons either flow to the surface under the reservoir’s natural pressure, or can be pumped to the surface.

Decades of oil and gas production around the world have resulted in a decline of conventional resources, with the majority of them already subject to development.

Semi-Conventional Reservoirs

Vermilion uses “semi-conventional reservoirs” to describe reservoirs that – while requiring technology beyond pumping to bring hydrocarbons to the surface – can be accessed with significantly less intensive techniques than are required for full-scale unconventional production such as that of shale oil or gas production. As a result, these stimulations use a lower amount of pressure, water and other assorted products than those needed for unconventional reservoirs. Approximately one third of Vermilion’s production comes from this reservoir type.

An example of this is the Cardium formation in western Canada, which is considered one of the largest stratigraphically trapped reservoirs in the world. It has been developed conventionally with vertical wells and

limited stimulation for decades. However, new drilling techniques in the last decade such as hydraulic fracturing, horizontal drilling and new stimulation alternatives have made it technologically and economically feasible to access the reservoirs within the formation that historically have been too “tight” to produce.

Unconventional Deposits

Unconventional or “tight” deposits are usually classified as shale, siltstone or carbonates that are rich in mature organic matter, complex mineral compositions, laminated structures and tight storage space. They generally have ultra-low permeability and low porosity that prevent the hydrocarbons from flowing naturally through the rock. This means that the hydrocarbons don’t form easily accessible pools that can be produced at the surface.

This is where hydraulic fracturing plays a role: multi-stage hydraulic fracturing using horizontal wellbores makes it both possible and economical to produce from these previously inaccessible unconventional reservoirs.

Regardless of how they are produced, or the type of reservoir they come from, unconventional hydrocarbons are essentially the same as conventional hydrocarbons.

The term “unconventional” simply refers to the methods that are used to extract them, as well as the type of reservoir rock from which they are produced.

Shale gas or shale oil is a particular type of unconventional resource that has not migrated and is produced directly from the organic-rich source rock in which it was formed.

Hydraulic Fracturing

Hydraulic fracturing is a government-regulated technology that has been successfully used in North America for more than 60 years. Government

regulations, in combination with industry operating practices and Vermilion’s own priorities of public and employee safety, environmental stewardship and operational excellence, help ensure safeguards are in place to protect the environment, including freshwater aquifers, and to ensure safe and responsible operations.

Hydraulic fracturing is a well stimulation technique in which rock is fractured by a pressurized liquid. The process involves the high-pressure injection of 'fracking fluid' (primarily water, containing sand or other proppants suspended

with the aid of thickening agents) into a wellbore to create cracks in the deep-rock formations through which natural gas, petroleum and brine will then flow more freely. When the hydraulic pressure is removed from the well, small grains of hydraulic fracturing proppants such as sand hold the fractures open.

When we use this technique, it is under strict government regulation. By designing and executing our wells according to strict regulation and recognized practices, groundwater risk is mitigated. Where induced seismicity poses any risk, we diligently monitor for and have protocols in place to respond should events be recorded.

We publicly disclose 100% of the additives we use to FracFocus in both Canada and the United States, as well as via our regulatory submissions. We continue to work to decrease the required concentration of our additives and we work with our fracturing suppliers to source even better alternatives for future consideration.

For more information about our approach to water stewardship during fracking, see our Water Stewardship section.



Sustainability Vision

Our approach to sustainability, and our business in general, is that we prioritize safety and the environment over profitability: the safety and health of our employees, contractors and those directly or indirectly involved in our operations is placed above all else. ¹⁰²⁻¹⁵

Vermilion's sustainability report is our way of communicating how we identify the economic, environmental and social impacts of our operations, and how we integrate their associated opportunities and risks into our business strategy. Over time, our reporting activities are helping us to realize our sustainability vision, which is closely aligned with our company's purpose: as an international company, we responsibly produce essential energy while delivering long-term value to our people, shareholders, customers, partners and communities.

We understand our duty to operate in a manner that protects the health and safety of our people and communities, provides responsible stewardship over the environment, and treats our people, partners and suppliers respectfully and fairly.

From the landowners with whom we share the landscape, to the families and businesses that rely on oil and natural gas to fuel their daily needs, our exploration and production

activities have potential effects on a wide range of stakeholders who expect Vermilion to deliver consistently strong financial results in a responsible and ethical way.

These expectations align economic success with every element of our sustainability commitments, and have led us to prioritize our objectives in the following order:

1. The safety and health of our staff and those involved directly or indirectly in our operations. Nothing is more important.
2. Our responsibility to protect the environment. We follow the Precautionary Principle introduced in 1992 by the United Nations "Rio Declaration on Environment and Development" by using environmental risk as part of our development decision criteria, and by seeking improved environmental performance in our operations.

3. Economic success through a focus on operational excellence across our business, which includes technical and process excellence, efficiency, expertise and stakeholder relations.

We believe these three priorities generally do not conflict with each other, because business that is conducted in a safe and responsible manner is also most likely to be the most profitable way to do business over the long term. Where they may be in conflict, we instruct our staff that the health and safety of people and the protection of the environment must always take priority over profitability.

OUR SUSTAINABILITY VISION

Vermilion is an energy producer of choice for our key stakeholders:

Our people, shareholders, communities, governments and regulators, customers, partners and suppliers.

Sustainability Policy

Vermilion's sustainability policy is guided by our core values of Excellence, Trust, Respect and Responsibility. It applies to all of our operations, and in each of the communities where we live and work. Sustainability is led by our senior management team and supported by our Board of Directors and our employees and contractors. It applies equally to our suppliers and to those who represent us or conduct activities on our behalf.

In accordance with our Code of Business Conduct and Ethics, Vermilion meets or exceeds the requirements of applicable laws and standards in the communities where we operate, through all of our activities, including exploration, drilling, completion, operation and remediation. In doing so, we are committed to transparent and respectful engagement with our stakeholders, including our investors, employees, partners, suppliers, customers and communities.

Sustainability is integrated into all facets of our business, and is reflected in the following five key areas.

Governance and Ethics

Vermilion demonstrates strong corporate governance, with leadership that sets an example of the highest standards of ethics and integrity and a commitment to the responsible development of our diverse resource portfolio.

Our leadership model embeds ethical, fiscal, environmental and social considerations into all aspects of our business, resulting in operational excellence and the protection of our human, natural, financial, operational, intellectual and reputational capital.

Economic Performance

Vermilion recognizes that strong, consistent fiscal performance provides positive economic benefits for all of our stakeholders.

We are financially disciplined, with a focus on balance sheet strength and return of capital. This approach, together with our technical and intellectual excellence, ensures we recognize and develop appropriate opportunities, effectively manage risks, and continuously improve operational efficiency.

People

Vermilion's commitment to people is embedded in our core values: we embrace diversity, we value and care for our people, and believe every employee and business associate worldwide deserves to be treated with dignity and respect.

We recognize the principles of The Universal Declaration of Human Rights, and have policies in place to support these principles, including creating a fair and equal-opportunity workplace.

We challenge and inspire our employees to achieve their best, and value the teamwork, collaboration and innovation that lead to creating high performing teams, a great place to work and superior company performance.

Health, Safety and Environment

Vermilion is committed to conducting our activities in a manner that will protect the health and safety of our employees, contractors and the public while reducing our impact on the environment.

We fully integrate HSE into our business – with the mantra of Everyone. Everywhere, Everyday. Our vision is that the consistent application of our core values results in a workplace free of incidents, where HSE is fully integrated into our business; it is our way of life.

Every staff member, including management, is accountable for HSE and for delivering HSE performance improvements.

Communities

Vermilion strives to support the communities in which we operate using a shared value model. We work to develop economic and employment opportunities, build positive relationships and contribute to meaningful, mutually beneficial partnerships that strengthen both the community and our company capacity.

Our community investment program contributes to the quality of life in our communities through both charitable giving and employee engagement, supporting social, environmental and cultural issues. Through this program, our "Ways of Caring," we give back, we give time and we give together.

About Our Report

Our 2024 Sustainability Report is Vermilion's 11th report on how we manage economic, environmental, social and governance (EESG) factors, including impacts, risks and opportunities. It comprises two reports in one: a full sustainability report, and a Climate/Task Force on Climate-related Financial Disclosures Report.

This report covers 100% of Vermilion's business units: Canada, France, Netherlands, Germany, Ireland, Central and Eastern Europe, Australia and the United States, with data consolidation generally based on an operational control boundary.

Within each section of the report, we establish key areas of discussion for each of Vermilion's nine identified Material Topics under GRI Universal and Topic-Specific Standards, and Sustainability Accounting Standards

Board recommendations, incorporating GRI's 10 key Reporting Principles for defining report content and quality: ¹⁰²⁻⁴⁹

- Dashboard page with the most recent updates
- Approach section that details why the Aspect is material, how we manage it, and how we evaluate and adjust as needed (our Discussion of Management Approach), and
- Individual pages that create easily accessible information for longer-term projects.

Where updates of previously reported information were required, they are noted in our Performance Metrics. ¹⁰²⁻⁴⁸

Materiality Analysis

Our materiality analysis is carried out on the basis of double materiality, assessing our impact on society, the environment and people based on our stakeholder engagement. It was approved by the Executive Committee and reviewed by the Board of Directors in 2022, and comprises the following steps:

- Mapping our value chain
- Engaging with stakeholders
- Identifying issues
- Prioritizing issues, and
- Ensuring material issues are incorporated into our enterprise risk management system through the risk register.

Verification

Specific data or management systems have been independently audited or verified by the following organizations:

- Reserves by McDaniel & Associates
- Financial statements by Deloitte
- Scope 1, 2 and 3 emissions externally verified (limited assurance) by Jacobs in accordance with ISO 14064-3
- The Ireland Business Unit's environmental management system has been certified by NSAI for the Bellanaboy Bridge Gas Terminal under ISO 14001:2015
- The Germany Business Unit's energy management system has been certified under ISO 50001 ¹⁰²⁻⁵⁶



Our Value Chain

Vermilion's operations influence an extensive value chain that connects energy resources with activities that are essential to our daily lives, including transportation, manufacturing and heating, thus contributing to energy security and accessibility.¹⁰²⁻⁹

Exploration	Supply	Production	Transportation	Product Use
How we identify, analyze and develop new energy opportunities	The external contractors, suppliers, materials and expertise we leverage throughout our processes for both traditional and alternative energy production, including geothermal and biogas	How we extract oil, natural gas, associated byproducts and geothermal heat from our operating properties, through the lifecycle from drilling & completion to production, cogeneration and reclamation	How Vermilion transports and markets our products and byproducts, along with the subsequent transportation of those products to the end consumer	The midstream and downstream refiners who are our customers, the manufacturers and consumers who use the resulting products, and the partners who benefit from our geothermal from produced water projects

Value, impact or influence

Exploration	Supply	Production	Transportation	Product Use
Our decisions about where to operate and how best to source energy offer job creation and economic assets for communities, while requiring strong safety and environmental protection and community capacity analysis	Our purchasing decisions, including our performance expectations of suppliers, have a strong influence on company and community safety, environmental impacts and economic success	We focus on the operational excellence of our people, processes and technology to maximize safety and environmental management and economic value; this includes the land reclamation stage of well life cycle management	This supports local energy security and job creation while potentially involving safety and environmental impacts, including pipeline, road and rail transport safety, waste transportation and disposal safety	The economic value, and the potential safety and environmental impacts, of our products are important to industrial, financial and consumer sectors, all of which rely on a stable and secure energy supply

Focus of operational activity & decision making

Exploration	Supply	Production	Transportation	Product Use
Internal to Vermilion, with external consultation	Both internal and external to Vermilion	Primarily internal to Vermilion, with external consultation	Primarily external to Vermilion	Primarily external to Vermilion

Key stakeholders, listed by degree of impact¹⁰²⁻⁴⁰

Exploration	Supply	Production	Transportation	Product Use
<ul style="list-style-type: none"> Communities Government Investors Employees Partners NGOs 	<ul style="list-style-type: none"> Suppliers Employees Investors Communities 	<ul style="list-style-type: none"> Communities Investors Employees Partners Government NGOs Media 	<ul style="list-style-type: none"> Communities Partners Customers/end users Investors Government NGOs 	<ul style="list-style-type: none"> Customers/end users Investors Government NGOs Media

Primary issues ¹⁰²⁻⁴⁴ (top three to five identified through stakeholder engagement and issues monitoring)

Exploration	Supply	Production	Transportation	Product Use
<ul style="list-style-type: none"> • Safety • Environment • Community relations • Regulation • Governance • Economics 	<ul style="list-style-type: none"> • Safety • Environment • Efficiency • Supply chain management 	<ul style="list-style-type: none"> • Safety • Environment, including GHG emissions • Community / government relations • Staff relations • Efficiency & Economics 	<ul style="list-style-type: none"> • Transport safety • GHG emissions • Spills • Stable supply 	<ul style="list-style-type: none"> • Safety • Stable supply • GHG emissions • Cost • Regulation



Stakeholder Engagement

Our people, communities, investors, governments and regulators, and partners and suppliers are Vermilion’s key stakeholders: those who have the greatest impact on our business, or who are most impacted by our activities.

We base stakeholder identification and prioritization on our understanding and analysis of our value chain, with engagement that is guided by their impact and influence.^{102-42,413-1}

Our key stakeholders influence our business and operations in important ways, including capital to fund our activities, licenses for exploration and production, and expectations regarding safety and environmental performance.

Meeting these expectations is the key to maintaining and growing our license to operate, and we therefore engage with these stakeholders on a regular basis.¹⁰²⁻⁴³

Our corporate external stakeholder relations framework reflects the importance of community and government support, which we manage on a business unit-specific basis. This includes Public and Government Relations staff in France, Netherlands, Ireland, Germany, and Central and Eastern Europe; a regulatory specialist in the

United States; our Land department in Canada (which plays a key role in both community and Indigenous Peoples relations), and those responsible for our Safety Case and Environment Plan in Australia.

While regulations prescribe specific external stakeholder engagement, our approach is to also proactively communicate with our community and government stakeholders and Indigenous rightsholders – both individually and in venues such as town halls, open houses and visitor centres, where we provide information about our activities (planned and ongoing) and invite feedback. For example, as we evaluate and prioritize our exploration opportunities, we present activity plans, including managing the environmental and social impact of our activities, to partners, government and regulatory authorities, and public and community stakeholders.

For stakeholders with lesser degrees of impact or influence, our engagement is more specific and generally involves direct issue-related communication.

The table on the following page details how we engage with our stakeholders, topics raised, and how we have responded.^{102-40,102-42,102-43,102-44}

Identifying Issues

To identify the topics material to our business strategy, we begin by reviewing our existing issues, and those that we have added based on stakeholder engagement and recommendations, including those related to:

- International standards, including the United Nations Global Compact, OECD Guidelines for Multinational Enterprises, The Universal Declaration of Human Rights, the Global Goals for Sustainable Development (SDGs) and the United Nations Declaration on the Rights of Indigenous Peoples
- Sector-related government, regulatory and industry bodies, including the Extractive Industries Transparency Initiative
- Reporting entities such as the Sustainability Accounting Standards Board (IFRS/ISSB), The Task Force on Climate-Related Financial Disclosures, European Union Corporate Sustainability Reporting Directive, GRI and CDP, and
- ESG thought leaders, peer companies and media reports.^{102-15 102-46 102-47 103-1}



Current and Potential Investors

Engagement Channels	Topics Related	Response
Annual General Meeting and webcast, distribution of annual report & Proxy Statement and Information Circular	Financial results	Ongoing communication of material issues and results
Annual benchmarking against peers through Globe and Mail Board Games	Emphasis on climate-related strategy and reporting, along with evolving regulatory approaches to sustainability reporting	ESG Rating Agency Responses
Business updates, analyst conference calls	Reporting recommendations from TCFD, IFRS/ISSB and the EU Corporate Sustainability Reporting Directive	Sustainability reporting evolution
Ongoing presentations to investor and industry conferences, with webcasts posted on external Vermilion website and intranet	Focus on emissions, freshwater use, biodiversity and lobbying	Response to requests for interviews and other input
Ongoing monitoring of and response to investor relations e-mail and phone inquiries		Reviews of evaluations by ESG rating agencies, including corrections, responses and engagement
Ongoing monitoring of and response to social media including LinkedIn		Input into business strategy, including risk register
Media monitoring/ media appearances		
News releases		
Engagement on sustainability-related queries from ESG investment agencies, potential investors and current shareholders		
Feedback for TCFD and SASB/ISSB proposed changes, directly and via industry groups		

Partners and Suppliers

Engagement Channels	Topics Related	Response
HSE Pre-qualification screening and auditing of operations to ensure compliance	HSE performance	Ongoing implementation of HSE High Five personal safety initiative, the IOGP/ESC Life-Saving Rules and the Contractor Management Standard.
Safety meetings, including both Vermilion staff and our contractors and partners	Access to opportunities	Focus on operational excellence
Contractor briefings from Vermilion staff on expected standards of behavior, including our Code of Business Conduct and our Anti-Discrimination and Harassment Policy	Production and financial results	RFPs and invitations to bid
Meetings, etc. to review requirements and negotiate contracts, as needed		
Daily operations, including inspections and field audits		
Meetings, phone calls, e-mails as issues or concerns arise		

Employees

Engagement Channels	Topics Related	Response
Great Place to Work® program confidential staff survey, communication of results to staff through e-mails and meetings, ongoing engagement of staff in feedback and improvement action planning meetings from department to team levels	Strategic direction of the company	Executive Committee responses to town hall suggestions and questions
Global town halls with executive question-and-answer sessions based on questions submitted anonymously in advance, or during the meeting; informal executive coffee talks	Employee engagement and satisfaction	Implementation of suggestions from staff working groups
Additional confidential staff surveys on topics such as HSE (Perception Survey), compensation and strategic community investment (choices of non-profit partners, activities, etc.)	Clear communication and implementation of HSE program	Implementation of Fair Culture Policy in all business units
Additional town halls in each of our business units with leadership question-and-answer sessions	Communication (internal and external) of strategic community investment program	Annual workplan within our VET Vision, with strategy to 2030
Extensive annual lunch and learn program with company, industry and wellness topics		Action plans implemented in all business units and corporate departments to address staff feedback from the annual Great Place to Work survey with progress updates provided throughout the year
Whistleblower policy, 24/7 (referred to internally as “Reporting of Inappropriate Activity”)		
Company-wide working groups established to refresh our strategic plan		

Communities

Engagement Channels	Topics Related	Response
HSE Pre-qualification screening and auditing of operations to ensure compliance	Public safety	Progressing community investment program in all locations based on community and staff engagement (see Our Communities in this report) and guided by the concept of Creating Shared Value
Safety meetings, including both Vermilion staff and our contractors and partners	Community support and capacity building	Discussions with local communities regarding impacts and potential partnerships
Briefings from Vermilion staff on expected standards of behavior, including our Code of Business Conduct and our Anti-Discrimination and Harassment Policy	Environmental stewardship	Engagement with Indigenous Peoples, including business opportunities and community investment
Public open houses, town halls and on-site visitor centres; options to opt-in to notifications	Business and employment opportunities	Online community investment applications to streamline process for community groups
Meetings, etc. to review requirements and negotiate contracts, as needed		
Daily operations, including inspections and field audits		
Meetings, phone calls, e-mails as issues or concerns arise		

Governments and Regulators

Engagement Channels	Topics Related	Response
Regulatory requirements in all of our locations	Compliance	Compliance with or exceeding all regulatory requirements
Meetings, phone calls, conferences with government officials	Technical expertise	Audits and inspections to confirm compliance
Government-Industry working groups	Economic and community development	Proactive community investment and sustainability programs

NGOs: Industry, Environment, Social

Engagement Channels	Topics Related	Response
Ongoing participation in industry meetings and conferences	Transparency and communication of sustainability performance	Annual ESG rating agency submission and engagement
High-level review of NGO positions and topics	Environmental concerns and performance based on location	Alignment of sustainability strategy with UN SDGs
Meetings with NGO representatives		Engagement with ESG rating agencies, including CDP, MSCI, Moody's, ISS and S&P Global
		Focus on operational excellence, including compliance with or exceeding all regulations
		Use of feedback in developing internal environmental and social programs

Materiality Assessment

ESG Topic	Higher Impact/Risk - Fuller Reporting	Other Important Issues Included in Reporting
	Critical or immediate (0-3 year) risk to health & safety, the environment, financial performance, reputation, employee relations, community relations, or social license to operate; strong opportunity to significantly increase financial performance or operational efficiency	Important but not critical risk; impact may be realized in longer term
Social	Personal and Asset Safety	Human rights
	Employee Engagement	
	Community Relations	
	Indigenous Relations	
Environment	Emissions Reduction	Biodiversity Protection
	Energy Transition & Climate Change	Supply Chain Management
	Abandonment and Reclamation (ARO)	
	Water Stewardship and Protection	
	Releases / Spills	
Governance Issues	Regulatory Change	Lobbying
	Financial Resiliency	Cybersecurity
	Ethical Behaviour	Energy Security and Affordability
		Technology and Innovation

The issues identified in our stakeholder engagement are evaluated as to high, medium or low impact for Vermilion and for our stakeholders, including how directly affected the stakeholders are, and whether issues span multiple stakeholder groups.

This is based on external engagement and input from our Board and senior leadership. Our current evaluation reflects increasing importance for regulatory frameworks, lobbying and community support, freshwater management, biodiversity and supply chain risk.^{102-49 102-46 102-47 103-1}

Risks are integrated into our enterprise risk management system and our business strategy as described in the TCFD Strategy and Risk Management sections of this report.

TCFD/Climate Report & Index

TCFD Integration Index

TCFD Element	Page / Performance Metrics Reference
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Targets used by the organization to manage climate-related risks and opportunities and performance against targets.	36
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Governance

As an international energy producer, Vermilion believes that we can best deliver long-term value by operating in an economically, environmentally and socially responsible manner that recognizes the importance of our stakeholders. We believe that integrating sustainability principles into our business increases shareholder returns, enhances development opportunities, reduces long-term risks, and supports the well-being of key stakeholders including the communities in which we operate.

Vermilion established sustainability disclosure in 2014, aligned with the Global Reporting Initiative (GRI). We have since integrated many tenets of the Task Force on Climate-related Financial Disclosure (TCFD) and the Sustainability Accounting Standards Board (SASB), and are considering the impacts of IFRS S1 and S2, and Europe's Corporate Sustainability Reporting Directive.

Our discussion of Governance is also included in our Information Circular, with the discussion of Strategy, Risk Management, and Metrics and Targets also contained in our Annual Report. This recognizes the importance of climate-specific disclosure while reflecting its intersectionality with other environment-related risks and opportunities, social factors such as safety and community engagement, and governance-related matters.

Board Oversight

Integrated Sustainability is one of six strategic objectives that link together in our long-range business plan (see Our Approach to Business). The Board has responsibility for overseeing Vermilion's sustainability- and climate-related strategy and performance, including direction, goals and targets, with Board committees providing additional sustainability-related expertise in their areas of focus:

Audit: risk management and internal control systems, including information and technology cybersecurity

Governance and Human Resources: corporate governance and performance, including ethics and reputation; people practices including diversity, succession, development, talent management oversight and compensation; oversight of corporate culture

Health, Safety and Environment: operational and environmental risks and mitigation; risk management and HSE-related sustainability initiatives

Technical: reserves reporting; operational execution excellence; assessment of technical risk, and

Sustainability: emerging risks and opportunities; energy transition, including emission reduction

targets; social impacts, including human rights, community investment, and government and other stakeholder relations.

Board and Committee mandates, available on our [external website](#), include sustainability-related roles and responsibilities.

The Board and Sustainability Committee receive briefings and performance reports quarterly that include ESG performance, sustainability activities, updates from business unit leaders, environmental and social trends, and strategic community investment activities. These are augmented with continuing education from third parties in fields such as climate change and the energy sector, the energy transition, and ESG factors in institutional investment.

The Sustainability Committee provides oversight for the long-range sustainability strategy, its implementation, progress including key performance indicators, and methods of communicating sustainability policies and performance. The committee also identifies and reviews emerging risks and opportunities associated with sustainability issues (including incorporating external stakeholder input), and their integration into Vermilion's enterprise risk management framework and policies.

The committee Chair reports to the Board on the committee's work,

reflecting the holistic way in which sustainability issues impact the Company. Thus, sustainability- and climate-related information is considered when the Board oversees major decisions, such as long-range planning, budget and capital allocation, and mergers, acquisitions and divestments. For example, the Board used the results of Vermilion's climate-related scenario analysis to inform its guidance and approval of our emission-related targets.

Management Role

Organizational responsibility for sustainability- and climate-related issues flows from the Board to our Executive Committee, whose Principal members include the President and CEO, Vice President and Chief Financial Officer, Vice President, International and HSE, and Vice President, North America. Associate members include the Vice Presidents of People and Culture, Sustainability, Marketing, Investor Relations, Geosciences, and European Operations, and our General Counsel and Corporate Secretary.

The President and CEO has responsibility for sustainability, including climate-related risks. Our Vice President, Sustainability reports to the President and CEO, and is responsible for developing sustainability strategy and reporting, including identifying, assessing and overseeing management of sustainability- and climate-related issues, working in partnership with

corporate teams and business units to ensure the Company’s approach reflects the goals within our long-range business plan.

The Vice President, Sustainability also provides updates to and receives guidance from the Board and/or the Sustainability Committee at least quarterly, and the Executive Committee monthly, on strategy, issues, performance and reporting. The corporate sustainability team provides a centre of excellence

approach, advising the business on all aspects of sustainability, including environmental, climate and social issues, based on research and inputs from the business. The team is also responsible for external sustainability reporting, based on data from our HSE, People and Culture and financial information systems.

Our Vice President, North America and our Vice President, International and HSE lead the operationalization of sustainability, with business unit

leaders responsible for strategy and activities, including managing climate-related risks and opportunities, with the support of sustainability leads in each business unit. The sustainability leads, along with the corporate sustainability team, meet as needed to discuss related issues, trends and learnings. In addition, various departments within the Company report sustainability- and climate-related priorities and progress as frequently as weekly to management, and

quarterly to the full Board or Board committees, on issues such as governance and ethics, targets and performance (including HSE and DEI), risk management, regulatory changes, and public and government relations.



Strategy

We have identified climate-related risks and opportunities (including those related to water) in short-term (0-3 years), medium-term (3-6 years) and long-term (6-50 years) horizons.

These are described in our Annual Reports and below, with their potential company and financial impact (assessed using processes such as scenario analysis, cost

projections and our Emissions Long-Range Planning tool), and our resulting management approach. Our [CDP Climate Change and Water Security submissions](#) provide

additional information, including where in the value chain these risks and opportunities occur.



Geothermal heat from the produced water at our oil operations in Parentis supports the production of more than 7,500 tonnes of tomatoes annually in 15 hectares of greenhouses

Category / Issue	Description of Impacts	Potential Financial Impact	Management Approach
Short-term Transition Risks: (0-3 Years)			
Policy and Legal: Increased Pricing of GHG Emissions e.g. Carbon Tax	Short-term impact is primarily in Canada and Ireland. Canadian Federal Greenhouse Gas Pollution Pricing Act has set carbon tax rates at \$65 per tCO ₂ e in 2023, rising to \$170 by 2030, with provincial responses to keep pace with the federal system. Our Ireland operations are subject to the EU ETS and Ireland Carbon Tax systems. Longer-term impact rests on carbon pricing's vulnerability to changes in government policy.	With our recent northeast British Columbia acquisition, we are currently evaluating the new provincial Output-based Pricing System to determine potential tax implications. Our Ireland EU ETS liability is forecast at approximately \$2.6MM in 2025 and \$3.5MM in 2030. The Ireland Carbon Tax liability is expected to be an additional approximately \$0.1MM/year over this period. All estimates are net Vermilion.	Our exposure is mitigated by provincial responses to the Act, including Alberta's Technology Innovation and Emissions Reduction (TIER) regulation and Output-Based Pricing Systems (OBPS) in Saskatchewan and forthcoming in British Columbia. Our ongoing efforts to reduce the energy and emissions intensity of our operations are integral to managing this risk, including our emission-related targets. Vermilion continues to monitor and comply with taxation requirements.
Policy and Legal: Enhanced Emissions and other ESG Reporting Obligations	Climate and other ESG reporting obligations are evolving rapidly, with Vermilion subject to the International Sustainability Standards Board (2025) and European Sustainability Reporting Standards (2026), U.S. Securities and Exchange Commission and Canadian Securities Administrators Climate-Related Disclosure Rules, and Modern Slavery Acts in Canada and Australia. Although Vermilion's existing sustainability-related disclosure provides a sound foundation for compliance, there are costs to implement these, particularly potential requirements for increased levels of audit. The impact to Vermilion would be a decreased netback per BOE, due to increased expenses for staff time and system development and implementation. In addition, regional regulatory requirements may conflict with each other, increasing the risk of legal or regulatory action.	The financial impact is an increase in operational cost associated with the management and quantification of emissions to meet new reporting requirements, and the administrative costs associated with reporting and audit obligations. This is estimated at \$1MM annually, without the cost of audit requirements or potential legal action.	Regulations in all of our business units are monitored on an ongoing basis, and assumptions/ scenario planning is used annually to assess risk. In Canada, we implemented an external emission data gathering software in 2021 to support the evolving regulatory landscape. Vermilion also engages stakeholders relating to emissions reporting obligations. Management of this risk is built into Vermilion's operations and our ERM. In addition, we expect to automate our emissions data gathering, aggregation and calculation processes in 2024, while ensuring audit-ready processes for all ESG data points to align with proposed regulatory requirements.
Policy and Legal: Changes in Mandates/Regulations re Products - Existing Production or Acquisition Impaired by Regulatory or Political Changes	Vermilion's operations are subject to regional regulatory and political changes that result in changes to equipment requirements such as engineering and equipment modifications to reduce carbon emissions and / or emissions of criteria air contaminants. The most likely short-term impact is regulations in Canada and the European Union to reduce methane emissions, in France to reduce flaring, and in Netherlands to reduce NO _x . From a macro perspective, geopolitical impacts (e.g. war in Ukraine) have escalated diverging government and consumer viewpoints on the need for energy security vs energy transition. We expect demand for oil and natural gas to remain strong, while safety and environmental regulations governing its production will increase.	Operational changes to comply with existing methane reduction regulations is expected at approx. \$2MM in the short term, with those associated with eliminating routine flaring in France subject to continuing review in 2024. The cost of compliance with proposed regulations, such as Canada's proposed regulatory framework for reducing oil and gas methane emissions to achieve a 75% reduction by 2030 and European methane regulations is not yet established, and will depend on the final version of the framework.	Vermilion is closely monitoring regulatory and market changes to ensure its approach to resilience under evolving conditions remains appropriate. We provide feedback to governments on proposed regulations, as per our lobbying disclosures, and allocate resources, including staff and capital, to ensure that required operational changes can be effectively actioned. In the short term, tying in vented equipment to flaring infrastructure in Canada is an example of projects to address this risk, in Netherlands, we have used NO _x scrubbers and purchased NO _x certificates to comply with new regulations. Our ongoing efforts to proactively reduce the energy and emissions intensity of our operations are integral to managing this risk, including our announcement of two emission-related targets in 2021, and our work in 2023 to establish a net zero transition plan, or climate strategy, as part of our aspirational goal, and 2030 emissions reduction target, which we have released in 2024. We are also working with external partners to further implement and develop emission reduction technologies that are economic to the company, in part due to the potential generation of carbon credits. Based on stakeholder engagement, Vermilion believes that independent assessments of our operations by third parties are an important tool to demonstrate our responsible approach to production of essential energy. As a result, we have sought and achieved Equitable Origin responsible gas producer certification for 4 of our Canadian sites, the AFNOR CSR Committed label in France, and the Business Working Responsibly mark in Ireland.

Category / Issue	Description of Impacts	Potential Financial Impact	Management Approach
Reputation: Shareholder Divestment	Stakeholders, including some investment and financial entities, are raising concerns regarding risks related to emissions, environmental and biodiversity protection, water stewardship, and abandonment and reclamation liabilities.	Impact of divestment is estimated to be equal to 0.25X of 2023E FFO reducing market capitalization by \$285MM. This estimate covers all significant sustainability risk scenarios including but not limited to water stewardship, biodiversity, modern slavery, and community relations.	In addition to our net zero transition plan development, we have set public targets to reduce ARO liabilities and internal targets to maintain freshwater intensity performance via water management plans where higher-intensity freshwater use is, or could become, an issue. We are also prioritizing compliance with incoming sustainability reporting requirements, which are largely stakeholder-driven, and are actively engaging with investors to understand and respond to their concerns.
Reputation: Changes in Customer Behaviour and Legal Challenges	Government and community relationships are strongly linked to both social and regulatory licenses to operate. Communities where we operate also bear potential impacts, including noise, dust, lights, traffic, etc. Legal challenges against oil and gas industry are increasing, while adoption of EVs and opposition to fossil fuels by reflects customer sentiment in some areas. Windfall tax/solidarity contributions are possible during times of particularly high commodity prices. Passed into federal law in Canada in June 2024, Bill C-59 introduced significant uncertainty into how the Competition Bureau will approach tests and methodologies required to substantiate environmental and other claims, and may increase the risk of legal challenges to oil and natural gas company reporting.	The impact of delays or shutdowns in production would be measured in terms of production per day, impacting revenues. The impact of the 2022-2023 windfall tax is already decreasing, to \$80MM in 2023 under lower commodity pricing, with the EU stating that it will not be extended. Legal challenges would impact costs, but costs are not practical to forecast.	We implemented our Non-technical Risk Management Policy and framework in 2023, providing guidelines for community/social impact assessments, along with our well-established strategic community investment program, Ways of Caring. We also implemented our Lobbying policy in 2023, guiding our engagement with governments, including on specific issues such as windfall tax. We are reviewing our approach to sustainability reporting in 2024 and 2025 to accommodate compliance with the European Sustainability Reporting Standards and Canada's Bill C-59.

Medium-Term Transition Risks: (3-6 years)

Technology	Our emission reduction projects and climate strategy rely on technologies that are rapidly evolving, but in many cases unproven at larger scales and uneconomic for dispersed assets that are not, for example, near an electrical grid or pipeline gathering system. Assumptions by those outside the industry involve broad generalizations on methane reduction being economical for all assets, and in many cases may be proven false. Some technology projects will fail; others will prove uneconomic.	Based on the capital and/or operating spend required to reduce our near-term carbon tax liability through emission reduction projects, this is incorporated in our climate strategy.	We are mitigating this risk through a careful and deliberate approach to new technology adoption. We have established sustainability project criteria that need to be met in order to move into the Vermilion Opportunity Development Process, providing various stage gates and off-ramps.
Market: Increased costs related to capital and financing	Pressure from stakeholders to limit access to, or increase the cost of, debt, capital or insurance without the use of sustainability-linked financing arrangements	Using 100 bps or a 1% increase to total debt as an estimate, the impact would be an increase to total debt by ~\$10MM.	We have established emission-related targets and an ARO target, and have developed a climate strategy that, together, establish the foundation for sustainability linked financing should it be required.

Medium-Term Physical Risks: (3-6 years)

Acute: Increased Severity of Extreme Weather Events such as Cyclones and Floods	Vermilion's Wandoo field off northwestern Australia, Corrib project off the Irish coast and oil fields in the coastal area of SW France can be impacted by extreme weather events such as cyclones, resulting in down time or damage to infrastructure. Such events can also impact the downstream handling capacity of our partners, resulting in a limitation to the distribution and sale of our products.	Based on the value of the Wandoo Platform and a 1-in-10,000-year cyclonic event, the financial implications associated with damage due to a severe weather event is estimated at \$280MM (total impact before insurance). The third-party costs associated with potential damages from extreme weather events are not tracked.	Vermilion maintains insurance as a mitigative measure to reduce the financial impact associated with damage to our assets due to severe weather events. We also have a robust asset integrity program that maintains our offshore facilities to their original design specifications of CAT 5 hurricane force. We also have protocols for monitoring and preparing for cyclones, and have invested in our emergency response capabilities in the event of damage to our assets due to severe weather.
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Long-term Transition Risks: (6-50 years)

Technology: Substitution of existing products and services with lower emissions options, including market supply and demand	Although we see demand for oil and natural gas remaining steady in the short- to mid-term, it is likely that demand for oil and, to a lesser degree, natural gas will eventually fall as the energy transition evolves and alternatives for renewable energy options become technologically and economically available. This could impact the demand for our products in the longer term, post-2035 for oil and further out for natural gas, leading to lower commodity prices. As the past several years have demonstrated, however, it will be critical to maintain adequate supplies of both oil and natural gas during the energy transition, to provide both accessibility and affordability.	Given the uncertain timeline and progression of the energy transition, and supply-demand dynamics, we are not using a financial forecast for impact. We are, however, using our scenario analysis to identify potential opportunities that would mitigate the risk to our products.	Based on our scenario analysis, we identified the need to explore new and evolving technologies and processes to identify synergistic fits for our business in both traditional and renewable energy production. We are pursuing this via our established track record in geothermal energy from produced water, for which our internal expertise in engineering, geoscience and drilling is particularly well suited. We are also investing in early R&D in other areas, such as biogas and the conversion of traditional oil and gas assets to geothermal and hydrogen production, to better understand the long-term potential.
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Category / Issue	Description of Impacts	Potential Financial Impact	Management Approach
Long-Term Physical Risks: 2030-2050+			
Chronic: Rising Sea Levels	Chronic Physical: Potential rising sea levels could impact our Netherlands assets and operations due to issues such as flooding, transportation difficulties, supply chain interruptions and salinization of groundwater.	A rise in sea level could have an estimated financial impact of \$570MM before insurance at our main Netherlands gas processing facility Garipj (GTC) caused by an extreme 1-in-10,000-year tide/extreme wind event.	Physical measures such as conventional berms may not provide complete protection. Based on Vermilion's assessment of less than 0.05% probability over the next 5 years we have accepted this level of risk, reviewing it annually.
Chronic: Changes in Temperature Extremes, Including Rising Mean Temperatures; Changes In Precipitation Patterns and Extreme Variability in Weather Patterns	<p>Chronic Physical: Based on RCP4.5, which limits warming to 3C (overshooting 1.5-2C), our assets and operations could experience climate changes between 2041 and 2070 such as: North America: 2-3C increase, 12-14% increased precipitation, 7-8% increased aridity, >10 fewer frost days and <25% decrease in number of dry spells. Europe: 1-2C increase, 0-5% increased precipitation, 4-12% increased aridity, generally decreased frost days, with several areas seeing <25% increase in number of dry spells. Australia: 1C increase; 8% increased precipitation SMHI, Climate Information, https://climateinformation.org/, last accessed: 9 July 2023.</p> <p>Depending on the location, overall warming temperatures, greater precipitation or generally drier conditions (due to increased evaporation) may increase capital costs for drilling, completion and workover operations due to increased timelines, equipment breakdown and restricted access in North America (fewer frost days). They may also impact the health and safety of workers, and create variability and potentially more severe weather events such as flooding, drought and wild fires. Flooding could result in limited access to locations; droughts could impact the availability of surface and / or groundwater required for drilling and completion. This could negatively impact growth by increasing timelines and capital costs to bring on new production.</p>	The financial implications of a single time event (i.e. wildfire) have been assessed on a case-specific basis. Vermilion maintains insurance to mitigate the potential impact of precipitation-related extreme events (i.e. Wild fire, Flooding)	<p>Each of our assets is assessed for potential risks and hazards, including those associated with weather events, from lightning to flooding to wild fires. These risks are reviewed at least annually on a case-by-case basis as part of our ERM system. Mitigation approaches such as clearance of vegetation around facilities, and physical barriers to flooding, are implemented as per our HSE Management System, to protect the health and safety of our workers, contractors and the public, and to protect the environment.</p> <p>In the case of a longer term extreme precipitation event or drought, Vermilion would implement water management programs to reduce our reliance on freshwater sources to limit the potential impact on operations.</p>
Short-term Opportunities (0-3 Years)			
Products and Services, and Resilience: Development of New Products and Services through R&D and Innovation; participation in renewable energy programs	<p>Directly related to the long-term transitional risk associated with the substitution of low-carbon products, we have the opportunity to participate in the development of those products. This has the potential to reuse our current infrastructure to provide alternative products, such as biogas or hydrogen, or to develop new products such as geothermal energy, creating new revenue streams.</p> <p>An example of this opportunity is the geothermal heat we are providing heat from the produced water in our oil operations in France to develop agriculture and residential projects near our operations.</p>	<p>As this opportunity is in the early stage of assessment, it is difficult to quantify the financial impact, but it is estimated at up to \$2MM per year in revenue and returns on investment. Potential also exists for significant cost adjustments, as assets slated for abandonment would be repurposed to enable them to continue to generate energy.</p>	<p>We are leveraging our technical experts and partnerships to provide input into alternative and renewable energy projects as they are identified. An example of the development of low emission goods/services is our France-based industry partnership with Avenia to expand the use of geothermal energy production in oil production, and a geothermal association in Germany.</p> <p>We have also developed criteria for approving the move of these ideas into our Vermilion Opportunity Development Process, which provides clear gates and criteria for considering and implementing such projects.</p>
Products and Services: Access to New Markets	<p>More stringent global measures to reduce emissions from individual ships by 30% by 2030, established through amendments to MARPOL Annex VI, came into force on Jan 1 2020, limiting the sulphur content of bunker fuel to a maximum of 0.5%. Vermilion's Australian Wandoo facility produces 4500 bbl/d of low sulphur crude oil that meets the needs of refineries in the short term to meet IMO regulations. In addition, there may be opportunities associated with Canadian LNG export and natural gas power demand for evolving technologies such as artificial intelligence.</p>	<p>Vermilion conservatively foresees achieving a premium of \$10/bbl for its Wandoo production over the next three years for cumulative incremental revenue of \$50MM. Other opportunities have not been quantified.</p>	<p>Vermilion continues to access local markets for our low sulphur production, while exploring regions to expand our operations. Our Marketing group ensures that Vermilion meets its contractual obligation with our buyers in terms of volumes, delivery dates and crude quality. Our Mica play in British Columbia provides opportunities to participate in LNG-related volumes and pricing, while our natural gas assets globally can support natural gas power for electricity consumption.</p>

Category / Issue	Description of Impacts	Potential Financial Impact	Management Approach
Medium-term Opportunities (3-6 Years)			
Products and Services: Ability to Diversify Business Activities; Shift in Consumer Preferences	Vermilion maintains a diverse, stable global portfolio of oil and gas assets. We see our commitment to sustainability as core to our business, which has provided important organizational focus on emissions quantification and management, which in turn may provide opportunities related to operational certifications and emerging (although currently uncertain) carbon markets.	The financial impact of changing consumer preferences is difficult to quantify. We foresee revenue opportunities in two areas. (1) In consumers selecting premium energy products, with these products demanding a higher price than other energy sources on the market; commodity pricing volatility now makes this difficult to estimate; 2) Access to more stringent markets, supported by our environmental and sustainability performance. Vermilion's sustainability performance has supported our entry into German, Hungarian, Croatian and Slovak oil and gas operations.	Based on stakeholder engagement, Vermilion believes that independent assessments of our operations by third parties are an important tool to demonstrate our responsible approach to production of essential energy, and generate premium. As a result, we have sought and achieved Equitable Origin responsible gas producer certification for 3 of our Canadian sites, the AFNOR CSR Committed label in France, and the Business Working Responsibly mark in Ireland. We are assessing the potential to expand these certifications. We are also continuing to evaluate the benefit that certified offset credits from various emission reduction projects across our operations could provide.
Long-term Opportunities (6-50 Years)			
Products and Services: Shift in Consumer Preferences	Under the Canadian Environmental Protection Act and based on commitments made by the Canadian and Alberta governments and energy utilities relating to COP21, there is a commitment to reduce emissions for coal-fired power generation. Based on this and with the last coal-fired power generation station in Alberta ceasing operations in 2024, the demand for natural gas may be impacted positively due to increased use of combined cycle gas turbine (CCGT) power generation. In addition, Germany has phased out nuclear power and is phasing out coal, while accepting the use of natural gas alongside renewable energy, which provides opportunities for Vermilion's domestic production of natural gas.	The short term impact of this regulatory change on gas pricing is anticipated to be low and increase to medium in the mid- to long-term. There is a potential to see an impact on the marketable price and demand for natural gas. As a natural gas and oil producer, Vermilion would benefit from an increase in marketable prices for natural gas in our Canadian operations.	As we move further into the energy transition, we foresee natural gas playing an impactful role). Vermilion continues to focus on the identification of resources and assets where we have the opportunity to apply our industry leading expertise to optimize production while reducing emissions. An example of our strategy to realize this opportunity is our asset base in Alberta and increasingly British Columbia. Vermilion's marketing team is also actively pursuing options for our natural gas production that will enable Vermilion to achieve the best netbacks on production.
Energy Source: Shift Toward Decentralized Energy Generation and Domestic Energy Sources	The carbon intensity of energy used around the world has a direct relationship to where the energy product was generated. Vermilion's business unit structure supports production and distribution of energy products into local markets. This strategy often results in the reduction of the carbon footprint of our energy when compared to non-local sources.	The long-term financial impact of decentralized energy generation will depend on the speed of the energy transition balanced against the need for energy security. As such, we believe it is not possible to predict the financial impact at this time.	Vermilion continues to assess where we can access local markets for our production, while exploring regions to expand our operations. The actions taken in the past several years to realize this opportunity include alterations to our structure, our strategic objectives and our operational development plans to support Vermilion as a distributed energy provider, and exploration and development programs in regions with relatively low energy production as compared to consumption (i.e. Hungary).

Resilience of the Company's Strategy

Our sustainability strategy rests on three pillars: Carbon, Conservation and Community.

Carbon

Countries in all of our operating regions are implementing policies to support a low-carbon future for the world's economy, aiming towards a 1.5-2C or lower scenario. As a global energy producer, we have an opportunity to be part of the solution: to help ensure the supply of safe, reliable and affordable energy during this transition. The Board of Directors and senior leadership therefore responded to our risk and opportunity identification using a robust scenario analysis.

Vermilion initially examined two energy transition scenarios from the World Economic Forum. These compared a Gradual versus Rapid low-carbon transition based on inputs that included the International Energy Agency's New Policies Scenario (Gradual) and Sustainable Development Scenario (Rapid), which meets the Paris Agreement's goal to limit global temperature increases to 1.5 to 2°C. Vermilion examined key factors impacting the speed of the transition – including the influence of new energy technologies; potential

speed of their adoption; anticipated changes in policy and regulation; and emerging market pathways such as India – and resulting factors that could impact the company, including economics (demand, supply, consumer behaviour, and costs of energy); technological advancement; capital availability; government policy; and Company reputation. Among these, government policy and energy affordability were seen as most influential in the near to mid-term.

We applied these findings to Vermilion's strategy to 2050 and beyond, described below. In particular, the scenario analysis led us to develop two emission-related targets that were announced in 2021: an aspirational goal for net zero emissions in our own operations, including Scope 1 and Scope 2 emissions, by 2050, and a near-term target to reduce Scope 1 emissions intensity from our operations by 15 to 20% by 2025, using a baseline year of 2019. See Metrics and Targets, below, for more information.

In 2023, we augmented this work with a new analysis of both climate-related transition risks and physical risks. It should be noted that these scenarios are neither predictions nor forecasts; while they rely on the work of credible third-party organizations,

they are constructions based on circumstances and assumptions that are highly vulnerable to macroeconomic and geopolitical changes. We have used them to inform our discussions on short, mid- and long-term business strategy, along with risk identification and management.

In our scenario analysis, our Executive Committee and Board of Directors reviewed an internally developed comparison of a diverse range of climate-related transition scenarios. We focused on changes in demand for oil and for natural gas based on a Reference (business as usual) case and a Climate Policy (government support for reduced greenhouse gas emissions) case for Global, Advanced Economy and Emerging Economy scenarios. Specific scenarios included those from the International Energy Agency (Stated Policy, Announced Pledges and Net Zero), Equinor (Walls, Bridges), and BP (New Momentum, Accelerated), along with reference cases from Exxon, OPEC and the International Energy Agency. The analysis showed the potential for energy demand declines over a 5- to 15-year horizon, but also showed greater impacts on specific assets based on government policies, location and logistics (landlocked vs waterborne), and proximity to

petrochemical or carbon capture and sequestration capacities.

For example, our analysis for the Reference case in advanced economies points to strong policy uptake in Europe and Industrialized Asia, as well as energy efficiency improvements in the residential and commercial sectors. Oil demand declines as energy transition policy momentum pushes road transport towards electrification, which is further displaced by biofuels after 2030. Efficiency gains reduce consumption, while demographic trends reduce oil demand. Climate Policy scenarios see advanced economies driving a rapid uptake of renewables to a near full phase-out of combustible natural gas use, leading to a finale in the role of gas as a transition fuel. Gas use in 2050 is mostly consumed by the petrochemical sector and for hydrogen production. Both scenarios rely on assumptions such as a continued improvement in advanced technology for renewables (for example, battery improvement), and the addressing of supply chain human rights and environmental issues for critical minerals. Currently, increased natural gas consumption, consumer challenges over energy affordability and increasing costs for renewable energy projects are contributing to a transition that is

expected to be longer than this scenario indicates.

We also assessed the physical climate-related risks in our major operating regions using the International Panel on Climate Change's Representative Concentration Pathway (RCP) 4.5 scenario. We selected RCP 4.5 because it reflects the physical risks our operations would face if CO2 emissions do not start declining until approximately 2045, reaching approximately half of 2050 levels by the end of the century. This is more likely than not to result in rising global temperatures above 2C; specific geographic scenarios are summarized above in the Risks table.

Using RCP 4.5 enabled us to identify impacts to operations if the 1.5-2C goal is not reached, such as rising temperatures, aridity and dry spells in many areas, rising precipitation in some areas, and rising sea levels. Since climate volatility would also increase, RCP 4.5 highlights the need to consider adaptation and mitigation tactics including changing work schedules for daily heat cycles, along with greater wind, storm and wildfire protection for our assets. We note that RCP 2.6 (which requires CO2 emissions to have started declining by 2020) relies not only on reducing emissions, but also on removing significant amounts of greenhouse gases from the

atmosphere, and reflects similar physical risks as 4.5 in the next 10-15 years, with lesser effects in the period 2050-2100.

We incorporated the results of the discussions around these scenarios into our business strategy work in 2023, including working on our climate strategy (see below) and our risk identification and management process.

Our sustainability strategy continues to emphasize ensuring our resilience under various scenarios, and rests on three emissions-related activities:

Focusing on efficient and responsible production of oil and natural gas, viewing emissions as a potential energy source:

- **Lower carbon fuels.** Since 2012, we have shifted our production mix towards natural gas as a cleaner burning fuel than other fossil fuels. We also sell our fuels within the country of production wherever possible, reducing the carbon footprint associated with transportation of the fuel to consumers while increasing national energy security.
- **Socially responsible fuels.** We are committed to ensuring that our products are produced in an

environmentally and socially responsible manner, respecting worker rights and community engagement.

We operate in regions noted for their stable, well-developed fiscal and regulatory policies related to oil and gas exploration and development, and to health, safety, environmental and human rights legislation.

- **Transparency and reporting.** We have established a strong record of reporting on greenhouse gas emissions, energy usage and other key environmental metrics, which has supported our emission-related targets.

Implementing technically and economically feasible options for emission reduction, covering fuel combustion, flaring, venting and fugitive emissions:

- **Greater energy efficiency.** Many energy and operational efficiency initiatives go hand-in-hand, which in turn helps us minimize our carbon footprint and reduce greenhouse gas emissions.
- **Lower greenhouse gas emission intensity.** We are committed to reducing the greenhouse gas emissions

associated with our production, with particular focus on methane.

Exploring new and evolving technologies and processes to identify synergistic fits for our business in both traditional and renewable energy production:

- **Alternative energy.** We are continuing to develop our knowledge and use of alternative energy sources, including geothermal energy, for which our internal expertise in engineering, geoscience and drilling is particularly well suited. This work has begun with the geothermal potential of our produced water, supporting a circular economy model that reuses resources to better protect our environment. It is also expanding into areas such as biogas and the conversion of traditional oil and gas assets to geothermal and hydrogen production, and to carbon capture and storage.

Climate Strategy

We furthered this approach in 2023-24, developing the next step towards our aspirational target of net zero Scope 1 and 2 emissions by 2050. Our base assumptions included:

- The continuation of our current business model, in which our purpose is the responsible production of oil and natural gas, while we also develop economic energy alternatives that fit our infrastructure and expertise, using a low-risk approach that emphasizes partnerships
- The plan is a product of our current understanding of transition issues and will evolve over time; we expect to update underlying data annually with a larger plan review every three to five years as economic, technological, legal and regulatory landscapes evolve.

Our strategy evolved as we:

- Assessed Scope 1 and 2 emission sources, identifying major sources of methane
- Reviewed the accuracy and completeness of measurement and reporting
- Developed a high-level project list for potential emission reductions based on a cost/tonne of CO₂e

Through this work, it became clear that, given uncertainties around government policy, regulations, carbon taxation, technology development, geopolitics, methane reduction alternatives and costs, and carbon accounting changes, our focus should be on the period to 2030. We therefore prioritized emission intensity reduction along with emissions considerations in acquisition and divestment decisions in this period, while establishing research and development that will provide a foundation for greater adoption of energy alternatives beginning in the late 2020s and continuing in the 2030s. Our next steps include:

- Validating our high-level capital cost and carbon abatement costs/tCO₂e in key business units for emission reduction projects, including potential cost increases
- Monitoring government and regulatory support for energy alternatives with higher economic risks, such as carbon capture and storage, and hydrogen production
- Implementation of centralized emissions quantification to allow more efficient tracking and forecasting towards our climate strategy objectives

Based on our scenario analyses, we have developed our climate strategy using four key pillars:

Pillar	Focus	Estimated Contribution	2024-2030 Approach
Reduce	Reduce emissions,* with methane a priority, by <ul style="list-style-type: none"> • Reducing flaring, venting and fugitive emissions • Driving operational and energy efficiencies • Electrifying operations if economical where grids are low-intensity • Assessing new technologies as they become feasible 	35-40% by 2040	Achieve our emission-related targets compared to our baseline of 2019: <ul style="list-style-type: none"> • 2025: Scope 1 emissions intensity reduction by 15-20% • 2030: Scope 1+2 emissions intensity reduction by 25-30%
Calibrate	Calibrate our portfolio by considering emission intensity impact in acquisition and divestment decisions, including planning for field end-of-life	10-20% by 2040	Use acquisitions and divestments to impact achieving our targets, not our 2019 baseline. If we divest higher emitting assets or acquire lower emitting assets, this will reduce our intensity. If we divest lower emitting assets or acquire higher emitting assets, this will increase our intensity, and we will need to consider projected costs of emissions reduction in our financial decisions.
Adapt	Adapt our portfolio to new energy, considering carbon capture and storage, renewable energy associated with our core operations such as biogas, hydrogen and geothermal production, and other new technologies	35-45% by 2050	Evaluate early-stage alternative projects through partnerships, including: <ul style="list-style-type: none"> • Four existing geothermal energy from produced water projects in France • Biogas production at our Harlingen Treatment Centre site in Netherlands; FID expected 2024 • Evaluating hydrogen production potential in France and Ireland, with potential for associated carbon capture and storage in France
Offset	Offset as a solution for the emissions that cannot be eliminated	10-15% by 2050	Consider in 2030-2050, when carbon markets are less volatile

**Emissions calculated in general accordance with the GHG Protocol and IPCC guidance; reported intensities are based on operated throughput; Scope 1, 2 and 3 emissions externally verified (limited assurance) in accordance with the ISO 14064-3 standard; see also Targets and Metrics section for methodologies and dependencies in target setting*

The other two pillars of our sustainability strategy reflect the interconnected nature of sustainability- and climate-related issues:

Conservation

We are committed to reducing the impact our operations have, beginning with regulatory compliance across all business units. Our conservation efforts are further focused in three areas:

Water: We recognize water as a basic human right, and as a vital resource that is shared among many stakeholders in our communities. We are therefore committed to protecting both the supply and the quality of water sources in our areas of operation by:

- Proactively preventing harm and supporting healthy surface and groundwater bodies
- Reducing potable and freshwater usage to the lowest level practical, and
- Taking a lifecycle and circular economy approach to water, exploring opportunities to reuse and recycle products such as produced water.

Asset Retirement Obligations: We are adapting our long-term Asset Retirement Obligation management

to include revitalizing or reusing assets to benefit our environment and our communities.

Biodiversity: We are focusing on protecting the species and habitats around us by proactively identifying biodiversity risks and opportunities, and implementing associated plans.

Community

Our communities comprise a wide diversity of people and organizations, but they have one key thing in common: they care deeply about the safety, environmental stewardship and corporate citizenship that we bring to our local operations. In addition, our people care deeply about their communities - whether we work there or live there, these are the places we call home. We therefore steward our operations and relationships to demonstrate our commitment to being a responsible producer and a valued and trusted neighbor and business partner, including:

- **Transparency** with respect to safe and environmentally responsible operations, including our potential impacts on local communities
- Maintaining **strong, genuine relationships** with our communities, with engagement based on

respect, listening and openness, and

- **Creating shared value** focused on local economic and social development.

Our Ways of Caring community investment program engages our staff in contributing to our communities:



VERMILION WAYS OF CARING
give back. give time. give together.

Risk Management

Vermilion's board and senior leadership provide risk oversight, including for sustainability-related risks such as climate.¹⁰²⁻³⁰

Effective risk and crisis management positions the company for better resiliency from the present to the future. We use a multi-layered approach to ensure identification, prioritization and management of our business-related risks. This includes identifying business opportunities that may arise from changing conditions.

Sustainability-related risks and opportunities, including those related to climate, are integrated into multi-disciplinary company-wide risk identification, assessment and management processes as part of our Enterprise Risk Management (ERM) system, based on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework.

This provides an integrated approach to managing risk as it impacts strategy and performance, and includes Operational, Market & Financial, Credit, Organizational, Political, Regulatory Compliance, Strategic and Reputational, and Sustainability categories.

Identifying and Assessing Risks

Risk management is the responsibility of the Board and the Executive Committee based on a Top-Down, Bottom-Up approach to engage all staff. Top-Down begins with our Board and its committees with clear terms of reference, including oversight of various risk types.

This is translated into action by our Executive Committee, which reviews and manages the ERM process through implementation of associated policies and procedures. Within our Executive Committee, the Vice President International and HSE and the Vice President North America have risk management responsibility on an operational level, while the Chief Financial Officer is responsible for overseeing risk management performance.

Bottom-Up is how staff implement, maintain and improve risk management processes, applying the hazard-risk-mitigation process in every part of our business.

Risks are identified by key staff across our company, including our Operations, Finance, Health, Safety and Environment, Commercial, Government and Public Relations, and Sustainability teams at

corporate, business unit and asset levels. These employees have significant experience, and use a wide array of inputs, including operational and facility assessments, technical and research reports, external stakeholder organizations, government policy and regulation changes, industry initiatives, communities and landowners, and non-governmental entities.

The results are incorporated as specific risks into our Corporate Risk Register, which provides a consistent framework to ensure the effective tracking and communication of our material risks. Using our Risk Matrix as a prioritization tool, teams assess each risk's severity, likelihood, speed of onset, and vulnerability using scales from 1 to 5 for each factor, based on human, environment, financial, social license and cybersecurity impacts. In addition, risks such as commodity pricing, production and carbon taxes are stress-tested to identify the impact of changes over time.

Our sustainability materiality analysis, which assesses issues with impact for both the Company and our key stakeholders, is integrated into our ERM system using the Corporate Risk Register through a collaboration between Finance, HSE, Operations and Sustainability teams. Every risk case includes whether

climate-related risk is a contributing factor.

As a result, the company's risk exposure is reviewed annually at minimum by the responsible teams, and provided to the Executive Committee and the Board and its Committees as appropriate, who further review and assess the risks including interdependencies based on the company's risk tolerance.

Managing Risks

Our risk management approach focuses on reducing the risk to a level as low as reasonably practicable, accepting the risk, and/or controlling it (such as insuring it). For example, if direct mitigation is not possible (e.g. changes in temperature extremes), we would adapt our business processes to reduce the potential impact (e.g. changing work hours to avoid extreme mid-day heat). In other situations (e.g. increasing risk of flood), we may take measures to protect against the risk (e.g. flood controls) while also insuring our operations.

Financial impact is deemed substantive if it could cause a business loss of more than \$10 million CAD (unrisked and before mitigation/recovery instruments). Substantive is defined further using the following thresholds:

- Has persistent but reversible, long-term effects on habitat, ecological communities, land, air, or water. Escalations include irreversible effects on these elements, persistent reduction in sensitive ecosystem function, or effects beyond a regional or operations scale.
- Requires a specific asset to be shut in for unknown duration during regulatory or legal proceedings.
- Escalations include the permanent withdrawal of authority to operate.
- Reputational damage is national or international, or stakeholder concerns lead to regional or more widespread interruption of operations.

Emissions Long-Range Planning

To support climate risk identification and management, we previously developed a Carbon Liability Assessment Tool, with Scope 1 emissions quantification and regulatory information for each business unit. We assessed the price of carbon on both a realized cost and shadow pricing basis, and identified likely carbon pricing scenarios for all our operating areas.

Our internally developed Emissions Long-Range Planning Tool now uses our 10-year projections of production

to estimate Scope 1 and 2 emissions, associated carbon taxes and the impacts and economics of emission reduction projects. We use this to support our planning of production, capital allocation, budgeting, target setting and merger, acquisition and divestment decisions.



Targets & Metrics

Metrics Used to Assess Sustainability- and Climate-Related Risks and Opportunities

Our reporting includes economic, environmental, social and governance metrics, which are reported with reference to SASB/ISSB and GRI. These include but are not limited to:

- **Climate:** energy consumption and intensity; investment in and generation of renewable energy; greenhouse gas emission and intensity, including flaring and venting, and avoided emissions; and water withdrawal, including from areas of high baseline water stress, and discharge.
- **Environment:** waste generation and management; asset integrity and spills; abandonment and reclamation liabilities, and environmental investment
- **Social:** health and safety; people; and community investment
- **Governance:** ethics

These metrics contribute to a sustainability contribution of 10% of

the Corporate Performance Scorecard for our Long-term Incentive Plan, comprised of progress towards our 2025 emission intensity reduction target and 2027 ARO liability reduction target, along with select ESG rating agency scores.

HSE metrics also comprise 10% of the scorecard for our Short-Term Incentive Plan. These are industry-typical leading and lagging indicators reflective of responsible, safe and sustainable operations:

- Leading indicators (inputs) focus on at-risk behaviours and are directly linked to injury and motor vehicle incident reduction initiatives and outcomes.
- Lagging indicators (outputs) include total recordable injuries, lost time injuries, motor vehicle incidents, and liquid spills and releases, which are assessed against internal and industry/peer benchmarks.

These plans apply to all employees, including our executive team.

Thus, sustainability- and climate-related performance is linked not only to executive but to all employee compensation, given that we use the same scorecard for every staff member. We report on this externally through our Proxy Statement and Information Circular each year.

We also track carbon pricing, and have identified pricing scenarios for all of our operations based on current and emerging government policies.

We also gain an external perspective on our performance via third-party ESG rating agencies, including:

- CDP Climate Change and Water Security: submitted on the non-scored category starting in 2023; CDP Climate and Water scores of “A-” and “B” in 2022, the last year for which we received scores.
- ISS ESG QualityScore: Recognized as a leader in managing risk in our industry with a decile rating of “1/10” or top for Environmental and “2” for Social practices in June 2024.
- MSCI ESG Rating: AAA rating as of June 2024.
- S&P Global Corporate Sustainability Assessment: Vermilion was top of our peer group in the 2023 Assessment

Scope 1, 2 and 3 GHG Emissions Disclosure

We report Scopes 1, 2 and 3 emissions, which are calculated in general accordance with the GHG

Protocol and IPCC guidance, with reported intensities based on operated throughput. Scope 1, 2 and 3 absolute emissions are externally verified (limited assurance) in accordance with the ISO 14064-3 standard. Historical corporate and business unit data can be found in our [Performance Metrics section](#).

We have adopted the definitions of Scope 1, 2 and 3 emissions as developed by the GHG Protocol, an international standard for corporate accounting and reporting emissions from the World Resources Institute and the World Business Council for Sustainable Development:

- Scope 1 refers to direct GHG emissions from sources that are owned or controlled by a company
- Scope 2 refers to indirect GHG emissions from the generation of purchased electricity consumed by a company
- Scope 3 refers to all other indirect emissions that are a consequence of the activities of a company, but occur from sources not owned or controlled by that company.

Targets and Performance

Vermilion has set two emission-related targets:

- Net zero emissions in our own operations, including Scope 1 and Scope 2 emissions, by 2050. We are transparent that this is an aspirational goal, and that we will build the plan to achieve this target over time. In particular, this goal relies on technology advancements that are not yet economically, and in some cases physically, feasible; however, it is our expectation that this will improve over time.
- As a first step, we set a near-term target to reduce Scope 1 emissions intensity from our operations by 15 to 20% by [the end of] 2025, using a baseline year of 2019. We intend to set new targets every five years at minimum, building on this foundation while exploring broader options.

In 2024, we set an additional interim target:

- Based on foundational work in 2023, we have set an additional target to reduce Scope 1 + 2 emissions intensity from our operations by 25-30% by 2025, continuing to use our baseline year of 2019.

We developed, and the Board approved, these targets following our climate scenario analysis and extensive internal assessment. There are significant inherent uncertainties in how the energy transition will accelerate over the next three decades. Our intention is to manage these by focusing on responsible production of essential oil and natural gas for as long as these forms of energy are needed, while developing opportunities in other areas that are an economic and synergistic fit for our business.

Committing to an aspirational net zero target was important, but setting company-wide nearer term targets as the first steps to creating a plan to achieve this was even more so. We included the following work:

- Reviewing how we manage emissions data
- Calculating emissions intensities within our business units
- Evaluating options for emission reduction
- Benchmarking how our peers and the majors are approaching this

In developing and achieving these targets, we employed the following approach:

- All Scope 1 emission categories (see definition above) were considered
- Emissions were calculated in general accordance with the GHG Protocol and IPCC guidance; reported intensities are based on

operated throughput; Scope 1 and 2 emissions were externally verified (limited assurance) in accordance with the ISO 14064-3 standard.

- Where possible, emissions are measured directly. However, most of our emissions data is based on calculations that use international or jurisdiction-specific emission factors and computational methodologies, including IPCC and American Petroleum Institute (API).
- Global warming potentials, which indicate a greenhouse gas's ability to trap heat in the atmosphere compared to carbon dioxide over 100 years, are based on the Intergovernmental Panel on Climate Change's Fifth Assessment Report (with the exception of the United States business unit, which remains on the Fourth Assessment Report)
- In accordance with the GHG Protocol and IPIECA, emissions related to drilling and completions activities were assigned to Scope 3, as we define them as purchased services that are under the operational control of the drilling companies.

We are achieving progress starting with our business units with higher emissions intensities, through an

initial focus on efficiency, including process changes, venting reductions, instrumentation upgrades from gas to air and power efficiency options, along with improved emission calculation methodologies, and metering and field measurements.

Progress on Targets

Category	Target	Progress (see Energy and Emissions Reduction page for details)
Current		
Scope 1 GHG emissions	Set in 2021: Reduce Scope 1 intensity by 15-20% from our 2019 baseline by 2025.	On track: approximately 12% reduction achieved by end 2023
Scope 1+2 GHG emissions	Set in 2024: Reduce Scope 1+2 intensity by 25-30% from our 2019 baseline by 2030	Set in 2024
Historical		
Scope 1 – flaring and venting	Set in 2014: Reduce flaring emissions at our light-oil assets in southeast Saskatchewan acquired in 2014 by 50% by 2020	Achieved above target: 88% reduction in annual emissions as of end 2020
Scope 1 - methane	Set in 2014: Methane reduction target included in the target above to reduce flaring emissions at our light-oil assets in southeast Saskatchewan acquired in 2014 by 50% by 2020	Achieved above target: 86% reduction in annual methane emissions as of end of 2020
Scope 1 – flaring and venting	Set in 2014: Reduce flaring emissions at one of our major facilities in France by 65% by 2015	Achieved: 65% reduction in emissions (avoiding the flaring of 14,500 tCO ₂ e annually) by implementing a gas export system
Scope 2 – renewable energy	Set in 2015: Exceed 5% of our total power consumption coming from renewable sources (and replacing traditionally generated electricity) by 2017	Achieved above target: Reduced Scope 2 emissions in Netherlands from 41% of our 2015 gross Scope 2 emissions to 2% in 2016 and 0% in 2017. This program has been extended through 2023, and has now been adopted in our Ireland and Germany business units.
Renewable Heat Energy Target	Set in 2015: Generate 31,380MWh of renewable geothermal energy annually in our France Business Unit from our Parentis battery's tomato greenhouse project until at least 2035	Above Target: 2022 production was 59,144 MWh of geothermal energy from four sites
Scope 1- flaring and venting	Set in 2018: reduce the flaring and venting emissions, including methane, associated with the Spartan assets acquired in 2018 by 50% by 2024	Target exceeded in 2021 and assets partially divested in 2023.
Scope 1 – methane	Set in 2018: Similar to our 2014 acquisition of Elkhorn, this is a proportional target associated with our program to reduce methane emissions for our 2018 acquisition of Spartan by 50% by 2024.	Target exceeded in 2021 and assets partially divested in 2023.

Approach to Methane Emissions

As one of the highest-impact greenhouse gases, methane is an important element in Vermilion's focus on climate-related risks and opportunities, particularly in reducing our greenhouse gas emissions from natural gas production. The economic viability of methane leakage prevention is important, with two factors influencing continuing developments: significant advancements in technology – fostered by government commitments surrounding climate change – and the cost of carbon. Combined, these will act to improve the technical ability and abatement costs associated with methane leak detection and the updating of older infrastructure that is prone to sources of methane.

We are actively pursuing options to reduce our methane emissions, supported by commitments from many of our operating regions. Alberta, for example was the first regional government in North America to commit to a methane emissions reduction target for the oil and gas sector – 45% by 2025 – and France has signed on to the World Bank's Zero Routine Flaring by 2030 Initiative.

Understanding that this is a developing area, we have teams in each business unit that monitor

regulatory development and share learnings with other business unit teams and corporate groups. We continue to assess our operations to determine areas where we can prevent methane releases and have a positive impact on our Scope 1 emission intensity reduction target. This also supports our participation in both voluntary and regulatory-driven methane reduction programs.

Sources and Detection

Similar to any upstream oil and gas operation, the majority of methane emissions from Vermilion's operations stem from uncombusted venting or fugitive sources, and flared gas (which typically achieves 98% combustion efficiency).

Vermilion has emissions quantification programs in all operated business units. We also have fugitive emission programs in place that are managed through our operations groups in each business unit, with the exception of our offshore platform in our Australia operation (an oil asset with no natural gas production infrastructure). Our Leak Detection and Repair (LDAR) program varies between business units:

Canada: An expanded LDAR program was implemented in 2020, with effectively 100% of our operated Alberta facilities and multi-well pads

now assessed annually using optical gas imaging (OGI) technology. At our predominantly oil-producing Saskatchewan assets, OGI surveys are undertaken annually at our larger facilities in accordance with regulatory requirements. Routine checks for natural gas releases using a Forward-looking InfraRed (FLIR) camera are completed by operations personnel at our smaller Saskatchewan assets in conjunction with regular field visits. In addition to thermal imaging, Auditory, Visual and Olfactory (AVO) inspections are a standard component of operator field visits. Targeted identification of leaks during facilities work is also built into all turnaround activities.

France: Quantitative LDAR programs vary annually. As this is an oil-dominated asset, the volume of natural gas and associated methane emitted is low. All operated well clusters are checked at least daily, and twice daily in more sensitive areas such as Parentis Lake. Pipeline routes are surveyed at weekly or monthly intervals depending on the sensitivity of the pipeline location and pipeline type. Process safety equipment, including pressure sensors and hydrocarbon detection equipment, is also installed on wellheads, cellars and pipeline infrastructure to detect leaks, shut-in production and alert operations personnel.

Netherlands: This natural gas-producing asset has a robust LDAR program, with effectively 100% of accessible flanges and potential leak points screened annually using thermal imaging technology.

Australia: This is an oil asset with no natural gas production infrastructure. Any associated gas is either utilized in on-platform processes to displace fuels we would otherwise have to bring from the mainland, such as diesel, or maintained within the process and reinjected into the formation it was produced from. While we do not complete a formal LDAR program for natural gas, any significant potential leak sources would be identified by our continuous gas detection monitoring system (line of sight and point source) or through on-platform crew visual inspections. Where required, equipment is repaired and pressure/leak tested prior to return to service.

United States: This predominantly oil asset has a comprehensive LDAR program that includes initial and semi-annual monitoring for fugitive emissions using a thermal camera at all well sites that are subject to EPA and/or Wyoming air permit requirements. In addition to point source identification, Vermilion has permanently mounted monitoring equipment at our major facilities that checks for the presence of natural gas outside of the process on an ongoing basis.

Germany: All producing oil and disposal wells are thoroughly checked at least twice per week. Wells that are not in production are checked monthly. In our operated gas assets, all well sites and facilities are checked five times per week. During these checks, all accessible flange connections are visually inspected for leaks. Field and transportation pipelines in our operated oil assets are inspected once per week in populated areas and once per month in unpopulated areas. Pipeline routes in our operated gas assets are checked every two months by walking in populated areas, and twice per year in unpopulated areas in accordance with regulatory requirements. Oil and gas transportation pipelines are also helicopter-surveyed on a biweekly basis.

Ireland: In the first year of operation, a Differential Absorption LIDAR (DIAL) Survey was completed to survey for methane and VOC emissions. No significant emissions were observed from the areas measured. OGI surveys are completed on Corrib on a bi-annual basis and cover approximately 80% of accessible leak points. All identified leaks are managed through the operations weeps and seeps repair program. To date, 80% of all identified leaks are below the measurable leak detection rate for the High Flow Sampler.



Energy and Emissions Management

The following projects highlight some of our progress in addressing energy efficiency and emissions reduction.

302-4 305-5

Scope 1 Emissions

Reducing Flaring and Venting in Southeast Saskatchewan

Following the 2014 purchase of light-oil assets in Southeast Saskatchewan, we made important improvements that reflect our focus on safety, sustainability and operational excellence. These included a target to reduce flaring and venting emissions by 50% by 2020, compared to a baseline of 2014. This was achieved above target, at 88%.

In May 2018, Vermilion completed the acquisition of Spartan Energy Corp. This increased Canadian production by approximately 30% relative to 2017. Similar to the 2014 acquisition, we set a target to reduce associated flaring and venting emissions by 50% by 2024, compared to 2018. This was accomplished through a variety of gas conservation and recovery initiatives, including the construction of new infrastructure and implementation of enhanced operational practices and

technology, and as of 2021 had achieved beyond our target:

- Reduced absolute emissions/year by approximately 186,231 tCO₂e, or 55% (compared to 2018 baseline of 340,926)
- Reduced absolute methane emissions/year by 78,189 tCO₁e, or 57% (compared to 2018 baseline of 136,714)

These assets were partially divested in 2023.

Carbon Capture and Storage in Weyburn, Saskatchewan

We have a non-operating financial interest in the Weyburn-Midale Carbon Capture and Storage facility in Saskatchewan. This is one of the world's largest carbon capture, utilization and storage projects, bringing in CO₂ from a utility in North Dakota to use in enhanced oil recovery (EOR), after which the CO₂ remains permanently sequestered in the field.

In 2023, our partnership accounted for 1,805 bbls day, or approximately 5% of our total production on an equity basis.

Power Generating Replacement in Canada

We are replacing traditional thermoelectric (TEG) power generating devices at remote production sites with hybrid solar/methanol fuel cell units. Unlike TEG units which run (and therefore consume fuel) continuously, the hybrid units run on demand only. Based on manufacturers specifications, this reduction in operating time is expected to result in a greater than 99% emissions reduction in relation to the TEG units.

Between 2017 and 2020, a total of 35 EFOY fuel cell units were installed at 12 locations in Alberta. Based on the annual energy generation rates and a specified emissions reduction of approximately 8.2 kg CO₂e/KWh, the operating EFOY units represented an estimated CO₂e savings of approximately 100 tonnes in 2021.

Additional Projects

In 2023, we continued a project initiated in 2019 to convert high-bleed pneumatic devices to low-bleed units. Based on the equipment supplier's data, this is expected to reduce vented emissions by approximately 5,000 tCO₂e/year.

We have completed the installation of nine solar powered chemical

injection pumps at our well site facilities in Alberta (fully funded by provincial grants). This project is expected to reduce Vermilion's emissions by 9,000 tCO₂e/year

Thanks to a 2023 equipment upgrade in our German business unit, the existing natural gas production at three sites in Bergen (district of Celle) is now up to 70 percent more efficient. The increased production efficiency means an additional approximately 2,040 households can be reliably supplied with domestic natural gas annually. This natural gas production makes a valuable contribution to security of supply in Germany, and reduces import dependency and CO₂-intensive transports from abroad.

Scope 3

CNG Replacement

Since 2020, our Canadian operations have worked with our vendors to trial and implement the replacement of diesel as a fuel source in our drilling operations with compressed natural gas (CNG). This provides cost savings while also reducing CO₂ emissions, varying depending on the year.

Flaring and Venting

Gas Micro-Turbines

France: At our Vic Bilh site in 2021, we successfully piloted the use of micro-turbines that consume natural gas that would otherwise need to be incinerated. Since commissioning, the turbines have produced an average of 258 KWh out of the 570 KWh required to operate the two oil wells associated with the gas byproduct, thus also decreasing our use of the national grid.

Based on the Vic Bilh results, the micro-turbine project was expanded on a larger scale to Cazaux in 2023, with 5 microturbines installed on site, enabling the gas to be converted into electricity. A gas skid was also installed, to cool, dehumidify and compress the gas to prepare it for its journey through the turbines. With start-up in April 2024, the goal is to produce 960 KWh of electricity, supplying the depot facilities, wells and offices. Overall, we expect to generate approximately half of the electricity requirements in this location (7.5 GWh/year), based on manufacturer's specifications.

Additional studies are planned for Parentis and Vaudoy. The Cazaux installation is scheduled to be operational in Q4 2023 and is expected to generate approximately 40% of the electricity requirements for the Cazaux field (8 MWh).

Incinerator Technology

France: At our battery in Parentis, where no regional gas gathering infrastructure exists to tie in our gas, Vermilion has installed high efficiency incinerator technology that has significantly reduced flaring while resulting in no noise, vibration or smoke.

Air Emissions

Reduction of NOx Emissions

Netherlands: On our drilling operations beginning in 2019, we have reduced NOx emission exposure by approximately 10% compared to the base case, by using NOx scrubbers. Currently, we are using both NOx scrubbers and purchasing NOx certification via permanent withdrawal of agricultural NH3 emissions.

Scope 2 Emissions

ISO 50001 Certification

Germany: Our German business unit is certified annually under ISO 50001 for Energy Management. This Standard provides a framework for developing, implementing and maintaining an energy management system that supports continual improvement in the efficient use of energy. We have developed an energy management practice that includes strategic planning, communication, procurement and design, verification, monitoring, internal audits, and corrective actions. As part of the certification process, we set energy reduction targets, and are externally audited on our progress.

Purchase of Green Power

Netherlands: In 2016, Vermilion began purchasing 100% green power via Guarantees of Origin from our largest power provider. The Netherlands accounted for approximately 41% of Vermilion's gross Scope 2 emissions in 2015, and for 0% beginning in 2017. We have continued this program since.

Expansion: We began purchasing power from 100% renewable sources via our electricity provider in Ireland in 2021 and in Germany in 2023.

Use of Solar Power

Canada: We have a program to install pump-off controllers at well sites so that the pump only operates when enough fluid is present. Annually, this is expected to reduce power consumption by approximately 17%, resulting in an estimated 10,000 kWh saving per year per well.

Additionally, an initial, full-scale trial of a solar remote power generating (EPODTM) unit was initiated in 2021. Capable of generating approximately 8 MWh/year, the EPODTM unit is expected to result in an annual CO2e savings of approximately 40 tonnes when compared to traditional, fuel-based power generation.

Other solar power initiatives that have been implemented include: installation of solar powered remote monitoring devices; installation of new solar equipment in conjunction with our DCET program; solar retrofits of legacy pumps; and, installation of solar-powered leak detection systems.

Collectively, these initiatives are expected to result in a further CO2e savings in excess of 100 tonnes/year.

France: In Parentis, we provided space for a partnership that installed solar panels over our parking areas, providing cover and generating grid power.

Feature: Renewable Energy Projects in France

In 2008, Vermilion teamed up with four agricultural engineers who wanted to create an economically and ecologically viable greenhouse operation in which to grow tomatoes. The concept was to use geothermal energy from our Parentis oilfield's produced water to supply an industrial-sized tomato greenhouse operation. Today, this ongoing operation has catalyzed an entire agricultural sector, and we have expanded the concept to heating a residential neighbourhood, a microalgae producer, and a school in three additional communities in France. This represents strong partnerships developed over the years that represent added value for the areas that host our activities.²⁰³⁻²



In Parentis, our commitment to provide heat free-of-charge and free of carbon emissions for 25 years has helped make the greenhouse operation profitable to build and operate, which in turn has enabled our partners to expand, and attracted other business to the area.

We are incredibly proud of the role we played in this economic growth, with its social and environmental

benefits. Not only have we helped create new jobs in a new industry, we have helped decoupled economic growth from greenhouse gas emissions for this sector.

Here's how it grew.

It began with tomatoes

The mayor of Parentis brought Vermilion and the tomato growers together in the mid-2000s. The ensuing discussions led to the rezoning and issuance of related municipal permits, and the signing of our 25-year partnership agreement. Tom D'Aqui (the tomato-growing cooperative) built their first 10-hectare greenhouse next to our Parentis battery, and we installed the heat exchange technology and brought the operation online in 2012, establishing that this model worked well.

How our geothermal energy is sourced

- Vermilion's petroleum extraction process in the Parentis field produces a mix of oil, gas and water, which is naturally heated to around 60°C.
- Once the oil and gas are separated out, the heated water enters a "closed loop" system where heat

exchangers transfer its caloric energy to a second water system belonging to Tom d'Aqui (while ensuring fluids from the two water systems never come into contact).

- The second water system heats the Tom d'Aqui greenhouse located next to the Parentis battery.
- Vermilion reuses the produced water by pumping it back underground to maintain reservoir operating pressures and enhance production.

Within the overall agricultural sector listed above, the direct impact of our produced water geothermal system includes:

- 7,500 tonnes of tomatoes grown annually in 15 hectares of greenhouses
- 10,000 tonnes of greenhouse gases avoided each year
- 250 direct jobs

This system also allows the Tom d'Aqui greenhouse to be heated without carbon emissions, a key element in their certification as an eco-greenhouse. The project also reduces the cost of traditional tomato growing operations in the region, allowing the producers to

compete with warmer climate producers.

Circular Economy Recognition from the Government of France

This shared focus on innovative technology and environmental responsibility earned our partnership the 2013 Circular Economy Award for Industrial and Regional Ecology from the French government, recognizing economically successful enterprises that operate within a circular economy.^{G4-OG2/3}

Expanding beyond

By demonstrating proof-of-concept, our partnership with Tom d'Aqui has been credited as being a catalyst for three new projects launched independently of Vermilion. It has also attracted other business to the area, creating an agricultural sector that has become an important factor within the region's economy. Our heat contributes 40% of the sector's needs; the other projects have been developed using recycled biomass, with the result that this is now the largest tomato production in France from non-fossil fuel sources, including:

- 15,000 tonnes of CO2 avoided every year
- 15,000 tonnes of fresh tomatoes produced annually

- 27 hectares of greenhouses built, comprising four greenhouses
- 350 long-term jobs created, and
- 37 million euros invested in economic diversification in a rural area.

Sharing Our Expertise

Based on our success, we supported AVENIA, an industry partnership that advises the French government on energy, to launch an industry and country-wide study to identify the potential for waste energy use from oil and gas operations. In addition to contributing financial support, we provided the expertise of our people, and actively encouraged other companies to participate. The results were shared following a detailed review by AVENIA.

We also participate in the MEET project on the development of geothermal energy in Europe. Carried out by 16 academic and industrial partners and funded by the European Innovation Agency, the project aims to contribute to the energy transition by placing geothermal energy, a currently under-exploited energy source, on the same level as other renewable energies.

Moving from Agriculture to Housing, in La-Teste

We are using a similar geothermal concept to support an Eco-Neighborhood in La-Teste. This 30-year partnership with the city and the French land developer Pichet is using our geothermal energy to heat 550 apartments, saving 50% of the heating bill for the residents and 500 tonnes per year of CO2. The community, which has reserved one third of the apartments for low-income social housing, also features a community centre and various sports facilities.

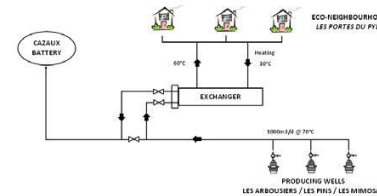


The technology works the same way as in our greenhouse partnership:

- Vermilion produces oil from three fields in the Arcachon Basin (part of the Aquitaine Basin): Les Mimosas, Les Pins and Les Arbousiers. The production is gathered in a central battery where approximately 1,000 m3/day of water at a temperature of 70 degrees

Celsius is produced along with the oil.

- A heat exchanger on our battery allows the transfer of the energy from the produced water to the eco-neighborhood, producing up to 80% of the heat needed; the remaining 20% will be supplied by the use of gas resulting from biomass, thanks to a COFELY/ENGIE boiler.



delivered through a heating network that connects to the school, 280m away.

The proximity of a Natura 2000 zone required a clearing authorization for the installation of this heating network between the Les Pins site and the high school, meeting both technical and environmental criteria. This required the clearing of five trees; in accordance with the administration's request, we planted 10 trees near the site to compensate.

Additional Projects

In 2021, we established a third geothermal application in France. Our Vic Bilh asset is providing geothermal heat to a nearby Fleur de Vie facility that produces high quality spirulina, a microalgae with a wide variety of uses.

In addition, our Les Pins asset began providing geothermal heat to the Condorcet High School in Arcachon in early 2022. A 400-kW heat exchanger was installed on our site to harness the heat energy of 700 m3/day of water at 65°C. This covers more than 90% of the high school's heating needs, or 800 MWh annually,

Feature: Renewable Energy Projects in The Netherlands

As part of the low-carbon transition, Vermilion is leveraging the proof-of-concept established in France to develop alternative energy projects in our operations in The Netherlands. There, the Dutch Energy Agreement (DEA) targeted a 400% increase in renewable energy contribution from 4% in 2013 to 16% in 2023. We are playing our role by demonstrating that, beyond using natural gas as a lower carbon transition fuel, synergies exist between natural gas production and green or renewable energy. We are also using our core business, based on geoscience expertise and our existing infrastructure, to investigate several important avenues for supporting the DEA's target.

Biogas Production

In Harlingen, we have partnered with SPF Group, a producer of sustainable fuels, to investigate the use of our Harlingen Treatment Centre location for their biogas production site. The location includes a quay that makes it

possible to receive raw materials via water, thereby limiting truck transportation, and it offers existing buildings instead of new builds, which supports the sustainability principle that all parties involved are pursuing. It can also make use of Vermilion's extensive gas infrastructure there. SPF Group has located their head office at our location, and we anticipate a final investment decision in 2024, if regulatory permitting is received.

Combined Gas and Geothermal Exploration

This work in Noord Holland focused on developing geothermal assessment plans on new gas drilling prospects so that a single drilling operation can address the potential of both natural gas and geothermal energy opportunities. It makes good economic sense: geothermal projects are currently economically viable only in very good reservoirs and with

subsidies. Combining gas and geothermal exploration increases the return on investment significantly; however, current regulations do not allow for this combined approval approach, so the concept is on hold.

The Green Deal: Ultra Deep Geothermal Energy

Vermilion was one of seven companies to partner with the Dutch government, EBN (a natural gas exploration and production company owned by the government) and TNO (a Dutch non-profit for applied scientific research) to investigate ultra-deep (4,000 metres) geothermal energy that would produce the high heat needed by industrial energy customers.

As part of our participation, we undertook a geological evaluation of the available 3D seismics. From this, we have concluded that the required Dinantien carbonate platform in

Heerenveen is probably not present. So, although we certainly see the possibilities for ultra-deep geothermal in the Netherlands, we consider the opportunities for the successful development of a project at this specific location in Heerenveen within the frameworks outlined to be too small. While the project identified that this is not currently practical in our area of operation, our participation demonstrates our partnership approach to developing new products and services through research and development.

Gas to Geothermal Energy Conversion

Our project to convert two of our depleted gas wells in Middenmeer, in North Holland, to geothermal production is on a long-term hold.

External Associations, Initiatives and Advocacy

We recognize the need to ensure that our advocacy efforts reflect our business strategy, particularly on climate change and the energy transition. We engage directly with government representatives when we believe we can make a difference in policy and regulation to support oil and natural gas companies as partners in the energy transition.

We also participate in government-industry working groups, often at government request, to provide technical expertise as one of many stakeholder positions considered prior to regulatory changes.

We are committed to transparency in our advocacy efforts, including:

- Participating in advocacy registries wherever required
- Providing summaries of our advocacy positions, and
- Listing our membership in key trade and industry associations.

Climate Position

Vermilion supports the goals of the Paris Agreement and governments' actions, including public policies, to develop and implement related climate change policy and regulation, while recognizing the critical role that oil and natural gas will play during the energy transition to ensure accessible and affordable energy supplies.

While oil and gas resources are still needed during the energy transition, the provision of clear, stable and reasonable regulations will allow energy producers such as Vermilion to continue to operate in an environmentally and socially responsible manner.

We believe that domestic energy supply should be prioritized over importing oil and gas, for its contributions to national energy security, the economic benefits it provides to local communities through employment and local investment, its compliance with stringent safety, environmental and workplace regulations, and the lower carbon footprint it often provides.

Lobbying Policy

In 2023, we implemented our lobbying policy, which describes our management system for direct and indirect (trade and industry association) advocacy.

Governance: Each business unit leader is responsible to the Executive Committee for positions and activities in their region; Vermilion's Executive Committee is responsible for corporate positions and company-wide lobbying activities. Only those individuals specifically designated as spokespersons or representatives may advocate on behalf of the company.

Review process: We annually review our direct lobbying activities, including any required advocacy registries:

France: [The High Authority for the Transparency of Public Life Report.](#)

Ireland: [Quarterly reporting to the Register of Lobbying.](#)

We also annually review all trade and industry associations to which we belong, for alignment of activities and organizations with the Paris Agreement and with our Climate Position. We use a scale between fully aligned and misaligned for each. If significant misalignments are identified, we engage with the association to understand and influence the issue. We consider cancelling membership only if no improvement proves likely.

We provide our Executive Committee and Board of Directors with an annual report for approval summarizing our reviews, including misalignment and recommendations.

Results: In 2023, we withdrew from one industry-related group and are seeking to engage with another, both of which have lobbying activities misaligned with the Paris Agreement.

Fees paid in 2023 included: **External lobbyists:** \$122,000; and **Memberships in associations that also lobby:** \$1.28 million.

Summary of Advocacy Positions

Global: support for the role of responsibly produced oil and natural gas to provide affordable and dependable energy as a bridge to greater reliance on renewable fuels; opposition to the European Union Solidarity Contribution as not following EU policy, unfairly and retroactively targeting a single sector and disregarding the risk and reward relationship for hydrocarbon producers and the low European natural gas pricing since 2015 and particularly in 2020

France: support for the transformation of extractive sectors to serve our regions

Netherlands: advocacy for the role of small natural gas fields during the energy transition, including government adherence to legal timelines for permitting, and distribution of royalties to local communities

Ireland: support for the role of natural gas in improving domestic energy security during the energy transition, including as lower carbon than imported gas, for the government's 2050 net zero carbon targets, and for the potential use of our infrastructure for blue or green hydrogen

Germany: previously worked with government and the extractive industry to support a new regulatory approach to working in water protection zones; finalized working with industry and ministries on new deep drilling regulation

Central and Eastern Europe: advocacy for permitting and progressing projects in a timely fashion

Membership in Key Business and Industry Associations

Association	Details
Australian Institute of Petroleum	Promotes industry self-regulation and effective dialogue with government and the community; includes the Australian Marine Oil Spill Centre
Australian Energy Producers Association	Represents Australia's oil and gas exploration and production industry
Australian Resources and Energy Employer Association	Policy and advocacy focused on the Australian resources, energy and supply industry
Budapest Chamber of Commerce and Industry	Supports the development of the Hungarian economy representing the general and joint interests of its member business organizations
Business in the Community Ireland	Purpose to inspire and enable businesses to bring about a sustainable, low carbon economy and a more inclusive society where everyone thrives
BVEG - Federal Association of Natural Gas, Petroleum and Geoenery	Represents the interests of German oil and gas producers, underground storage facility operators and service providers active in the industry
Canadian Association of Petroleum Producers	Represents the Canadian upstream oil and natural gas industry; advocates for and enables economic competitiveness and safe, environmentally and socially responsible performance
Croatian Canadian Business Network	Connects business interests between the two countries
Element NL - Dutch oil and gas explorer and producer association	Represents and advocates for the Dutch oil and gas explorer and producer association; works to continuously improve practices related to safety, environment and public acceptance
Energy and Equipment Materials Users Association	Focused on supporting its member companies with safety, efficiency and compliance good practice
Emsachse	Multi-sector collaboration to address joint economic challenges and interests in the Ems-Axis growth region
Energy Sector Sustainability Leadership Initiative	Calgary-based voluntary working group on energy sector sustainability best practices
French FAB	Promotes the French industrial ecosystem, including responsible business practices
Geothermal Forum Lower Saxony	Platform for the exchange and preparation of information for the geothermal industry
German Society for Sustainable Energy Carriers, Mobility and Carbon Cycles e.V. (DGMK)	Promotes and advances science, research, technology and continuing education relating to fossil fuels
Ibec	Ireland lobby and business representative group focused on a positive climate for business and employers
Hungarian Mining Association (MBSZ)	Represents all sectors of the mining industry in Hungary
Petroleum Association of Wyoming (PAW)	Dedicated to the betterment of the state's oil and gas industry, including government advocacy on the responsible development of oil and gas
Pole AVENIA	Voluntary competitiveness cluster with many programs related to supporting geothermal development in France
Saskatchewan Petroleum Industry Government Environmental Committee	Government and industry cooperative approach to resolving provincial environmental management issues
Union française des industries pétrolières	Government and industry cooperative approach to ensure the continued growth of the oil and natural gas industry in a manner that minimizes adverse environmental effects
Western Energy Alliance	Represents companies engaged in environmentally responsible exploration and production of oil and natural gas in the western United States

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International Sustainability Standards Board - Sustainability Accounting Standards Board

Topic	Metric	Code	Aligned	Context	Page / Performance Metrics
Greenhouse Gas Emissions	Scope 1, methane	EM-EP-110a.1	Substantial	Currently based on throughput operational control	PM - Energy & Emissions
	Scope 1 flaring & venting	EM-EP-110a.2	Substantial	Reported as flared, vented and fugitive emissions	PM - Energy & Emissions
	Emissions strategy and targets	EM-EP-110a.3	Full	TCFD report - Strategy; Targets and metrics	22, 36
Air Quality	Air emissions	EM-EP-120a.1	Partial	NOx, VOCs, PM tracked in most business units	PM - Energy & Emissions
Water Management	Freshwater withdrawn and consumed	EM-EP-140a.1	Full		PM - Water
	Produced water and flowback generated	EM-EP-140a.2	Substantial	Flowback not reported	PM - Water
	Public disclosure - frac fluids	EM-EP-140a.3	Full		PM - Energy & Emissions
	Water quality at frac sites	EM-EP-140a.4	None	Water monitored, but not yet tracked for reporting	
Biodiversity Impacts	Policies and Practices	EM-EP-160a.1	Full		74-82
	Volume and # of spills	EM-EP-160a.2	Substantial	No spills in Arctic; shoreline spills not tracked; volume recovered not reportable	PM - Water
	Reserves near protected sites	EM-EP-160a.3	None	Not yet tracked	
Human Rights	% of reserves in or near areas of conflict	EM-EP-210a.1	Full	Zero - no reserves in or near areas of conflict	
	% of reserves in or near Indigenous land	EM-EP-210a.2	Full	60% of total proved + probable reserves are in Canada, in traditional Indigenous territories	Annual Information Form
	Engagement & due diligence	EM-EP-210a.3	Substantial	Approach to human rights & stakeholder engagement	88, 16
Community Relations	Processes to manage rights & interests	EM-EP-210b.1	Full		16, 88-91
	Non-technical delays	EM-EP-210b.2	Full	No delays outside regulatory processes	
Workforce Health & Safety	TRIF, fatalities, NMFR, Training	EM-EP-320a.1	Substantial	All reported except near miss frequency rate	PM - Safety
	Management systems - safety culture	EM-EP-320a.2	Full		71, 73
Reserves & CAPEX	Reserve sensitivity to carbon pricing	EM-EP-420a.1	Partial	Emissions long-range planning tool incorporates planned production to 2030 including carbon pricing	34
	CO2 emissions in proved reserves	EM-EP-420a.1	None	Not yet tracked	
	Investment in renewable energy	EM-EP-420a.3	Full		PM - Energy & Emissions
	CAPEX strategy discussion	EM-EP-420a.4	Substantial	TCFD Strategy section - Risks & Opportunities	25
Ethics & Transparency	Reserves in TI CPI 20 lowest countries	EM-EP-510a.1	Full	No reserves in countries with 20 lowest rankings	
	Management system	EM-EP-510a.2	Full		51
Legal & Regulatory	Positions on E&S factors	EM-EP-530a.1	Full		45
Critical Incident Risk	Process Safety events	EM-EP-540a.1	Full		PM-Asset Integrity
	Management systems	EM-EP-540a.2	Full		62
Activity Metric	Production of oil and gas	EM-EP-000.A	Full	Annual Reports + Sustainability Report	PM-Energy & Emissions

Performance Metrics

	2019	2020	2021	2022	2023	Context	GRI/SASB
ACTIVITY METRICS: OPERATIONS AND RESERVES							
Number of operations (operated business units)	8	8	8	8	8		102-7
Production – total: boe/d based on financial control	100,357	95,190	85,408	85,187	83,994		EM-EP-000.A
Production – crude oil: bbls/d	47,902	43,421	38,143	37,530	31,727		EM-EP-000.A
Production - NGLs: bbls/d	7,984	8,937	8,325	7,961	7,296		EM-EP-000.A
Production – natural gas: mmcf/d	267	257	234	238	270		EM-EP-000.A
Annual Production - Operated facility throughput: boe	44,680,354	42,202,207	36,865,352	35,634,107	32,961,096	Use for intensity calculations	EM-EP-000.A
Total proved + probable reserves, gross: mboe	501,233	466,603	481,007	522,790	429,838		GRI 11
Number of offshore sites (producing net wells)				23	21	Australia and Ireland	EM-EP-000.B
Number of terrestrial sites (producing net wells)				2,836	2,217		EM-EP-000.C

\$M CDN except as indicated	2019	2020	2021	2022	2023	Context	GRI/SASB
Royalties paid:	163,666	106,554	186,122	306,017	191,694		
Canada	94,079	54,961	113,651	196,005	103,511		
France	43,895	32,069	37,666	40,353	37,425		
Netherlands	1,469	444	873	512	1,567		
Germany	5,264	990	2,847	21,232	5,993		
Ireland	0	0	0	0	0		
Central & Eastern Europe	253	644	338	3,488	1,711		
Australia	0	0	0	0	0	See PRRT and taxes above	
United States	18,706	17,446	30,747	44,427	41,487		
Investment in our Communities (also see communities metrics):	1,907	1,447	1,162	2,046	2,396	Includes donations and other direct investment	
Canada	1,249	838	608	1,433	1,611	Includes corporate program costs	
France	174	160	116	115	119		
Netherlands	153	111	238	210	313		
Germany	131	88	53	78	98		
Ireland	104	118	124	150	122		
Central & Eastern Europe	3	61	5	7	8		
Australia	75	68	-	4	81		
United States	18	2	18	49	44		
Direct economic value distributed:	1,368,150	912,127	906,826	1,640,420	1,301,299	Total: operating costs through community investment above	
Economic value distributed in Canada & Corporate	447,992	392,202	427,865	769,395	517,194		
Economic value distributed in France	148,884	110,663	100,958	148,725	151,111		
Economic value distributed in Netherlands	44,835	45,814	98,762	214,113	107,815		
Economic value distributed in Germany	36,294	27,178	34,873	99,765	85,477		
Economic value distributed in Ireland	27,516	30,421	30,418	32,138	57,001		
Economic value distributed in CEE	2,195	2,285	1,921	6,372	4,405		
Economic value distributed in Australia	108,189	92,998	84,713	90,488	58,503		
Economic value distributed in US	43,556	45,421	54,241	79,138	74,495		
Economic value distributed: dividends, share repurchase & interest	508,688	165,144	73,075	200,286	245,298	Dividends suspended in 2020; reinstated in 2022	
ARO (asset retirement obligations) settled:	19,442	14,278	28,525	37,514	56,966		

MATERIAL TOPIC	2019	2020	2021	2022	2023	Context	GRI
GOVERNANCE							
Ratio of annual total compensation of highest-paid individual to median annual total compensation all permanent employees	40	29	29	19	23	Compensation includes base salary, short & long term incentive plans & allowances (e.g., holiday pay); not broken down by highest paid individual per country due to privacy regulations	102-38
Ratio of % change in CEO compensation to % change in employee median compensation	(2:1)	(3:1)	(1:1)	(1):1	3:1	Executive structure changed 2020, 2022, 2023 as per Information Circulars	102-39
ETHICS							
Requests for advice on ethical behaviour via corporate secretary	0	0	0	0	0		102-17
Concerns expressed via whistleblower line	5	3	1	4	15	All concerns reviewed; 12 investigated; 9 found to be unsubstantiated; 2 were substantiated; 1 remains ongoing	102-17,102-34
Violations of rights, including those of Indigenous peoples	0	0	0	0	0		411-1
Legal actions regarding anti-competitive behaviour	0	0	0	0	0		206-1
Fines for non-compliance with laws & regulations (\$)	0	0	0	0	0		206-1,307-1,419-1
Political donations, financial or in-kind (\$)	80	0	0	0	0	2019: tax receipt received for attendance at a community dinner that was also a political fundraiser; internal guidance and training updated to specify non-attendance at such events	415-1
ANTI-CORRUPTION							
% of operations assessed for risks related to corruption	100	100	100	100	100	Using Transparency International Corruption Perception Index	205-1
% proved + probable reserves: countries with 20 lowest rankings				0	0	Using Transparency International Corruption Perception Index	EM-EP-510.1
# of governance body communicated to on anti-corruption	10	9	9	10	10	Annual conduct policy acknowledgement	205-2
% of governance body communicated to on anti-corruption	100	100	100	100	100	Annual conduct policy acknowledgement	205-2
# of employees communicated to on anti-corruption	730	746	716	740	740	Annual conduct policy acknowledgement	205-2
% of employees communicated to on anti-corruption	100	100	100	100	100	Regional breakdown not required due to high coverage	205-2
# of contractors communicated to on anti-corruption	326	215	232	230	251	Annual conduct policy acknowledgement	205-2
% of contractors communicated to on anti-corruption	100	100	100	100	100	Regional breakdown not required due to high coverage	205-2
% of business partners communicated to on anti-corruption	100	100	100	100	100	Business partners defined as joint venture partners	205-2
# of governance body trained on anti-corruption	10	9	9	10	10		205-2
% of governance body trained on anti-corruption	100	100	100	100	100		205-2
# of employees and contractors trained on anti-corruption	301	41	68	86	78	New hire onboarding plus position-specific, in-depth training; 2019+ decrease reflects lower new hire numbers	205-2
% of employees and contractors trained on anti-corruption	29	4	7	9	8		205-2
Confirmed incidents of corruption	0	0	0	0	0		205-2

\$M CDN except as indicated	2019	2020	2021	2022	2023	Context	GRI/SASB
COMMUNITY INVESTMENT (Donations) \$M							EM-EP-210b.1
Direct community investment total: a+b below	1,837	1,447	1,162	2,046	2,381	100% non-profit/charitable organizations	201-1
Canada	1,179	838	608	1,433	1,603	Includes project costs	
France	174	160	116	115	112		
Netherlands	153	111	238	210	313		
Germany	131	88	53	78	98		
Ireland	104	118	124	150	122		
Central & Eastern Europe	3	61	5	7	8	Two one-time significant investments in 2020	
Australia	75	68	-	4	81		
United States	18	2	18	49	44		
COMMUNITY IMPACT (Donations plus other investment) \$M							413-1
Operations with local community engagement programs %	100	100	100	100	100	All business units	
Total community impact for non-profits or charities: a+b+c below	2,296	1,750	1,822	2,642	3,138	400+ community groups supported	
a. Direct company-driven donations	1,096	890	742	1,416	1,586	Based on LBG circles of corporate giving	
b. Additional direct support (e.g. in kind, employee hours, volunteer grants)	740	557	420	631	795	Includes project-specific costs & program management costs	
c. External resources leveraged (e.g. staff, partner, government matching)	460	303	660	595	757	2021+: Includes % of partner contributions to Municipal Linkage Program in Netherlands, joint venture partner contributions (Ireland) and staff matching (United Way)	
Other direct investment in our communities (e.g. commercial initiatives beyond non-profit/charity)	59	21	49	26	15	Event sponsorships, research support	
Employee Volunteering Outside Working Hours: Volunteer Grant Program							413-1
Vermilion donations	140	98	32	110	127	100% non-profit/charitable organizations	
Employee hours #	29,338	20,993	29,165	23,917	28,132		
Employee Volunteering During Working Hours: Days of Caring							413-1
Events #	51	19	7	47	40		
Organizations supported #	41	18	6	39	26	100% non-profit/charitable organizations	
Employee hours #	3,021	640	110	1,543	1,520		
Individuals supported #	54,090	29,983	11,144	11,495	13,045		
Cost savings to community	84	14	11	40	37		
Community investment categorized via Business for Societal Impact							413-1
Charitable Giving (Volunteer Grants, Payroll Matching, Days of Caring hours) %			42%	24%	12%		
Community Investment (Flagship partnerships, Global Emergency Responder Program, Global Environmental Stewardship Program, program management) %			52%	73%	86%		
Commercial Initiatives (Event Sponsorships, Research) %			6%	3%	2%		
			100%	100%	100%		

Material Topic	2019	2020	2021	2022	2023	Context	GRI/SASB
OVERALL STAFF DEMOGRAPHICS							
Total staff (employees + contractors) (FTEs)	1055	972	949	970	991	Full time = 0.8 - 1 FTE Part time = 0.1 - 0.79 FTE	102-7
Employees = permanent; Contractors = fixed-term contracts							
Staff by gender (all staff)							
Male	759	711	690	704	721		
% of male staff	72%	73%	73%	73%	73%		
Female	296	261	259	266	270		
% of female staff	28%	27%	27%	27%	27%		
Staff by employment contract & gender (all staff)							
Employees (Male)	580	542	519	537	534		102-8
Employees (Female)	243	204	197	203	206		
Total Employees	823	746	716	740	740		
Contractors (Male)	179	169	171	167	187		
Contractors (Female)	53	57	62	63	64		
Total Contractors	232	226	233	230	251		
Staff by employment type & gender (all staff)							
Full-time (Male)	727	662	653	689	680		102-8
Full-time (Female)	259	228	225	255	252		
Part-time (Male)	32	49	37	15	41		
Part-time (Female)	37	33	34	11	18		
Staff by region and gender (all staff)							
						% of total workforce	102-8
Australia - Male	66	61	66	77	87		
Australia - Female	12	11	11	12	10		
Total Australia	78	72	77	89	97	10%	
Canada - Male	355	323	311	315	290		
Canada - Female	169	141	147	153	154		
Total Canada	524	460	458	468	444	45%	
France - Male	105	108	100	95	105		
France - Female	53	51	45	43	42		
Total France	158	159	145	138	147	15%	
Central & Eastern Europe - Male	11	10	10	10	12		
Central & Eastern Europe - Female	5	6	6	6	7		
Total Central & Eastern Europe	16	16	16	16	19	2%	
Germany - Male	40	32	31	31	41		
Germany - Female	9	7	7	6	8		
Total Germany	49	39	38	37	49	5%	
Ireland - Male	66	64	63	65	69		
Ireland - Female	22	22	23	23	21		
Total Ireland	88	86	86	88	90	9%	
Netherlands - Male	92	91	86	85	91		
Netherlands - Female	12	13	10	14	17		

Material Topic	2019	2020	2021	2022	2023	Context	GRI/SASB	
Total Netherlands	104	104	96	99	108	11%		
United States - Male	24	22	23	26	26			
United States - Female	13	10	10	9	11			
Total United States	38	32	33	35	37	4%		
Percentage of workers defined as self-employed	7%	8%	7%	6%	7%		102-8	
Significant variations in employment numbers (e.g. seasonal changes)	None	None	None	None	None		102-8	
Percentage of employees covered by collective bargaining agreements	18%	20%	20%	20%	16%	Zero sites where collective bargaining is at risk	102-41, 407-1	
DETAILED EMPLOYEE DEMOGRAPHICS - by Age and Gender						Broken down by region 2013-20; streamlined 2021	401-1,405-1	
Total employees by age and gender (#)	Male age not reported: 49; Female age not reported: 17							
Male under 30	69	56	37	52	31			
Female under 30	19	14	11	22	14	<30: 6%		
Male 30-50	380	369	353	421	351			
Female 30-50	146	134	124	148	130	30-50: 65%		
Male over 50	116	117	129	182	152			
Female over 50	60	56	62	79	62	>50: 29%		
New hires by age and gender (#)								
Male under 30	37	6	6	8	9			
Female under 30	13	2	2	8	5			
Male 30-50	70	17	14	38	36			
Female 30-50	24	2	10	19	16			
Male over 50	10	3	3	8	10			
Female over 50	3	1	6	5	2			
Total new hires	157	31	41	86	78			
Turnover by age and gender (#)								
Male under 30	9	5	11	1	7			
Female under 30	3	2	3	1	0			
Male 30-50	28	27	30	20	32			
Female 30-50	12	17	16	13	12			
Male over 50	10	16	8	12	18			
Female over 50	11	8	5	11	9			
Total turnover	73	75	73	58	78			
Turnover by age and gender (%)								
Male under 30	1.2%	0.6%	1.5%	0.1%	0.9%			
Female under 30	0.4%	0.3%	0.4%	0.1%	0.0%			
Male 30-50	3.7%	3.4%	4.1%	2.7%	4.3%			
Female 30-50	0.4%	0.5%	0.5%	0.4%	0.4%			
Male over 50	1.3%	2.0%	1.1%	1.6%	2.4%			
Female over 50	1.4%	1.0%	0.7%	1.5%	1.2%			

Material Topic	2019	2020	2021	2022	2023	Context	GRI/SASB
Total Global Turnover Rate	9.6%	9.8%	10.0%	8.0%	6.8%	Turnover based on average annual headcount *excludes positions reduced as a result of asset divestment in 2023	
Net employment creation, permanent employees	84	-44	-32	28	0	May not be exact match to Row 12 due to changes in contractor status during the year	401-1
PARENTAL LEAVE (maternity, paternity, parental)							401-3
Proportion of employees entitled to parental leave %	100	100	100	100	100	All employees eligible for parental leave for birth or adoption aligned with local legislation	
Number of male employees who took parental leave	5	5	16	10	6	Employees whose leave began in 2023	
Number of female employees who took parental leave	9	10	7	4	9	"	
Total number of employees who took parental leave	14	15	23	14	15	"	
Number of male employees returned after parental leave	5	5	15	10/10	6/6	Returned from leave as expected or early in 2023	
Number of female employees returned after parental leave	8	9	6	5/5	3/3	"	
Total number of employees returned after parental leave	13	14	21	15/15	9/9	"	
Rate of male employees who returned after parental leave	100%	100%	94%	100%	100%	"	
Rate of female employees who returned after parental leave	90%	93%	86%	100%	100%	"	
Retention: # of male employees 12 months after parental leave	5	5	8/9	15/16	11/11	Remained 12 months after their return date	
Retention: # of female employees 12 months after parental leave	7	8	5/6	5/6	5/5	"	
12-month retention rate: male employees	83%	100%	89%	94%	100%	"	
12-month retention rate: female employees	100%	100%	83%	83%	100%	"	
WOMEN IN LEADERSHIP - PERMANENT EMPLOYEES							
Number of women in all leadership roles (Team Lead and above)	28	30	31	27	26		
% of women in all leadership roles	16	17	17	15	17		
Number of women in executive roles (Vice President and above)			2	2	3	2021: first year of reporting	
% of women in executive roles			17%	18%	25%	2023: 12 executives total; 2022: 11; 2021: 12	
TRAINING AND EDUCATION - PERMANENT EMPLOYEES							404-1
Hours of Training - Male	12,687	8,905	6,629	13,036	14,624		
Hours of Training - Female	2,927	1,363	1,790	2,763	3,762		
Total Hours of Training	15,614	10,268	8,419	15,799	18,386	2020-21: Reduced training due to COVID	
Average Hours of Training per employee - Male	22	16	13	24	27		
Average Hours of Training per employee - Female	13	6	9	14	18		
Average Hours of Training	20	14	12	21	25		
Administration Staff Hours of Training - Male	531	510	251	1,647	1,477		
Administration Staff Hours of Training - Female	1,388	610	516	1,465	2,358		
Production Staff Hours of Training - Male	12,156	8,395	6,378	11,390	13,148		
Production Staff Hours of Training - Female	1,539	753	1,274	1,298	1,404		
Administration Staff Average Hours of Training - Male	6	6	3	17	3		
Administration Staff Average Hours of Training - Female	9	4	4	11	11		

Material Topic	2019	2020	2021	2022	2023	Context	GRI/SASB
Production Staff Average Hours of Training - Male	26	18	15	25	25		
Production Staff Average Hours of Training - Female	25	14	22	22	7		
Hours of Training - all staff, including contractors / HSE Canada			13,864	19,889	20,936	2021: first year of reporting	
PERFORMANCE AND CAREER DEVELOPMENT - PERMANENT EMPLOYEES							404-3
Male employees with annual performance/career review	98%	97%	100%	100%	100%		
Female employees with annual performance/career review	95%	90%	95%	98%	98%		
Total employees with annual performance/career review	97%	95%	99%	99%	99%		

OCCUPATIONAL HEALTH AND SAFETY	2019					2020					2021					2022					2023					Context	GRI/SASB			
SYSTEM COVERAGE																										F Fatality	LT Lost time	RW Restricted Work	MA Medical Aid	EM-EP-320a.1
% workers covered by OHS management system	100					100					100					100					100					Our HSE management system covers all workers	403-1			
% of workers represented by HSE committees	100					100					100					100					100					Every worker is represented by HSE	403-1			
Workers with high risk of occupation-related disease	0					0					0					0					0						403-3			
Hours of training: health, safety & emergency response	NT					5839					9,415					10,215					7,437					Permanent and fixed term staff	403-5			
Average hours of training / staff & fixed term contractors	NT					6.1					9.9					10.5					7.7					2020 and 2021 updated in 2024 due to formula error	403-5			
TRIFR, STAFF & INDEPENDENT CONTRACTORS/VENDORS																														
Total recordable injury frequency per 200,000 hours	1.15					1.15					1.11					0.73					0.52						403-9			
Total recordable injury frequency per 1,000,000 hours	5.77					5.75					5.54					3.65					2.58						403-9			
INJURY RATES, STAFF (PERMANENT & FIXED TERM)	2019					2020					2021					2022					2023									
Types of injury – all staff (permanent and fixed term)	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total		403-9			
Canada	0	0	1	0	1	0	0	0	3	3	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0	0				
France	0	2	0	1	3	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0				
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1				
Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
United States	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Germany	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0				
Central and Eastern Europe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Ireland	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	1				
LTIFR - all staff, per 1 million hours worked	1.39					0.69					1.93					0.73					0.00						403-9			
TRIFR - all staff, per 1 million hours worked	3.48					2.75					4.51					2.92					1.45					2020 data change - formula correction				
Total Workforce Hours, all staff	1,435,976					1,454,292					1,553,092					1,369,691					1,378,567						403-9			
Absentee rate – all staff	0.015					0.013					0.014					0.019					0.023					2016: absentee days for S<D & sick leave / total days available for all permanent staff; 2020+: days refined to exclude paid time off e.g. vacation, parental leave	403-9			
INJURY RATES, INDEPENDENT CONTRACTORS/VENDORS	2019					2020					2021					2022					2023									
Types of injury - independent contractors	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total	F	LT	RW	MA	Total		403-9			
Canada	0	3	3	10	16	0	0	0	8	8	0	2	4	3	9	0	0	8	1	9	0	2	3	2	7					
France	0	1	0	3	4	0	3	1	1	5	0	3	2	0	5	0	1	0	2	3	0	2	0	0	2					
Netherlands	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0	1	1	2					
Australia	0	0	0	0	0	0	0	2	0	2	0	0	0	1	1	0	0	2	0	2	0	0	0	0	0					
United States	0	2	0	0	2	0	0	0	1	1	0	0	2	0	2	0	0	1	1	2	0	0	1	0	1					
Germany	0	2	0	0	2	0	5	1	0	6	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2					
Central and Eastern Europe	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0					
Ireland	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2				
LTIFR - independent contractors: per 1 million hours worked	2.19					2.47					1.50					0.64					1.07									
TRIFR - independent contractors: per 1 million hours worked	6.57					7.09					6.02					3.86					2.85						403-9			
Contractors Hours Worked	4,110,146					3,242,477					3,323,443					4,659,720					5,609,834									
Absentee rate – independent contractors	N/T					N/T					N/T					N/T					N/T					Current system does not track contractor absentee days	403-9			

MATERIAL TOPIC - ASSET INTEGRITY & SPILLS (RELEASES)	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes (CDP): boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,708,966	42,202,207	36,865,352	35,634,107	32,961,096	Use for intensity calculations to ensure numerator/denominator alignment	
ASSET INTEGRITY AND PROCESS SAFETY	2019	2020	2021	2022	2023		GRI 11
Number of Tier 1 process safety events	0	0	0	1	0		EM-EP-540a.1
Number of Tier 2 process safety events	162	89	61	N/A	N/A	Recalibration of Tier 2 definition in progress	GRI 11
SPILLS (RELEASES)	2019	2020	2021	2022	2023	All spills, including < 1 bbl or 0.16m3, and those contained behind impermeable secondary containment; Units switched from m3 to bbl in 2020 IAW SASB; Zero spills in Arctic	EM-EP-160a.2
Number of significant spills in financial statements due to liabilities	0	0	0	0	0	No significant spills requiring reporting in financial statements 2012-2024	306-3
Total number of all spills	456	420	371	387	272		306-3
Canada	281	280	244	250	151		
France	51	50	46	35	31		
Netherlands	35	26	36	24	22		
Australia	8	8	9	15	9		
United States	63	38	27	39	42		
Germany	7	8	6	7	5		
Central and Eastern Europe - Hungary and Croatia	0	0	0	1	0		
Ireland	11	10	3	16	12		
Volume of all spills: bbl	9,377	16,375	3,216	6,401	1,058	2022-2023 decrease due to internal plan implemented for spill reductions	306-3
Canada	7,667	15,825	2,971	4,494	372		
France	541	195	76	243	331		
Netherlands	39	65	74	18	37		
Australia	54	0	1	5	3		
United States	1,068	242	90	1,503	313		
Germany	7	46	4	137	1		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	3	1	0.1	1	1		
Volume of spills - Hydrocarbon Liquids: bbl	469	1,226	258	2,146	281		EM-EP-160a.2
Canada	340	962	192	1,793	110		
France	30	164	38	168	20		
Netherlands	0	5	1	1	2		
Australia	15	0	1	3	2		
United States	81	94	25	180	145		
Germany	0	0	0	0.3	0.8		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	2	1	0.1	0.8	0.8		
Volume of spills - Produced Water: bbl	8,763	14,908	2,886	4,063	726		
Canada	7,289	14,668	2,775	2,699	247		
France	460	31	38	66	311		
Netherlands	19	19	8	2	0		
Australia	2	0	0	2	0		
United States	986	148	65	1,173	168		
Germany	6	42	0	121	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0.2	0		
Volume of spills - Other: bbl	145	241	72	192	52		
Canada	38	195	4	2	15		
France	50	0	0	9	0.1		
Netherlands	20	41	64	15	35		
Australia	36	0	0	0	1		
United States	0	0	0	150	1		
Germany	0	5	3	16	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0.3		

MATERIAL TOPIC: ENERGY & EMISSIONS	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Methodology Note: all energy and emissions data, unless specifically noted otherwise, are based on operational control at the battery level.							
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes as referenced in CDP submissions: boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,680,354	42,202,207	36,865,352	35,634,107	32,961,096	Use for energy and emissions intensity calculations to ensure numerator/denominator alignment	
ENERGY	2019	2020	2021	2022	2023		
Scope 1: Energy consumption within organization, non-renewable (natural gas, propane liquid, diesel fuel and vehicle fuel): GJ	5,554,821	5,172,331	4,806,111	4,388,587	4,360,659		302-1
Canada	3,592,038	3,223,562	2,907,176	2,496,328	3,017,477	2023 increase related to fuel gas in Canadian Mica region	
France	0	3,143	6,280	12,839	11,430		
Netherlands	72,585	73,037	74,841	70,352	64,140		
Australia	722,623	843,308	813,213	815,819	326,193		
United States	204,576	111,857	78,669	63,807	38,213	2023 decrease due to reduced fuel gas and no OPEX diesel	
Germany	135,350	108,675	112,212	101,099	126,554		
Central and Eastern Europe - Hungary and Croatia	9,236	5,119	16,544	0	0		
Ireland	818,413	803,630	797,175	828,343	776,651		
Energy intensity ratio Scope 1: GJ/boe	0.12	0.12	0.13	0.12	0.13		302-3
Scope 2: Energy consumption outside organization, non-renewable (electricity): GJ	2,077,646	1,697,707	1,049,524	1,629,883	1,246,104	1 MWh = 3.6 GJ	302-2
Canada	1,352,186	1,117,288	973,345	1,125,289	682,376	2023 decrease due to Queensdale divestment in Saskatchewan	
France	679,640	525,612	536,370	426,879	510,171	2020, 2021 and 2022 revised in 2023 to include nuclear	
Netherlands	0	0	0	0	0	Purchased from renewable sources 2017-2023; electricity consumed 2023 = 80,382 MWh	
Australia	587	383	463	476	518		
United States	30,803	45,119	45,273	52,198	51,803		
Germany	11,592	6,853	13,470	24,814	0	Purchased from renewable sources in 2023; electricity consumed 2023 = 9,462 MWh	
Central and Eastern Europe - Hungary and Croatia	0	229	210	227	1,235		
Ireland	2,838	2,224	0	0	0	Purchased from renewable sources 2021-2023; electricity consumed 2023 = 533.8 MWh	
Energy intensity ratio Scope 2: GJ/boe	0.05	0.04	0.03	0.05	0.04		302-3
Energy intensity ratio Scope 1+2: GJ/boe	0.17	0.16	0.16	0.17	0.17	2014+: operated battery energy use/operated battery production	302-3
Renewable energy	2019	2020	2021	2022	2023		
Total amount invested in renewable energy, \$M CAD	\$447	\$568	\$2,890	\$1,502	\$792		
Canada	\$220	\$230	\$2,461	\$696	\$393	Assorted solar including DCET, pump retrofits, leak detection and remote monitoring	
France	\$190	\$270	\$388	\$531	\$371	4 geothermal from produced water projects; hydrogen research (254k Euro)	
Netherlands	\$37	\$68	\$27	\$215	\$29	Harlingen biogas project	
Australia	\$0	\$0	\$0	\$0	\$0		
United States	\$0	\$0	\$0	\$0	\$0		
Germany	\$0	\$0	\$0	\$0	\$0		
Central and Eastern Europe - Hungary and Croatia	\$0	\$0	\$0	\$50	\$0		
Ireland	\$0	\$0	\$14	\$10	\$0		
Renewable energy investment: % of capital expenditure	0.1	0.2	0.8	0.3	0.1		
Renewable energy GHG emissions avoided: tCO2e	24,623	18,993	18,635	19,349	16,925		
Renewable energy generated by source (actual energy content transferred): MWh	77,095	59,330	58,004	59,197	42,641		302-1
Canada	7	11	19	53	35		
France	77,088	59,319	57,985	59,144	42,606	Geothermal from produced water: Tom d'Aqui greenhouses/ Eco-neighborhood Arcachon / Fleur de Vie Vic Bilh / Condorcet	
Netherlands	0	0	0	0	0		
Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	0	0	0	0	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0		

MATERIAL TOPIC: ENERGY & EMISSIONS	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Methodology Note: all energy and emissions data, unless specifically noted otherwise, are based on operational control at the battery level.							
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes as referenced in CDP submissions: boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,680,354	42,202,207	36,865,352	35,634,107	32,961,096	Use for energy and emissions intensity calculations to ensure numerator/denominator alignment	
EMISSIONS	2019	2020	2021	2022	2023		GRI
Percentage of total emissions under emissions-limiting regulations	91%	89%	87%	100%	100%	All BUs operate in regions under some form of emissions limiting regulations: e.g. EU ETS, carbon taxes, carbon pricing, methane regulations, etc.	EM-EP-110a.1.4
Scope 1 gross direct GHG emissions: tonne	858,823	793,203	648,337	616,184	559,325		EM-EP-110a.2 305-1
CO ₂ Scope 1 emissions (excluding CH ₄ and N ₂ O): tonne	555,687	531,078	466,472	416,262	379,254	Hydrofluorocarbons, Perfluorocarbons, Sulfur hexafluoride, VOCs, particulates not tracked	305-1
Canada	374,495	354,167	283,298	241,688	226,390		
France	64,419	56,764	65,665	62,414	63,428		
Netherlands	11,403	8,393	6,803	5,035	4,524		
Australia	42,024	50,209	50,627	46,476	21,618		
United States	15,409	13,253	11,949	12,909	16,610		
Germany	4,069	7,262	6,408	6,111	7,916		
Central and Eastern Europe - Hungary and Croatia	2,260	357	1,146	0	0	Shifted to Scope 3 in 2022+ based on GHG Protocol definition of external contractors	
Ireland	41,608	40,673	40,576	41,628	38,768		
Methane: tCO₂e	302,027	261,051	180,987	199,123	179,328		GRI 11.1.5
Canada	258,500	216,739	144,005	168,345	159,796		
France	8,499	8,752	8,009	6,932	6,919		
Netherlands	4,018	5,215	3,265	2,983	2,305		
Australia	18,601	21,373	18,655	11,112	2,104		
United States	3,981	4,436	4,739	4,684	5,097		
Germany	7,492	3,284	1,763	4,438	2,514		
Central and Eastern Europe - Hungary and Croatia	244	656	1.2	0	0	Shifted to Scope 3 in 2022+ based on GHG Protocol definition of external contractors	
Ireland	692	597	550	628	593		
Methane as a % of total Scope 1 direct GHG emissions	35	33	28	32	32		EM-EP-110a.1.3
Nitrous Oxide (N₂O): tCO₂e	1,109	1,073	878	799	743		305-2
Canada	465	505	290	310	262		
France	547	428	462	361	387		
Netherlands	7	28	12	10	6		
Australia	68	90	104	96	54		
United States	16	18	3	19	29		
Germany	1	4	4	4	5		
Central and Eastern Europe - Hungary and Croatia	5	0	3	0	0	Shifted to Scope 3 in 2022+ based on GHG Protocol definition of external contractors	
Ireland	0	0	0	0	0		
Scope 1 GHG emissions intensity, oil and gas production: tCO ₂ e/boe	0.019	0.019	0.018	0.017	0.017	operated battery Scope 1 emissions/operated battery production	305-4
Total Scope 2 GHG emissions: tCO₂e	288,345	247,144	214,778	218,839	148,484		305-2
Canada	269,349	222,010	194,319	192,833	131,804	2023 decrease due to Queensdale divestment in Saskatchewan	
France	6,808	8,628	2,661	6,617	1,750	Change due to updated grid intensity	
Netherlands	0	0	0	0	0	Electricity sourced from 100% renewables in 2023	
Australia	114	73	88	90	73		
United States	10,231	14,425	13,856	15,088	14,808		
Germany	1,575	1,735	3,845	4,200	0	Electricity sourced from 100% renewables in 2023	
Central and Eastern Europe - Hungary and Croatia	0	11	10	11	49		
Ireland	268	262	0	0	0	Electricity sourced from 100% renewables in 2023	
Scope 2 GHG emissions intensity: tCO ₂ e per boe	0.006	0.006	0.006	0.006	0.005	operated battery Scope 2 emissions/operated battery production	305-4
Scope 1+2 GHG emissions intensity: tCO ₂ e per boe	0.026	0.025	0.023	0.023	0.021	operated battery Scope 1+2 emissions/operated battery production	305-4
Scope 3 Gross other indirect GHG emissions: tCO ₂ e	14,188,122	13,226,527	11,631,963	11,682,455	11,350,400	Categories previously publicly reported in CDP Climate annual submissions; added to this report in 2022	305-3
Biogenic CO ₂ Scope 3 emissions	0	0	0	0	0		305-3
Purchased goods and services				79,047	45,881		
Capital goods				45,917	44,540		

MATERIAL TOPIC: ENERGY & EMISSIONS	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Methodology Note: all energy and emissions data, unless specifically noted otherwise, are based on operational control at the battery level.							
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes as referenced in CDP submissions: boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,680,354	42,202,207	36,865,352	35,634,107	32,961,096	Use for energy and emissions intensity calculations to ensure numerator/denominator alignment	
Fuel and energy-related activities not included in Scope 1 or 2				197,814	198,263		
Upstream transportation and distribution				109,222	116,689		
Waste generated in operations				6,649	3,330		
Business travel				3,401	2,819		
Employee commuting				1,020	1,020		
Downstream transportation and distribution				55,671	21,204		
Processing of sold products				600,529	527,108		
Use of sold products	12,937,168	12,176,323	10,624,199	10,584,186	10,389,547		305-3
Emissions of ozone-depleting substances	0	0	0	0	0		305-6
NOx: tonne	2,136	1,190	977	1,579	1,417		EM-EP-120a.1 305-7
Canada	1,912	1,011	818	1,193	1,142	From NPRI reporting	
France	51	45	50	46	47		
Netherlands	2	4	2	2	2		
Australia	171	131	104	336	222		
United States	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Germany	Not Tracked	Not Tracked	2	2	3		
Central and Eastern Europe - Hungary and Croatia	Not Tracked	Not Tracked	Not Tracked	0	0		
Ireland	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
SO2: tonne	2,488	2681	2219	1871	1486		EM-EP-120a.1 305-7
Canada	1,800	1,935	1,360	1,059	613	From NPRI reporting, SO2 recalculated based on measured H2S	
France	682	737	851	803	864		
Netherlands	0	0	0	0	0		
Australia	-	1	1	1	1		
United States	5	8	7	8	8		
Germany	-	-	-	-	-		
Central and Eastern Europe - Hungary and Croatia	-	-	-	0	0		
Ireland	-	-	-	-	-		
Volatile Organic Compounds (VOCs) (non-methane): tonne	68	145	621	938	2417	Volatile organic compounds that participate in atmospheric photochemical reactions; excludes carbon monoxide, carbon dioxide and methane	EM-EP-120a.1 305-7
Canada	68	Not Tracked	138	455	1,945	From NPRI reporting	
France	Not Tracked	128	181	225	165		
Netherlands	Not Tracked	13	19	11	11		
Australia	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
United States	Not Tracked	Not Tracked	278	245	293		
Germany	Not Tracked	4	5	3	3		
Central and Eastern Europe - Hungary and Croatia	Not Tracked	Not Tracked	Not Tracked	0	0		
Ireland	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Ireland is below the regulatory reporting threshold for NMVOC	
Particulate Matter (PM10): tonne						Airborne finely divided solid or liquid material with an aerodynamic diameter ≤ 10 micrometers	EM-EP-120a.1 305-7
Canada	125	219	9	106	68	From NPRI reporting	
France	Not Tracked	3	2	2	2		
Netherlands	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Australia	Not Tracked	8	12	13	9		
United States	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Germany	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Central and Eastern Europe - Hungary and Croatia	Not Tracked	Not Tracked	Not Tracked	0	0		
Ireland	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
FLARING AND VENTING	2019	2020	2021	2022	2023		EM-EP-110a.2
Volume of flared hydrocarbon: e3m3	78,962	83,116	66,563	58,260	53,375	Note that all flared volumes are reported, not just continuous flares	11.1.5

MATERIAL TOPIC: ENERGY & EMISSIONS	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Methodology Note: all energy and emissions data, unless specifically noted otherwise, are based on operational control at the battery level.							
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes as referenced in CDP submissions: boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,680,354	42,202,207	36,865,352	35,634,107	32,961,096	Use for energy and emissions intensity calculations to ensure numerator/denominator alignment	
Canada	55,526	62,108	42,144	36,437	27,655		
France	20,123	17,797	20,456	17,377	20,434		
Netherlands	235	236	287	250	168		
Australia	1,351	1,413	1,688	1,722	629		
United States	780	1,379	1,713	2,172	4,067		
Germany	23	31	58	218	313		
Central and Eastern Europe - Hungary and Croatia	763	0	0	0	0		
Ireland	161	152	206	84	109		
Volume of continuously vented hydrocarbon: e3m3	14,222	9,758	10,441	10,064	8,096		11.1.5
Canada	11,424	6,968	8,442	8,622	7,276		
France	729	765	696	634	595		
Netherlands	62	189	66	58	57		
Australia	1,390	1,446	1,158	597	80		
United States	48	45	24	74	45		
Germany	526	275	21	47	13		
Central and Eastern Europe - Hungary and Croatia	11	37	-	-	-		
Ireland	33	33	33	33	31		
Flaring/Venting Intensity based on production: e3m3/boe	0.0021	0.0022	0.0021	0.0019	0.0019	2012-2013: operated battery flaring and venting/operated and financial production 2014+: operated battery flaring and venting emissions/operated battery production	11.1.5
Hydraulic Fracturing						Hydraulic fracturing used in Canadian and US operated production	
Percentage of global production from hydraulic fracturing	42	37	49	51	57	2023: based on 100% fracked US, estimated 83% Canada, and 0% in Europe and Australia	
Percentage of public disclosure of hydraulic fracturing fluids						All fracturing fluids are disclosed through FracFocus in Canada and US	
Canada	100	100	100	100	100		EN-EP-140a.3
United States	100	100	100	100	100	No proprietary blends used	
Enhanced Oil Recovery from Carbon Capture and Storage						Based on non-operated production	
Volume of oil and NGLs produced from CCS ops: bbls/d, equity basis	2,045	2,098	1,753	1,784	1,805	Weyburn Carbon Capture and Storage project: non-operated	
CCS ops percentage of total (global) oil and NGLs produced: equity basis	4	4	4	4	5	Global oil & NGLs 2023 Equity/Financial Control: 39,023 bbl/d Global oil & NGLs 2022 Equity/Financial Control: 45,491 bbl/d Global oil & NGLs 2021 Equity/Financial Control: 46,468 bbl/d Global oil & NGLs 2020 Equity/Financial Control: 52,538 bbl/d	

MATERIAL TOPIC: ENVIRONMENTAL INVESTMENT & SUPPLY CHAIN	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes (CDP): boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,708,966	42,202,207	36,865,352	35,634,107	32,961,096	Use for intensity calculations to ensure numerator/denominator alignment	
INVESTMENT IN ENVIRONMENTAL PROTECTION: All \$M CDN except as indicated	2019	2020	2021	2022	2023		
Total environmental protection investment:	55,393	55,100	58,355	61,859	81,802		
Canada	24,419	22,676	31,029	34,294	41,787		
France	11,531	16,830	11,674	11,355	18,005		
Netherlands	11,433	8,017	9,824	8,592	11,322		
Australia	1,512	2,010	729	1,684	1,621		
United States	1,051	711	534	1,591	1,733		
Germany	1,014	503	556	957	5,912		
Central and Eastern Europe - Hungary and Croatia	-	3	992	712	293		
Ireland	4,433	4,350	3,018	2,674	1,129		
Waste disposal, emissions treatment, remediation	24,943	25,669	18,605	20,848	30,803		
Canada	9,504	6,703	7,015	8,687	15,526		
France	5,560	9,996	5,601	5,696	5,487		
Netherlands	4,976	4,761	2,391	1,842	5,642		
Australia	392	240	138	566	256		
United States	193	82	85	377	414		
Germany	285	76	174	706	2,234		
Central and Eastern Europe - Hungary and Croatia	-	3	566	684	282		
Ireland	4,033	3,808	2,635	2,290	962		
Prevention and environmental management costs	14,705	15,781	9,503	10,006	7,322		
Canada	9,604	8,980	5,813	5,811	2,196		
France	811	1,644	1,247	1,140	1,438		
Netherlands	1,690	1,789	808	722	593		
Australia	1,120	1,770	591	1,118	1,277		
United States	858	629	259	552	573		
Germany	222	427	358	251	1,067		
Central and Eastern Europe - Hungary and Croatia	-	-	44	28	11		
Ireland	400	542	383	384	167		
Discharge of Abandonment	15,745	13,650	30,247	31,005	43,677		
Canada	5,311	6,993	18,202	19,796	24,065		
France	5,160	5,190	4,825	4,519	11,080		
Netherlands	4,767	1,467	6,624	6,028	5,087		
Australia	-	-	-	-	88		
United States	-	-	190	662	746		
Germany	507	-	24	-	2,611		
Central and Eastern Europe - Hungary and Croatia	-	-	382	-	-		
Ireland	-	-	-	-	-		
Canadian federal funding leveraged for Abandonment and Reclamation work	-	-	-	16,733	-		
Fines for environmental non-compliance	-	-	-	-	-		307-1
SUPPLY CHAIN	2,019	2,020	2,021	2,022	2,023		
Number of new vendors that we pre-qualified using HSE criteria			208	73	46		
Canada			159	166	76		

MATERIAL TOPIC: ENVIRONMENTAL INVESTMENT & SUPPLY CHAIN	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810		
Annual Production - Annual Report minus non-operated volumes (CDP): boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe	44,708,966	42,202,207	36,865,352	35,634,107	32,961,096	Use for intensity calculations to ensure numerator/denominator alignment	
France			10	24	13		
Netherlands			-	-	2	No new vendors 2021-2022	
Australia			8	3	-		
United States			20	30	22		
Germany			4	7	5		
Central and Eastern Europe - Hungary and Croatia			3	4	2		
Ireland			4	5	2		
% of new vendors screened (pre-qualified using health, safety and environmental criteria)	100	100	100	100	100	All new contractors require HSE pre-qualification to access Vermilion sites	S&P Global
Canada			100	100	100		
France			100	100	100	New 2022 vendors working on Vermilion sites, not material vendors	
Netherlands			n/a	n/a	100	No new vendors 2021-2022	
Australia			100	100	100		
United States			100	100	100		
Germany			100	100	100		
Central and Eastern Europe - Hungary and Croatia			100	100	100		
Ireland			100	100	100		
Number of vendors that we qualify (new vendors), inspect and work with (existing vendors) to improve performance on HSE matters	361	948	1,042	1,197	1,265		S&P Global
Canada	108	717	754	816	941		
France	15	70	87	160	133	Vendors working on Vermilion sites with HSE Prevention Plan	
Netherlands	10	10	10	10	5		
Australia	6	6	25	28	-		
United States	178	121	141	142	147		
Germany	38	18	6	7	8		
Central and Eastern Europe - Hungary and Croatia	2	2	15	29	29		
Ireland	4	4	4	5	2		
% of existing vendors that we inspect and work with to improve performance on HSE matters							
Canada			100	100	100		
France			37	64	76	160 existing vendors of 221 vendors on Vermilion sites with HSE Prevention Plan	
Netherlands			100	100	100		
Australia			100	100	100		
United States			100	100	100		
Germany			100	100	100		
Central and Eastern Europe - Hungary and Croatia			100	100	100		
Ireland			100	100	100		

MATERIAL TOPIC - WASTE	2019		2020		2021		2022		2023		CONTEXT	GRI/SASB				
Annual Production - Annual Report figure, financial control: boe		36,630,232		34,839,540		31,173,190		31,093,255		30,657,810						
Annual Production - Annual Report minus non-operated volumes (CDE): boe		36,604,811		34,723,518		31,154,575		31,058,580		30,634,815						
Annual Production - Operated facility throughput including third-party volumes: boe		44,708,966		42,202,207		36,865,352		35,634,107		32,961,096	Use for intensity calculations to ensure numerator/denominator alignment					
Netherlands	56	0	56	5	0	5	49	0	49	40	0	40	99	0	99	
Australia	87	383	470	158	92	250	450	33	483	230	37	267	134	62	196	
United States	0	17	17	0	8	8	0	13	13	0	22	22	0	12	12	
Germany	0	1,980	1,980	0	0	0	0	311	311	260	0	260	105	10	115	
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
On-site storage: metric tonne	334	1,405	1,739	1,587	1,341	2,928	1,989	6,659	8,648	3,382	3,260	6,642	25	0	25	306-5
Canada	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
France	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Netherlands	334	0	334	1,549	0	1,549	1,974	0	1,974	3,378	0	3,378	0	0	0	
Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
United States	0	1,192	1,192	0	1,341	1,341	0	6,614	6,614	0	3,235	3,235	0	0	0	
Germany	0	213	213	13	0	13	15	20	35	5	0	5	0	0	0	
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ireland	0	0	0	25	0	25	0	25	25	0	25	25	25	0	25	NORM waste
Other – Oilfield Waste Processing: metric tonne	6,105	188	6,293	6,050	449	6,499	1,208	2,698	3,905	1,913	31,298	33,211	2,027	28,161	30,188	306-2
Canada	6,105	188	6,293	6,050	192	6,242	1,208	2,698	3,905	1,913	15,836	17,749	2,027	17,538	19,565	
France	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
United States	0	0	0	0	257	257	0	0	0	0	3,536	3,536	0	0	0	
Germany	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0	0	0	0	0	0	11,926	11,926	0	10,624	10,624	
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Weight of hazardous waste shipped internationally: metric tonne	206		206	270	0	270	147	0	147	57	0	57	173	0	173	306-5
Canada	0		0			0			0						0	
France	0		0			0			0						0	
Netherlands	0		0			0			0						0	
Australia	0		0			0			0						0	
United States	0		0			0			0						0	
Germany	0		0			0			0						0	
Central and Eastern Europe - Hungary and Croatia	0		0			0			0						0	
Ireland	206		206	270		270	147		147	57		57	173		173	
DRILL MUD AND CUTTINGS	2019		2020		2021		2022		2023			GRI 11				
Drill mud & cuttings produced using non-aqueous drilling fluid, onshore disposal to controlled sites: tonne		14,710		17,184		12,549		11,694		14,012						
Canada		9,311		17,184		11,881		10,622		11,273						
France		854		0		0		0		0		No drilling activities in FBU				
Netherlands		885		0		668		905		2,274						
Australia		0		0		0		0		0						
United States		0		0		0		0		0						
Germany		0		0		0		168		465						
Central and Eastern Europe - Hungary and Croatia		3,660		0		0		0		0						
Ireland		0		0		0		0		0		No drilling activities in IBU				
Non-Aqueous drilling fluid re-used at another location (i.e. recovered and transported invert): m3		0		0		0		1,944		0						
United States		0		0		0		1,944		0						
Drill mud & cuttings produced using aqueous drilling fluid, onshore disposal to controlled sites: tonne		12,391		5,872		11,016		12,745		12,222						
Canada		5,689		5,088		6,890		5,777		8,604						
France		2,527		0		0		0		0						
Netherlands		250		43		1,167		585		1,269						
Australia		0		0		0		0		0						
United States		0		0		289		0		0						
Germany		3,925		0		289		1,251		2,297						
Central and Eastern Europe - Hungary and Croatia		0		742		2,671		5,132		52						
Ireland		0		0		0		0		0						
Drill mud & cuttings produced using aqueous drilling fluid, disposal at Vermilion controlled location: tonne		16,110		17,389		20,398		17,856		4,742						

MATERIAL TOPIC - WASTE	2019		2020		2021		2022		2023		CONTEXT	GRI/SASB
Annual Production - Annual Report figure, financial control: boe		36,630,232		34,839,540		31,173,190		31,093,255		30,657,810		
Annual Production - Annual Report minus non-operated volumes (CDE): boe		36,604,811		34,723,518		31,154,575		31,058,580		30,634,815		
Annual Production - Operated facility throughput including third-party volumes: boe		44,708,966		42,202,207		36,865,352		35,634,107		32,961,096	Use for intensity calculations to ensure numerator/denominator alignment	
Canada		14,918		16,048		12,830		11,756		3,642		
France		0		0		0		0		0		
Netherlands		0		0		0		0		0		
Australia		0		0		0		2,865		0		
United States		1,192		1,341		7,568		3,235		1,100		
Germany		0		0		0		0		0		
Central and Eastern Europe - Hungary and Croatia		0		0		0		0		0		
Ireland		0		0		0		0		0		
Verification / Certification												S&P Global
Sites where waste data is third-party verified												
Canada				Yes		Yes		Yes		Yes		
France				Yes		Yes		Yes		Yes		
Netherlands				Yes		Yes		Yes		Yes		
Germany				Yes		No		Yes		Yes		
Ireland				No		Yes		Yes		Yes		
Sites where waste management is ISO 14001 certified												
Canada				Yes		Yes		Yes		Yes	Waste contractor is ISO14001 certified	
Australia				Yes		Yes		Yes		Yes	Waste contractor is ISO14001 certified	
Germany				Yes		Yes		Yes		Yes	Waste contractor is ISO14001 certified	
Ireland				Yes		Yes		Yes		Yes	Waste contractor is ISO14001 certified	
Sites where hazardous waste management is HAZWOPER certified												
Ireland				Yes		Yes		Yes		Yes		

MATERIAL TOPIC: WATER, INCLUDING PRODUCED WATER	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB				
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810						
Annual Production - Annual Report minus non-operated volumes (CDP): boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815						
Annual Production - Operated facility throughput including third-party volumes: boe	44,708,966	42,202,207	36,865,352	35,634,107	32,961,096	Use for water intensity calculations to ensure numerator/denominator alignment					
WATER WITHDRAWALS	2019	2020	2021	2022	2023						
Total water withdrawal including produced water: ML	70,158	67,202	65,605	62,658	42,922	For 2019+, reporting aligned with CDP's definitions & informed by GRI 303 (2018) and SASB EM-EP-140a.1 and 2; included conversion from m3 to ML (ML = m3/1000)	EM-EP-140a.1 303-3				
Canada	39,234	34,852	31,638	30,580	17,033	2023 decrease due to divestment in Saskatchewan					
France	14,863	13,903	13,709	12,982	12,957						
Netherlands	25	25	15	19	39						
Australia	15,270	17,386	18,912	17,500	11,123						
United States	326	384	302	393	654	2023 increase due to drilling and completions program					
Germany	397	628	1,005	1,109	1,060						
Central and Eastern Europe - Hungary and Croatia	3.9	1.6	0.9	2.5	0						
Ireland	36	24	24	73	56						
Total water withdrawal excluding produced water and flowback: ML	7,009	8,248	9,590	9,819	9,822	Approximately 85% of water withdrawal is produced water	303-3				
Canada	187	141	154	334	342	2023 increase due to Mica drilling program					
France	494	581	420	420	360	2023 decrease due to replacement of groundwater well with pipeline for recycled water					
Netherlands	11	5	5	13	20						
Australia	6,189	7,398	8,949	8,992	8,942						
United States	106	109	51	0.32	112						
Germany	3	1.7	0.7	1.0	1						
Central and Eastern Europe - Hungary and Croatia	3.9	1.6	0.9	2.5	0						
Ireland	16	12	9	58	45						
Total Water Withdrawal including produced water, by source											
Surface/Freshwater, including rainwater, wetlands, rivers, lakes: ML	44	12	124	368	372	Total dissolved solids <10,000mg/L	EM-EP-140a.1				
Canada	40	12	124	312	324	2021 increase offset by reduction in renewable groundwater; 2022 increase due to new Mica operations					
France	0	0	0	0	0						
Netherlands	4	0	0	6	13						
Australia	0	0	0	0	0						
United States	0	0	0	0	0						
Germany	0	0	0	0	0						
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0						
Ireland	0	0	0	50	35						
Surface/Brackish water, including oceans: ML	198	7,398	8,949	8,992	8,942	Total dissolved solids >10,000mg/L					
Australia	6,189	7,398	8,949	8,992	8,942	Only applicable in Australia					
Groundwater - renewable: ML	622	691	436	425	477	Generally shallower groundwater resources that can be replenished/recharged within ~50 years	EM-EP-140a.1				
Canada	128	116	22	13	13						
France	494	575	414	412	352	2023 decrease due to replacement of groundwater well with pipeline for recycled water					
Netherlands	0	0	0	0	0						
Australia	0	0	0	0	0						
United States	0	0	0	0	112	Increase due to 2023 Drilling and Completions program					
Germany	0	0	0	0	0						
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0						
Ireland	0	0	0	0	0						
Groundwater - non-renewable, excluding produced water and flowback: ML	106	109	50	0	0	Generally deeper groundwater resources that have negligible recharge within ~50 years					
United States	106	109	50	0	0						
Groundwater - non-renewable, produced water and flowback: ML	63,148	58,955	56,016	52,838	33,101	Includes formation water, flow-back water and condensation water					
Canada	39,047	34,711	31,484	30,246	16,691	2023 decrease due to divestment in Saskatchewan					
France	14,370	13,322	13,289	12,562	12,597						
Netherlands	14	20	9	7	19						
Australia	9,082	9,988	9,963	8,508	2,181						
United States	221	275	251	393	542	Includes third-party produced water volumes					
Germany	395	626	1,004	1,108	1,060						
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0						
Ireland	20	12	15	15.3	11.1						
Third-party sources - Municipal water supplies or utilities: ML	49	38	29	35	30		EM-EP-140a.1				
Canada	19	13	7	9	4					342.1	342,055
France	0	6	6	8	8					360.5	360,480
Netherlands	8	5	5	7	7					19.6	19,568
Australia	0	0	0	0	0					-	-
United States	0.0	0.3	0.3	0.3	0.3					111.9	111,875
Germany	2.2	1.2	0.7	1.0	0.9					0.9	880
Central and Eastern Europe - Hungary and Croatia	3.9	1.6	0.9	2.5	0.1					0.1	113
Ireland	16	12	9	7.8	9.7					44.6	44,575
Total Freshwater Withdrawal = renewable groundwater + surface water + third party potable sources: ML	715	741	590	828	880		EM-EP-140a.1 303-3				879,546
Total freshwater intensity: ML/operated boe	0.000016	0.000018	0.000016	0.000023	0.000027	Freshwater defined as surface/freshwater + groundwater renewable + third-party sources					
Water sources significantly affected by water withdrawal: #	0	0	0	0	0	Sustained inability to meet human &/or ecological requirements of availability, quality or accessibility	303-1				
Water recycled and reused = reduction in water use: ML	0	0	0	0	53		303-1				
Canada	0	0	0	0	53						
Water recycled and reused: %	0%	0%	0%	0%	1%	Based on water withdrawals excluding produced water	303-3				

MATERIAL TOPIC: WATER, INCLUDING PRODUCED WATER	2019	2020	2021	2022	2023	CONTEXT	GRI/SASB				
Annual Production - Annual Report figure, financial control: boe	36,630,232	34,839,540	31,173,190	31,093,255	30,657,810						
Annual Production - Annual Report minus non-operated volumes (CDP): boe	36,604,811	34,723,518	31,154,575	31,058,580	30,634,815						
Annual Production - Operated facility throughput including third-party volumes: boe	44,708,966	42,202,207	36,865,352	35,634,107	32,961,096	Use for water intensity calculations to ensure numerator/denominator alignment					
Hydrocarbon discharged within produced water: tonnes	73	117	99	68	11	Refers to discharges to surface water or renewable (shallow) groundwater	EM-EP-140a.3				
Canada	0	0	0	0	0		GRI 11.6.5				
France	0	0	0	0	0		GRI 11.6.5				
Netherlands	0	0	0	0	0		GRI 11.6.5				
Australia	73	117	99	68.1	11.0		GRI 11.6.5				
United States	0	0	0	0	0		GRI 11.6.5				
Germany	0	0	0	0	0		GRI 11.6.5				
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		GRI 11.6.5				
Ireland	0	0	0	0	0	No produced water discharged offshore in 2023	GRI 11.6.5				
Annual Water Consumption: ML	0	0	0	0	0	Total water withdrawals - total water discharges	303-5				
Percentage of workers with fully-functioning, safely managed WASH (water, sanitation and hygiene) facilities	100	100	100	100	100		CDP				