Equinor ASA - Climate Change 2019

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Equinor is an international energy company with operations in over 30 countries and approximately 20,500 employees worldwide. The company's headquarter is in Stavanger, Norway. Equinor was founded as The Norwegian State Oil company (Statoil) in 1972, and it became listed on the Oslo Børs (Norway) and New York Stock Exchange (US) in June 2001.

On 15 May 2018 the shareholders through the Annual General Meeting accepted the Board of Directors' proposal to change the name of the company from Statoil to Equinor. The change was approved by the annual general meeting on 15 May, and from 16 May, the company name is Equinor. The new name supports the company's strategy and development to a broad energy company.

Equinor is among the world's largest net sellers of crude oil and condensate, and it is the second largest supplier of natural gas to the European market. Equinor also has substantial processing and refining operations. Equinor's New Energy Solutions division was set up in 2015 to drive business development in renewables and low-carbon solutions across Equinor.

Equinor is a values based company where empowered people collaborate to shape the future of energy. The company will maximise and develop the value of our unique NCS position and our international oil and gas business, focusing on safety, cost and carbon efficiency.

Equinor has eight business areas: Development and Production Norway (DPN), Development and Production International (DPI), Development and Production Brazil (DPB), Marketing, Midstream and Processing (MMP), Technology, Projects and Drilling (TPD), Exploration (EXP), New Energy Solutions (NES) and Global Strategy and Business Development (GSB).

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Row 1	January 1, 2018	December 31, 2018	No

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Bahamas

Brazil
Canada
Denmark
Germany
Norway
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

C-OG0.7

(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?

Row 1

Oil and gas value chain

Upstream
Downstream
Chemicals

Other divisions

Biofuels
Grid electricity supply from gas
Grid electricity supply from renewables
Carbon capture and storage/utilization

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	Equinor ASA's board of directors (BoD) reviews and monitors sustainability issues, including climate-related business risks and opportunities, and also Equinor's sustainability report. The BoD safety, sustainability and ethics committee (BoD SSEC) consists of selected members of the board. The committee assists the BoD in its supervision of the company's sustainability policies, systems and principles. This includes oversight of climate-related strategy, risk and performance.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and	Reviewing and guiding strategy. The corporate executive committee and Equinor ASA board of directors (BoD) review and monitor sustainability issues, including climate-related business risks and opportunities and climate and sustainability aspects related to investment decisions. Reviewing and guiding risk management policies. Management of sustainability and climate-related risks is embedded in our enterprise risk management process. All our activities carry risk, and risk management is therefore an integrated part of our performance framework. We identify, evaluate and manage risk to create sustainable value and avoid incidents. The risk process provides a standardised framework which allows for risk comparison and efficient decision making. Both upside and downside risks are assessed. Our management system includes our policies,

	targets for addressing climate-related issues	requirements and guidelines. Together with our corporate governance principles and performance framework, this forms the basis for how we are embedding sustainability in our business activities. Reviewing and guiding business plans. Executing the company's sustainability ambitions is a business line responsibility, and sustainability issues are regularly discussed by the corporate executive committee and board of directors. Setting performance objectives. In 2018, personnel safety, cyber security, human rights, anti-corruption and climate-related risk were extensively discussed in board meetings. The BoD safety, sustainability and ethics committee assists the BoD in its supervision of the company's sustainability performance and review of the sustainability report. Monitoring and overseeing progress against goals and targets for addressing climate-related issues. Group level functions responsible for sustainability-related issues include safety and security, sustainability, people and leadership and legal. The heads of these functions are responsible for setting strategic direction and reporting on risk and performance at group level within these topics to the corporate executive committee and board of directors, including relevant committees.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Executing the company's climate ambition is a line responsibility. This means that all Business areas are responsible for translating strategy into actions. This is monitored through KPIs and targets.

However, the Corporate Sustainability Unit (CSU) is responsible for monitoring progress on the Climate roadmap and reporting on sustainability and climate risk issues and performance at group level, to the corporate executive committee and the board of directors. CSU is headed by SVP Sustainability, and this position reports to the Corporate Executive Committee (CEC) member, Executive Vice President for Global Strategy and Business Development (GSB). The CEO is responsible for day-to-day operations, and presents proposals for strategy, goals, actions and financial statements, as well as important investments.

On a regular basis, the corporate executive committee and board of directors review and monitor climate change-related business risks and opportunities.

Climate issues are monitored through regular risk and performance updates and through monitoring indicators and targets. The main sustainability KPI monitored on Board and CEC level is CO2 intensity for the upstream oil and gas portfolio (kg CO2 per boe). Serious Incident Frequency (SIF) and CO_2 intensity impact the remuneration for the CEO and other members of the executive committee.Other climate-related indicators monitored at CEC level include CO2 emission reductions (tonnes), share of R&D expenses that is used at energy efficiency and low carbon projects and capex in New energy solutions.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Who is entitled to benefit from these incentives?

Chief Executive Officer (CEO)

Types of incentives

Monetary reward

Activity incentivized

Efficiency target

Comment

In 2018, the assessment of the reward for the CEO's delivery, within the HSE perspective, was based on the company performance versus the targets set for two of

the corporate level key performance indicators (KPIs): Total serious incident frequency (SIF) and CO2 intensity for the upstream oil and gas portfolio. The targets set in 2018 were 0.5 (number of incidents per million hours worked) for total SIF and to be within the top quartile of the International association of oil and gas producers (IOGP) benchmark for CO2 intensity of our upstream oil and gas portfolio.

The Corporate Sustainability Unit (CSU) is responsible for monitoring progress on the Climate roadmap and reporting on sustainability and climate risk issues and performance at group level, to the corporate executive committee and the board of directors. The CEO's remuneration is impacted by climate performance (upstream CO2 intensity vs. top quartile CO2 performance in the annual IOGP company report).

Who is entitled to benefit from these incentives?

Other C-Suite Officer

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

Target for EVP Development and production Norwegian Continental shelf (DPN): Achieve CO2 emission reductions of 1 million tonne in 2030, compared to 2018.

Similarily the other members of the Corporate Executive Committe has targets linked to their respective Business area targets. Individual performance goals are established to define the individual's role in contributing to Equinor's ambitions and strategies. As a part of the annual performance appraisal, the leader concludes his/her performance assessment based on "what and how" the individual has performed throughout the year. The conclusions is manifested with an adjustment upwards/downwards of the individual's annual variable pay per cent within the financial framework given by corporate People and Leadership.

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Monetary reward

Activity incentivized

Efficiency target

Comment

General bonus based on an overall assessment of the company’s performance in 2018: In 2018, Equinor delivered on its strategy, continued its investment in high quality next

generation portfolio, and strengthened its financial position.

The serious incident frequency had a positive development and came in at target and CO2 emissions intensity was reduced by more than 10%.

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Recognition (non-monetary)

Activity incentivized

Other, please specify

Best practice projects

Comment

The CEO's sustainability award is awarded annually, with the purpose of driving and rewarding significant efforts within environment, climate and social responsibility.

In 2018, the CEO's sustainability price was awarded to a new approach to supplier engagement on human rights at the Johan Castberg turret fabrication yard in Dubai.

Within CO2 emission reductions a finalist for the CEO SSU award was "Significant CO2 reductions through long-term engagement and collaboration" in Equinor's Norwegian Joint Operations.

The Johan Sverdrup project’s work on safety during completion and delivery of topsides for the riser platform in April 2018 in South Korea, and for the processing platform in February 2019 in Norway, received the CEO’s SSU award for safety and security.

Who is entitled to benefit from these incentives?

Environmental, health, and safety manager

Types of incentives

Monetary reward

Activity incentivized

Efficiency target

Comment

Energy efficiency targets/KPIs related to operational efficiency are commonly used for sustainability managers throughout the company. In our process for managing people development, deployment, performance and reward (People@Equinor), we set goals for what and how we want to deliver as teams and individuals, and to drive our personal development. Employees' performance is assessed in a holistic way, equally assessed of "what we deliver" and "how we deliver".

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	1	In the context of climate change the risk horizons tend to be longer than for other business risks. However, Equinor's enterprise risk management process consists of a more thorough assessment of potential impacts, probabilities and uncertainties on a running 12 months horizon. Hence the short term horizon is set to 1 year.
Medium-term	1	3	Risk issues further out in time are assessed qualitatively, and illustrated on a risk issues radar on a 1-3 years horizon or a beyond 3 years horizon. Additionally, a quantitative stress test is conducted against IEA scenarios, with a long term horizon (2040 and beyond).
Long-term	3	21	Risk issues further out in time than 12 months are assessed qualitatively, and illustrated on a risk issues radar with a 1-3 years horizon or a beyond 3 years horizon. Emerging issues which could have a longer horizon than 3 years are also assessed as part of the risk issues radar updates and illustrated in the risk issues radar. Equinor annually presents its energy scenarios, including energy market outlook towards 2050, in its "Energy Perspectives" report. Additionally, a quantitative stress test is conducted against IEA scenarios, with a long term horizon (2040 and beyond).

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment

Row 1	Six-monthly or more frequently	>6 years	The corporate executive committee (CEC) and board of directors (BoD) review and monitor sustainability issues, including climate-related business risks and opportunities. Enterprise risk management updates are held with the BoD normally twice per year. Sustainability related risk factors and risk issues and climate-related business risks and opportunities are addressed in these discussions. The BoD safety, sustainability and ethics committee (BoD SSEC) assists the BoD in its supervision of the company's sustainability policies, systems and principles. This includes two reviews per year of sustainability risk factors and risk issues, including those related to climate change and regular reviews of sustainability performance.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Equinor's risk management process is based on ISO31000 Risk management – principles and guidelines. The process provides a standardised framework and methodology for assessing and managing risk. A standardisation of the process across Equinor ASA and its subsidiaries allows for comparable risk levels and efficiency in decisions and it enables the organisation to create sustainable value while seeking to avoid incidents. The process seeks to ensure that risks are identified, analysed, evaluated and managed. Risk adjusting actions are subject to a cost benefit evaluation (except certain safety or integrity related risks which could be subject to specific regulations).

Enterprise and task risk management in Equinor follows a common, corporate-wide documented process valid for all parts of our business. It includes non-negotiable requirements, a specific work process and good practice guidance. These governing documents have a prominent place in our management system which is available to all employees and relevant for all entities.

Equinor regularly assesses climate-related business risk, whether political, legal, regulatory, market, physical or related to reputation impact, as part of the enterprise risk management process. This includes assessment of both upsides (opportunities) and downsides. Equinor uses tools such as internal carbon pricing, scenario analysis and sensitivity analysis of the project portfolio against various oil and gas price assumptions. We monitor technology developments and changes in regulation and assess how these might impact the oil and gas price, the cost of developing new assets, the demand for oil and gas and opportunities in renewable energy and low carbon solutions.

This risk management process is based on a bottom-up risk identification, assessment, action-setting and reporting process combined with a top-down assessment. Climate-related risks are

included in those processes, and their types will depend on the nature of the business (e.g. physical impacts for operations entities, market related risks/transition risks for units making investment decisions and/or marketing oil and gas, market risks (including upside risk) for our renewables activities and general risks such as reputation, litigation, market, regulation and technology development at company level).

We use both quantitative and qualitative assessment methods. Pre-defined risk factor checklists are available in support of these assessments, including for climate. The bottom-up process is complemented with a top-down risk identification and assessment carried out by corporate functions and through leadership teams' risk review meetings.

Additionally, to assess energy transition-related risks, Equinor conducts an annual sensitivity analysis ("stress test") of its project portfolio (equity production and expected production from accessed exploration acreage) against the assumptions regarding commodity and carbon prices in the International Energy Agency's (IEA) energy scenarios, as laid out in their "World Economic Outlook 2018" report. (Ref. page 18 in Equinor's 2018 Sustainability Report)

An effect on Equinor's expected net present value beyond 5% is considered substantive.

Risks that are identified at a medium or lower level in the organization, are discussed in management teams' risk review meetings and are either managed at that level or lifted to the next level, and might be reported to and reviewed by the Corporate Executive Committee and the Board, or the relevant Board's committee. This reporting to the CEC and the Board or Board's committee takes place every six months.

Furthermore, Equinor is making its own scenario analyses which informs identification and assessment of long-term risk issues, and the alternative price scenarios mentioned above. (Ref. Equinor's Energy Perspectives).

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	The political debate on and processes for reviewing current regulation potentially resulting in regulatory changes, are followed closely by relevant offices and sustainability staff on corporate and business area level. Examples of relevant regulation are: - costs of GHG emissions (e.g. Norwegian CO2 taxes and EU emission allowances), - emission monitoring and reporting, - low-emission solutions in field development particularly in Norway where all new field developments are required to assess electrification - requirements on share of biofuels in fuels for transport

		Equinor also follows closely the further development of EU and Norway's 2030 climate ambitions, and potential regulatory changes in the US on methane. Such oversight and understanding is used as input to our risk assessments and price/cost forecasts.
Emerging regulation	Relevant, always included	Emerging policies and regulations are followed closely by relevant offices, for example in our offices in Brussels, London, Berlin and Washington, and sustainability staff at corporate level and in our business areas. EU's Energy Roadmap 2050 is a specific example. Another example is monitoring of potential introduction of GHG emission taxes or trading systems in new countries. Such regulatory risk assessments are part of the assessment for establishing Equinor's internal carbon price assumptions used in investment analysis.
Technology	Relevant, always included	Because of Equinor's strategic direction towards a low carbon future, many teams address technology related risks (upside/downside), for example related to CCUS, hydrogen, battery technology, renewable energy, low CO2 intensity solutions, improvements in methane emissions and application of renewables in oil and gas production.
Legal	Relevant, always included	Ongoing and emerging climate-related litigation is monitored, and potential effects on policy-making assessed. The focus is on litigations that may affect energy companies in jurisdictions where we operate (similar to the New York lawsuit against ExxonMobil and lawsuit against Shell in the Netherlands).
Market	Relevant, always included	Potential future changes in demand for our products (oil, gas and renewable energy in key markets) are analysed in our "Energy Perspectives" which is published annually. This publication for 2019 contains market-related analyses and discussions of global energy, oil and gas demand, and renewable energy generation. A transition to a low carbon economy contributes to uncertainty over future demand and prices for oil and gas as described in the section "Oil and natural gas price risks". Such price sensitivities of the project portfolio are illustrated in the "portfolio stress test" as described in section 2.12 and in the Annual Sustainability Report 2018. Increased demand for and improved cost-competitiveness of renewable energy, and innovation and technology changes supporting the further development and use of renewable energy and low-carbon technologies, represent both threats and opportunities for Equinor. The competitiveness of the choices Equinor makes regarding what renewable business opportunities are pursued and invested in is subject to risk and uncertainty.

Reputation	Relevant, always included	Climate-related issues are always part of our assessments of reputational risks. A current example is stakeholders' views on the oil and gas industry, and potential activism from environment-oriented NGOs, e.g. the recent demonstrations against potential exploration activities in the Great Australian Bight and NGO opposition against our activities in the Barents Sea.
Acute physical	Relevant, sometimes included	Changes in physical climate parameters could impact Equinor's operations, for example through restrained water availability, rising sea level, changes in sea currents and increasing frequency of extreme weather events. Although Equinor's facilities are designed to withstand extreme weather events, there is significant uncertainty regarding the magnitude of impact and time horizon for the occurrence of physical impacts of climate change, which leads to considerable uncertainty regarding the potential impact on Equinor. As most of Equinor's physical assets are located offshore, the most relevant potential physical climate impact is expected to be rising sea level. Acute physical risks are assessed by inclusion of metocean data in our design-analyses and risk-analyses. As an example, the air-gap between sea level and deck levels on the Johan Sverdrup installations was adjusted to allow for sea level rise in the future.
Chronic physical	Relevant, always included	Changes in physical climate parameters could impact Equinor's operations, for example through restrained water availability, rising sea level, changes in sea currents and increasing frequency of extreme weather events. As most of Equinor's physical assets are located offshore, the most relevant potential physical climate impact is expected to be rising sea level. Availability of fresh or brackish water in our onshore operations in the US, is assessed regularly in connection with planning of well operations.
Upstream	Relevant, always included	Equinor is dependent of goods and services from around 9000 suppliers and contractor companies. The availability and/or cost of some of these products may become sensitive to climate change effects. Examples are: - Availability and cost of water for hydraulic fracturing of onshore wells may change due to less precipitation in relevant areas causing water scarcity. This could relate to potential regulatory changes, acute and chronic physical changes and possibly also technology development for replacing water for this purpose. - Cost of energy intensive products like steel and cement might increase due to potential increases in fuel costs and CO2 emission allowances. This could relate to potential regulatory changes and changes in market prices for fuel and CO2 emission allowances. - Regularity in offshore supply vessels and helicopter logistics may decrease due to more severe weather conditions. This is related to acute physical changes. Such specific risk issues are assessed by those business entities

		where such issues are relevant, either as part of the regular enterprise risk assessment processes, or in risk assessments related to specific activities.
Downstream	Relevant, always included	Equinor is selling oil and gas products and electric power on commodity markets or directly to industrial and public sector customers. The demand and prices for our products and the regularity of our deliveries are or may become sensitive to climate change effects. Examples are: - Potential changes in demand and prices for our products are among the important climate-related risks to our company. These risks relate to the market and reputation risks described above. - For some offshore fields produced oil is offloaded to oil tankers and shipped to onshore terminals or refineries. The regularity of offshore offloading may be sensitive to weather conditions in the future. This risk is related to the acute and chronic physical risks described above.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Climate considerations are integrated in our vision, strategy and performance management. Both our Corporate Executive Committee and our Board of Directors frequently discuss the business risks and opportunities associated with climate change, including regulatory, legal, market, technological and physical risk factors. We stress test our portfolio against IEA's World Energy Outlook scenarios on an annual basis and conduct our own scenario analysis (Energy Perspectives) to inform our assumption regarding future energy demand and prices.

Our management of climate-related risks and opportunities follows the same approach as outlined in C2.2b. Once upside and downside risks have been identified and assessed, mitigating or value-enhancing actions including indications of responsible persons, are proposed and agreed upon. Such action setting is an integral and mandatory part of our risk management process. Actions are reported and followed up in the Risk Management tool in ”Ambition to Action”, which is our main tool for performance management. If relevant, a risk and the relevant action(s) can be shared with another entity, and responsibility agreed upon. If an action requires significant investments, a project will be initiated and the case matured through feasibility, concept select and concept definition phases before a final investment decision is taken.

Actions will be followed up on a regular basis (frequency defined by each business area), until it is closed. Additionally, in support of improving CO2 emissions, a corporate KPI and target on carbon intensity has been established for our upstream portfolio. Furthermore, Equinor applies an internal carbon price of minimum USD 55 per tonne carbon dioxide equivalents to all potential projects and investments. In countries where the actual or predicted carbon price is higher than USD 55 per tonne of CO2, we apply the actual or expected cost, such as in Norway where both a CO2 tax and the EU Emission Trading System (EU ETS) apply.

Transition risk

An example of a transition risk is that stricter climate regulations and climate policies could impact Equinor's financial outlook, whether directly through changes in taxation and regulation, or indirectly through changes in consumer behaviour. This comprehensive risk area is managed by a set of approaches, e.g.

- through the implementation of the 'Equinor Climate Roadmap',
- by embedding climate principles into our decision making including a corporate-wide requirement for the assessment of carbon intensity and emission reduction opportunities, and also application of an internal carbon price of minimum USD 55 per tonne carbon dioxide equivalents to all potential projects and investments.
- by monitoring market and technology developments, and using scenario analysis (Energy Perspectives) to inform our expectation regarding future energy demand and prices
- by specific discussions of climate-related risks in the CEC and the BoD
- and by analyzing potential future impacts in line with the recommendations from Financial Stability Board's Task Force on Climate-related Financial Disclosure (TCFD).

All the approaches above stem from actions identified through strategy and performance management processes, including risk management, and are now either institutionalized as requirements, firmly followed up towards identified targets or established as regular processes.

Transition opportunity

An example of a transition opportunity identified and acted upon by Equinor is the earlier establishment of New Energy Solutions as a separate business area in Equinor (2015). Capital expenditure for new energy solutions in 2018 was in line with the ambition for annual investments of around USD 500 million and the future ambition of 15-20% of CAPEX in 2030, assuming that we can access and mature profitable projects. This significant move for the company is a response to an early identification of expected changes in energy systems and that our company should take part in the shaping of this. Hence this transition opportunity is reflected in our strategic vision "Shaping the future of energy", in our strategic objectives and top level actions and goals.

Physical risk

An example of a physical risk is a potential rise of sea level. Information from IPCC reports on this topic has informed definition of design basis for new offshore facilities. An example is the case of the ongoing development of the Johan Sverdrup field for which the air gap (distance from normal sea level to lowest deck) was augmented by 10% compared to the required air gap at the time of submission of the PDO (Plan for Development and Operations).

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

It is expected that EU ETS emission quota prices and CO2 tax level in Norway will increase. In addition, there is a possibility that CO2 pricing (emission trading schemes and/or CO2 tax) will be implemented outside of Norway and EU, and that pricing of methane emissions will be implemented in countries where we operate and increase in Norway. This would imply higher production costs due to higher taxes and/or quota prices on our GHG emissions and could potentially make some marginal oil and gas investments less profitable. However, Equinor's production in Norway (constitutes around 2/3 of Equinor's total entitlement production) is already subject to Norwegian CO2 taxation and part of the EU ETS.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,100,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Equinor conducts an annual sensitivity analysis (“stress test”) of its project portfolio against the price assumptions in the International Energy Agency’s (IEA) energy scenarios. This analysis entails equity production, excluding exploration activities due to significant uncertainty regarding discoveries and development solutions. The sensitivity analysis for 2018 demonstrated a positive impact of around 13% on Equinor's net present value (NPV) when replacing Equinor’s relevant price assumptions with the price assumptions in the IEA’s New Policies Scenario, a positive impact of 28% for the Current Policies Scenario, and a negative NPV impact of approximately 10% for the Sustainable Development Scenario.

The effect of IEAs Sustainable Development Scenario, which assumes introduction of CO2 pricing in more countries than today, would add 1.1 bn USD (Net present value) in CO2 cost related to our activities/production in these countries.

Management method

Our management method includes the use of an internal carbon price and evaluation of carbon intensity in our investment decisions, the use of energy scenarios to inform our strategy and planning, stress testing and monitoring of climate policy and regulatory outlook in relevant countries. For all projects outside of Norway, we apply a minimum carbon price of USD 55 per tonne CO2 in all investment analysis , to ensure that the effect of a potential higher future carbon cost is taken into account in our investment decisions, and to make our project portfolio robust toward such potential increases. The cost of the internal carbon price is higher than in IEAs Sustainability scenario, as it applies earlier and to all countries.

For projects in Norway, we apply the actual carbon cost (around USD 74 per tonne CO2 in 2018). A key methodology in our project development processes is the ‘Design to Cost’ approach. This methodology implies that cost-driving solutions above minimum are challenged early in the project development phases, and by applying a cost on carbon the solutions driving GHG emissions are challenged similarly.

Additionally, Equinor performs an annual sensitivity analysis ("stress test") of its project portfolio against the price assumptions in the International Energy Agency’s (IEA) energy scenarios. The cost of management is here illustrated by the cost of performing such analyses in investment decisions. (Assuming 30 projects, 3 hours analysis work each).

Cost of management

25,000

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Technology: Costs to transition to lower emissions technology

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

Other regulatory risks related to climate change include potential direct regulations, for example requirements to assess the use of power from shore for offshore fields at the Norwegian Continental Shelf. This could impact Equinor's costs. If this risk realizes, it is expected that installations and plants with lowest abatement costs will be targeted first. A mitigation measure would be to execute plant modification projects. An example of what we are evaluating is the possibility of supplying electric power from shore to three platforms (Troll C, Sleipner Field Centre including the nearby Gudrun platform) that are currently powered by gas turbines.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

600,000,000

Potential financial impact figure – maximum (currency)

1,000,000,000

Explanation of financial impact figure

The financial impact numbers shown are examples based on CAPEX estimates established in 2014 for power from shore solutions for the Johan Sverdrup field, phase 1 and 2, respectively. (Ref. https://www.regjeringen.no/no/aktuelt/kraft-fra-land-til-utsirahoyden/id751610/). These are 100% estimate for the joint venture, Equinor's share will depend on the ownership share for the joint venture in question.

Management method

Projects for electrification of offshore platforms with power from shore will be managed as any major project in Equinor's project portfolio, following well established project development work processes. The projects will follow a phased approach consisting in feasibility, concept select, definition and execution phases with decision gates at the end of each phase. By carrying out these early phase assessments, we are able to identify the best business cases for such emission reduction initiatives, enhance our ability to stay in control of which measures to implement, instead of being potentially instructed to implement. An example is the potential electrification of Troll C, and Sleipner (including Gudrun field) (as mentioned above) which would imply a reduction in CO2 emissions of 600,000 tonnes per year.

The reported cost of management is a typical figure for project development cost prior to sanction of a project preparing for a power from shore solution.

Cost of management

40,000,000

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Customer

Risk type

Transition risk

Primary climate-related risk driver

Market: Uncertainty in market signals

Type of financial impact

Reduced demand for products and services

Company- specific description

There is continuing uncertainty over demand for oil and gas after 2030, due to factors such as technology development, climate policies, changing consumer behaviour and demographic changes. Equinor uses scenario analysis to outline different possible

energy futures. Technology development and increased cost-competitiveness of renewable energy and low-carbon technologies represent considerable upside with some threats for Equinor. As an example, the development of battery technologies could allow more intermittent renewables to be used in the power sector. This could impact Equinor's gas sales, particularly if subsidies of renewable energy in Europe were to increase and/or costs of renewable energy were to significantly decrease. On the other hand, Equinor's renewable energy business could be impacted if such subsidies were reduced or withdrawn. As such, there is significant uncertainty regarding the long-term implications to costs and opportunities for Equinor in the transition to a lower-carbon economy.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

7,800,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Equinor has analysed the sensitivity with changing the oil and gas prices and keeping other parameters constant, of its project portfolio (equity production of producing assets and development projects, exploration excluded) against the assumptions regarding commodity and carbon prices in the energy scenarios in IEA's "World Economic Outlook 2018". The analysis demonstrated a positive impact of around 13% on Equinor's net present value (NPV) when replacing Equinor's price assumptions as of 1 December 2018 with the price assumptions in the IEA's New Policies Scenario, a positive impact of 28% related to the Current Policies Scenario, and a negative NPV impact of approximately 10% related to the Sustainable Development Scenario.
If we assume that the financial impact can be illustrated by the result of 10% from the IEAs Sustainable Development Scenario, the impact for Equinor would be USD 7.8 billion (10% of Equinor's market cap of approximately USD 78 bn as of May 2019).

Management method

In short, the risk is managed through
- integrating climate considerations in our vision, strategy and performance management

- assessment, evaluation and action setting as part of our regular risk management processes
- annual scenario analyses and stress-testing as published in “Equinor’s Energy Perspectives”
- establishment of a separate business area for new energy solutions and the following investments in wind and solar farms
- efficiency improvements, the cash flow improved by USD 4.5 billion by 2017 compared to 2013, and achieved a volume weighted break-even of 14 USD/boe on sanctioned projects in 2018.
- CO2 emission reduction measures
- Integrating climate into our investment criteria, including the use of an internal carbon price and by assessing the impact on our upstream operated CO2 intensity (KPI) of all capex investments and divestments. Furthermore, we are not exploring for heavy oil and we have divested from oil sands.
- R&D efforts. Equinor’s target is to reach a 25% share of R&D expenditure committed to energy efficiency and low carbon projects by 2020.

Cost of management: In 2018 R&D expenditure committed to projects within low carbon technologies and energy efficiency was USD 66 million (21% of total R&D expenditure). (USD 30 mill. on CCUS and renewables and USD 36 mill. on energy efficiency). Capital expenditure for new energy solutions during 2018 was in line with the ambition for annual investments of around USD 500 million.

Cost of management

66,000,000

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Use of public-sector incentives

Type of financial impact

Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks)

Company-specific description

A floating offshore wind farm, Hywind Tampen, is being considered to provide wind power to the Snorre and Gullfaks fields on the Norwegian continental shelf. The proposed development includes eleven 8 MW wind turbines based on Equinor's floating offshore wind concept Hywind. With a total capacity of 88 MW, the wind farm is expected to cover one third of the power need of the five platforms Snorre A and B and Gullfaks A, B and C. The associated potential avoided annual emission of CO2 is 200,000 tonnes. An application for financial support from Enova (Norwegian state enterprise owned by the Ministry of Climate and Environment) of 50% of the expected total investment of NOK 5 billion has been filed. The investment decision is planned for later in 2019. If sanctioned, Equinor will be operator for the development, construction and operational phases on behalf of the joint venture partner companies for the Snorre and Gullfaks fields.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

290,000,000

Explanation of financial impact figure

The range of the financial impact is assumed to be defined by the case of not receiving support for this development (minimum case) to the case of receiving the support (maximum case). This is a 100% estimate for the joint ventures, Equinor's share will

depend on the ownership share for the joint ventures in question.

Strategy to realize opportunity

The strategy to realise this opportunity is to continue the Hywind Tampen project towards a final investment decision which may take place later in 2019. The project is in close dialogue with Enova (Norwegian state enterprise owned by the Ministry of Climate and Environment) and has filed an application for financial support of 50% of the expected total investment of NOK 5 billion.

Cost to realise opportunity equals 50% of total investment, which is the remaining part not covered by Enova support. This is an estimate for the joint venture, Equinor's share will depend on the ownership share for the joint venture in question.

Cost to realize opportunity

290,000,000

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Resource substitutes/diversification

Type of financial impact

Other, please specify

Attractiveness

Company-specific description

Equinor's approach to create a low carbon advantage as laid out in our Climate Roadmap could strengthen the company's reputation, the attractiveness on the stock market, as well as strengthen employee motivation and talent attraction. This approach consists of a number of specific goals and measures for building a lower carbon oil and gas portfolio and creating a material industrial position in new energy solutions.
Examples are:
- Reduce CO2 emissions by 3 million tonnes per year by 2030, compared to 2017
- Achieve a portfolio upstream carbon intensity of 8 kg CO2/boe by 2030
- Eliminate routine flaring by 2030
- Develop new energy solutions with a potential to represent around 15-20% of CAPEX

by 2030
- Utilise up to 25% of research funds to new energy solutions and energy efficiency by 2020
- Invest USD 200 million through our new energy venture fund
- Partner in the USD 1 billion OGCI Climate Investments
- Continued support for carbon pricing
- Preparing for investments in reduced deforestation corresponding to emissions from our operated production in areas without CO2 pricing
- Apply an internal carbon price of USD 55 per tonne CO2 (or higher if local prices are higher)
- Embed climate risk and performance into strategy, incentives and decision making
- Amplify our climate actions through collaboration and partnerships

Equinor is already an industry leader on carbon intensity. We believe maintaining this position while growing renewables and low carbon energy solutions will help Equinor to manage the energy transition smoothly – and at the same time position us to ensure a competitive advantage in a low carbon world.

Equinor was awarded the Rystad Energy ''green initiator of the year'' award in February 2018, in recognition of our climate strategy and environmental goals, and the energy improvement measures we have implemented in recent years, through a company culture that enables contributions from across the company.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Quantitative assessments are not available. We consider attracting and retaining talent as important to remain competitive.

Strategy to realize opportunity

For Equinor our regular reputation surveys in key markets (general public) demonstrate that climate and environment performance are key drivers for trust and reputation. Therefore Equinor's Climate Roadmap and efforts related to the energy transition (as described above) has been extensively communicated to external and internal stakeholders, including presentations at several universities and events relevant for recruitment. Equinor has experienced a good effect on number and relevance of applications for graduate positions of this external outreach. In a survey among 14500 students from 26 universities and colleges in Norway, Equinor was ranked as the most attractive employer within the area of engineering and natural sciences. The study from May 2019 is described here: https://universumglobal.com/no/norways-most-attractive-employers-2019/

In an internal context there has been a comprehensive engagement through our 'climate ambassadors program', numerous presentations in and support to leadership teams.

Cost to realize opportunity

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

Through our activities within carbon capture and storage (CCS), we are building capabilities and a competitive position for future business opportunities (e.g. injection and storage of CO2 from 3rd party customers), also influencing positively Equinor's attractiveness as a business partner. This would imply a new revenue stream related to disposal of CO2 from customers, and would also be basis for solutions for decarbonised hydrogen as an energy product which would also be a flexible solution to backup intermittent renewables in Europe. In 2017, Equinor was tasked to lead studies of behalf of the Norwegian authorities to develop transport and storage as two of three elements of a full-scale CCS value chain in Norway. The concept includes capturing CO2 emissions from onshore 3rd party industrial plants in Norway and transporting it as a

cold liquid by ships to an onshore terminal, from which it will be transported in a 100 km long pipeline and injected and permanently stored in a geological reservoir approx. 3000 meters below the seabed at the Norwegian continental shelf (NCS). The Equinor-operated project named Northern Lights (which includes Shell and Total as partners) will provide both an infrastructure and open access storage capacity for EU and Norwegian 3rd party customers' CO2 volumes. In January 2019 Equinor was awarded the first of a kind Exploitation permit EL 001 and in spring 2019 the Norwegian State granted support for a confirmation well at NCS. The confirmation well at NCS is expected to commence November 2019. Equinor submitted a Project of Common Interest (PCI) proposal to the EU in 2017 covering CO2 ship transportation between emission points in the Netherlands and the UK and Norwegian storage sites. The PCI application was approved in 2018, and Equinor was awarded PCI status on behalf of the Northern Lights project. A revised PCI proposal was submitted to EU in March 2019. The concept was revised and the number of member states and collaboration partners was increased to strengthen the proposal. The approval of the application is expected from the European Commission in the second half of 2019.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,500,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The potential financial impact figure (USD 1.5 billion) is based on the highest number among two estimates of total costs reported by Gassnova in 2018. (ref. http://www.gassnova.no/en/full-scale) - "The total cost (investment and operating costs for five years) for a chain where CO2 from Norcem is captured and stored is estimated at NOK 11.2 billion. The equivalent estimate for Fortum Oslo Varme is NOK 13.1 billion. Both estimates are at P50 level." The potential financial impact for Equinor will be considerably less because investment and operating costs will be distributed among participating partners including the Norwegian government.

Strategy to realize opportunity

Our strategy to realise this opportunity includes R&D, pilot projects and a concept studies. Equinor has long been a pioneer in CCS, and we are currently operating some of the largest carbon capture and storage projects worldwide (Sleipner and Snøhvit fields in Norway). This has demonstrated the technical viability of CCS. Additionally, Equinor is operating 'Technology Centre Mongstad' the world's largest facility for testing and improving CO2 capture. In 2016, Equinor participated in a Norwegian government-led study that confirmed the feasibility of offshore carbon storage on the Norwegian continental shelf. The present study phase is a front end engineering and design study for CO2 transport and storage, and Equinor was assigned a contract for this purpose in 2017, and shortly after Equinor entered into a partnership with Shell and Total to mature this opportunity jointly. The project work has continued through 2018 and is still in progress. The partners final investment decision is scheduled for Q2 2020, Norwegian authority approval and invest decision in Q4 2020 and start of injection and storage of CO2 in Q4 2023 / Q1 2024 according to current plans. Equinor has a broad portfolio of R&D projects with the objective of reducing costs and risks for CCUS.

The estimated costs related to project studies and staff for the Northern Lights project for the period up to project sanction, is approximately USD 50 million.

Cost to realize opportunity

50,000,000

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

Equinor has a target to implement CO2 emission reduction measures equivalent to 3 million tonnes annually between 2017 and 2030 and continues to make progress towards this goal. A significant portfolio of projects and initiatives has been established through 2017-2018 with variable maturity to accomplish the 2030 commitments, which are considerable compared to our total direct emissions of 14.4 million tonnes in 2018. This will be important for achieving the carbon intensity goal of 8 kg CO2/boe in 2030. Several CO2 emission reduction initiatives were implemented in 2018, amounting to a

total of around 264,000 tonnes of CO2. The CO2 emission reduction initiatives are expected to continue towards 2030.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

30,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact of energy efficiency measures is the result of reduced CO2 costs (taxes and quotas), less maintenance costs if energy consuming facilities are less used, higher revenues because gas can be sold on the market rather than being used for own power generation, and potentially higher investments and other operations costs. The indicative number given above is the estimated annual financial impact resulting from CO2 emissions reduction measures aimed for in Equinor's Norwegian operations in 2019. The estimate is based on typical abatement costs, CO2 tax and quota prices and natural gas market price.

The figures are 100% estimates for the joint ventures, Equinor's share will depend on the ownership share for the joint venture in question.

Strategy to realize opportunity

As part of our company-wide Climate Roadmap we have set specific targets and work systematically to achieve these. We believe these targets and the related actions will make us more competitive, and have a positive impact on reputation, talent attraction and social licence to operate.

Cost to realise opportunity: This cost estimate is based on a typical abatement cost for CO2 emission reduction measures. The figure is a 100% estimates for the joint ventures, Equinor's share will depend on the ownership share for the joint venture in question.

Cost to realize opportunity

10,000,000

Comment

Identifier

Opp5

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

Reformation of natural gas into hydrogen, combined with permanent storage of released CO2, constitutes a new business opportunity. If successful, hydrogen could become a new decarbonised energy product (e.g. for heating and cooling of buildings, power generation and heavy transportation fuel) in Equinor's portfolio – basically delivering the same flexible energy product as natural gas does today, but with 95% or more reduced CO2 emissions. One of the projects that we're working together with Vattenfall and Gasunie on in the Netherlands is to convert a combined cycle gas turbine (CCGT), a gas fired power plant, and to run that on clean hydrogen. The use of hydrogen for this purpose would offer a flexible backup for intermittent renewable energy sources like power from wind-turbines. This is the project used as an example below. Equinor is also looking at using the gas distribution network in the North of England, convert that to carry hydrogen, and we do believe that liquid hydrogen would be and is a viable solution to decarbonize the heavier parts of the transportation segments, such as shipping. This would create a significant market for hydrogen as an energy product.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

230,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact is in this case shown as the approximate annual market value (USD 230 mill/year) of the natural gas consumed by a combined cycle gas turbine (CCGT) using 1 billion cubic meters of natural gas/year. A conversion of the CCGT to run on hydrogen (produced with very low CO2 emissions) will enable the current CCGT to operate as normal also in a carbon neutral future where strict CO2 emission targets would prevent CCGT to be run on natural gas.

Strategy to realize opportunity

The main strategy to realise this opportunity is to continue progressing the joint project with Vattenfall and Gasunie in the Netherlands, aiming at converting a combined-cycle gas turbine, a gas fired power plant, and to run that on hydrogen. Additionally, R&D projects (e.g. on safety aspects and material technology) are initiated in support of developing this opportunity. In 2018 Equinor also contributed to the Northern Gas Networks' report H21 North of England, launched in 2018. The report sets out how 3.7 million homes and 40,000 businesses in the north of England, currently heated by natural gas, could be converted to hydrogen and made emission-free by 2034.

The cost to realise opportunity: This is an approximate, added cost which includes all elements for making the energy solution clean, such as reforming natural gas to hydrogen and CO2 management. There is potential to reduce the extra cost with targeted technology development, more projects and standardization (economy of scale)

Cost to realize opportunity

1,400,000,000

Comment

Identifier

Opp6

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

An opportunity identified and acted upon by Equinor is the earlier establishment of New Energy Solutions as a separate business area in Equinor (2015), and a potential to represent around 15-20% of total CAPEX by 2030. This significant move for the company is a response to an early identification of expected changes in energy systems and that our company should take part in the shaping of this. Hence this transition opportunity is reflected in our strategic vision “Shaping the future of energy”, in our strategic objectives and top-level actions and goals.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

12,000,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

This is a number illustrating Equinor's investment ambitions towards 2030 reflecting the ambition of 15-20% of CAPEX in 2030 within the New Energy Solutions business area, assuming that we can access and mature profitable projects.

Strategy to realize opportunity

Equinor's intends to create a material industrial position in new energy solutions. Main strategic elements are:

- Develop new energy solutions with a potential to represent around 15-20% of CAPEX by 2030
- Utilise up to 25% of research funds to new energy solutions and energy efficiency by 2020
- Invest USD 200 million through our new energy venture fund

Cost to realise opportunity: This is the total 2018 cost for all R&D projects related to renewables and carbon capture. Additionally, realisation of this opportunity requires business development and project development with related costs/investments.

Cost to realize opportunity

30,000,000

Comment

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	The identified risks and opportunities related to climate change have had and are expected to have significant impact our business in several ways. In the area of products and services some examples are: - The long-term effects on demand and prices on our oil, gas and electric power produced and delivered to the market. Equinor has analysed the sensitivity with changing the oil and gas prices and keeping other parameters constant, of its project portfolio (equity production of producing assets and development projects, exploration excluded) against the assumptions regarding commodity and carbon prices in the energy scenarios in IEA's "World Economic Outlook 2018". The analysis demonstrated a positive impact of around 13% on Equinor's net present value (NPV) when replacing Equinor's price assumptions as of 1 December 2018 with the price assumptions in the IEA's New Policies Scenario, a positive impact of 28% related to the Current Policies Scenario, and a negative NPV impact of approximately 10% related to the Sustainable Development Scenario. - Establishment of New Energy Solutions as a new business area, and subsequent large investments with a potential to constitute around 15-20% of annual CAPEX in 2030. - The European gas demand stayed at 2017 levels after an increase by more than 70 BCM over the previous three years. An important component of European gas demand growth is the electricity sector, where gas generation is gaining ground at the expense of coal due to rising coal and CO2 emission prices. - The role Equinor has been awarded in the front-end engineering and design studies for CO2 storage as part of a CCS value chain

		- The early phase studies of developing solutions for conversion of natural gas to hydrogen - An investment in the solar power production business through acquisition of around 10% of the shares Scatec Solar - An investment in the electricity trading company Danske Commodities to be better positioned to capture value from our renewable energy business.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	In the supply chain the logistics area has been moderately impacted by measures related to climate change, encompassing technical, operational and fuel related measures to achieve results. Examples are battery-hybridization and LNG powered supply vessels, shore-power supply for vessels, optimising sailing routes and planning for green vessel speed maximising vessel and helicopter capacity utilisation and a truck pool with the highest euro class. We focus on fuel efficiency when entering into new vessel contracts; incentive schemes further encourage suppliers to ensure fuel efficient operations. Since 2011 we have reduced emissions in our logistics area by a total of 680,000 tonnes CO2, with equivalent savings of approximately USD 120 million. (Ref: https://www.equinor.com/en/news/2019-01-18-reduced-c02-emissions.html)
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	Equinor's facilities are largely constructed to withstand more severe weather impacts within safety margins. Numerous mitigating measures to reduce emissions have been implemented and more are expected in the future. Examples are the decision to provide hydroelectric power from shore for the Johan Sverdrup field which is under development, and measures to significantly reduce flaring in our US Onshore Bakken operations (ref. https://www.equinor.com/en/how-and-why/climate-change/flaring.html). As an example, the estimated 100% investment for a power-from-shore solution to the Johan Sverdrup field, phase 1 was close to USD 650 million. (Ref. https://www.regjeringen.no/no/aktuelt/kraft-fra-land-til-utsirahoyden/id751610/).
Investment in R&D	Impacted	Equinor has a focused R&D activity related to low carbon and energy efficiency, with an expected 25% share of our total R&D budget funds in 2020. We have seen the share of low carbon R&D increasing over the past few years, reaching 21% in 2018. This is a significant share of the total R&D budget and entails several innovative technology projects, e.g on CCUS and CO2 injection.
Operations	Impacted	Equinor introduced in 2017 a new CO2 upstream intensity target, delivering 20% reductions by 2030 – from 10kg to 8kg – less than half

		of the current industry average. Furthermore, an emission reduction target of 3 million tonnes of CO2 by 2030, compared to 2017, has been established for the group. The annual CO2 emission reductions achieved in 2018 were 264,000 tonnes of CO2. Since 2017, 0.6 million tonnes of the 3 million tonnes ambition have been achieved.
Other, please specify	Not impacted	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	Our activities related to business opportunities in renewable energy production were organized into a new business area (New Energy Solutions – NES) in 2015. As for all other business areas, NES carries out financial planning according to Equinor requirements and practices. Future prognoses for oil and gas revenues are based on production prognoses and oil, gas and CO2 price forecasts, which take into account expected and potential effects stemming from climate change. Equinor conducts an annual sensitivity analysis (“stress test”) of its project portfolio (equity production of producing assets and development projects, exploration excluded) against the assumptions regarding commodity and carbon prices in the International Energy Agency’s (IEA) energy scenarios. The sensitivity analysis for 2018 demonstrated a positive impact of around 13% on Equinor's net present value (NPV) when replacing Equinor’s relevant price assumptions with the price assumptions in the IEA’s New Policies Scenario, a positive impact of 28% for the Current Policies Scenario, and a negative NPV impact of approximately 10% for the Sustainable Development Scenario. Increased carbon price had limited effect.
Operating costs	Impacted	Costs related to CO2 taxes and quota prices are included as cost elements in our financial planning. These costs are calculated based on CO2 emission prognoses. For our operations in countries with existing CO2 taxation and CO2

		quotas, we apply relevant taxes and quota prices. In 2018 paid CO2 taxes and CO2 quotas amounted to about USD 600 million. In business case analyses for investment decisions an internal carbon price of USD 55 per tonne CO2 (or higher if relevant for the relevant country) is applied. The effect of IEAs Sustainable development scenario, which assumes introduction of CO2 pricing in more countries than today, would add 1.1 bn USD (Net present value) in CO2 cost related to our activities/production in these countries.
Capital expenditures / capital allocation	Impacted	CAPEX estimates for approved emission reduction projects and CAPEX estimates of the portfolio of potential future projects are included in our financial planning. These emission reduction projects, including potential projects for providing offshore installations with power from offshore wind mills or power from shore, are at various maturity levels and decision phases, and both final sanction and timing of those finally approved, are uncertain. The CAPEX estimate for Hywind Tampen is around USD 600 million. Other estimates are not publicly available due to commercial sensitivities. Similarly, CAPEX estimates for our New Energy Solutions (NES) business area are included in our financial planning. The cumulative investment ambition for NES is USD 12 billion towards 2030.
Acquisitions and divestments	Impacted	Equinor is no longer exploring for heavy oil, and will no longer own or operate any oil sands assets. This means that we will not acquire licenses or assets with explicit heavy oil prospects or proven heavy oil resources. This is in full alignment with our 'low carbon' strategic ambition, and hence of insignificant impact on our future portfolio.
Access to capital	Not impacted	Equinor has so far not experienced that access to capital has been impacted by debt investors' view on our company from a climate change perspective. This is demonstrated by a strong credit rating by both credit rating agencies: AA- from S&P and respectively Aa2 from Moody's, which also reflects Equinor's strong balance sheet. The CDP report "Beyond the cycle" (Oct 2018) ranked Equinor highest among peers with regards to the companies' readiness for a low carbon transition, and reflects Equinor strategy focusing on low carbon and our ambitions to grow our renewable business to 15-20% of CAPEX by 2030.

Assets	Impacted for some suppliers, facilities, or product lines	The transaction to divest Equinor's 100% owned Kai Kos Dehseh (KKD) oil sands projects in the Canadian province of Alberta has had an impact on our financial planning.
Liabilities	Not impacted	Equinor has not experienced any climate change related liability.
Other	Not evaluated	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i) How the business strategy has been influenced: In 2017 Equinor launched a new strategy with the strategic goals "Always safe; High value; Low carbon", embedding "low carbon" as a strategic principle at the core of the strategy. The strategy outlines Equinor's ambition to develop from a focused oil and gas company to a broad energy company that is competitive in a low carbon economy.

Our strategic response to climate change is outlined in our Climate roadmap with an action plan and clear 2030 targets within the following areas: a) Build a high value, lower carbon oil and gas portfolio; b) Create a material industrial position in new energy solutions; and c) Accountability and collaboration.

ii) What aspects of climate change have influenced the strategy: Risks and opportunities related to changing energy markets, policy and regulatory changes and technology development. We shape our portfolio according to our strategic principles "Always safe, High value, Low carbon" to stay competitive in a carbon constrained world.

iii) How the short term strategy has been influenced by climate change: In Equinor's short term strategy, maintaining a competitive carbon footprint in our own operations is key. To achieve this, we systematically follow up on emission reduction opportunities. We have established an ambitious carbon intensity target for 2020 (9kg CO2/boe produced). The IOGP industry average is 18kg CO2/boe produced. In 2018 Equinor's renewable energy production increased from 830 to 1,3 TWh. The capital expenditure on new energy solutions in 2018 was around USD 0.5 billion. Low carbon and energy efficiency
R&D spend has increased to 21% of the total in 2018 (our 2020 target is 25%).

iv) How the long term strategy has been influenced by climate change: Equinor is one of the world’s most carbon efficient oil and gas producers, and our ambition is to maintain this position. To achieve this, we have established 2030 targets for upstream carbon intensity (8kg CO2/boe produced) and emission reductions (3 millon tonnes of CO2). To achieve our CO2 intensity ambition, we assess carbon impact of new investments and divestments, and we have also decided not to explore for heavy oil. We apply a minimum internal carbon price of USD 55 per tonne CO2 to all projects in our investment analysis. To capture the opportunities represented by the energy transition, we aim to grow in renewable energy and expect that annual CAPEX to new energy solutions could be around 15-20% in 2030.

v) How we build a competitive advantage; Equinor is already an industry leader in carbon efficiency. In 2017 CDP ranked us as the oil and gas company with stronger performance on climate governance and strategy ("Beyond the cycle" report). We do this in two ways: First, we are building a high value oil and gas portfolio with a lower carbon footprint, ensuring that the right hydrocarbons are produced and that they are produced as carbon and cost efficiently as possible. Second, we are building a material industrial position in new energy solutions. Our strategy enables us to capture business opportunities arising from energy transition. At the same time, diversificaiton makes us more resilient both strategically and financially. Equinor embraces the energy transition as an opportunity for sustainable growth. We believe maintaining our position as an industry leader in carbon efficiency while growing renewables and low carbon energy solutions will help Equinor to manage the energy transition smoothly – and at the same time position us to ensure a competitive advantage in a low carbon world.

vi) What have been the most substantial business decisions made in 2018 that have been influenced by the climate change driven aspects of the strategy:
* Statoil became Equinor - the name Equinor reflects the company's strategy and development towards becoming a broad energy company;
* Acquired 9.7% interest participation in Scatec Solar;
* Apodi solar plant in Brazil starts production;
* Equinor signed an agreement with Martifer Renewables to acquire a 50 % interest in the Guanizul 2A (G2A) solar asset in Argentina. The project has a potential to provide around 80,000 Argentine households with renewable energy;

* Installed world's first battery for offshore wind at Hywind, Scotland. With Batwind in operation, it will for the first time be possible to store energy produced from an offshore wind farm;
* Arkona wind farm in offshore wind farm in Germany, first power supplied in September 2018;
* Equinor exercised an option to acquire a 50% interest two offshore wind development projects in Poland, Baltyk II and Baltyk III;
*Equinor submitted a winning bid of USD 135 million for Massachusetts lease area
* Northern lights - Carbon Capture and Storage (CCS) project. The Equinor-operated project, which includes Shell and Total as partners, will provide both an infrastructure and open access storage capacity for EU and Norwegian 3rd party customers' CO2 volumes;
* Equinor acquired 100% of the shares in Danish energy trading company Danske Commodities (DC);
*Equinor announced that it is ready to invest in tropical forest protection as soon as a well-functioning market is in place for the private sector. This will be a supplement to the company's own climate actions.

In 2018, continued to embed climate principles into decision-making, that were introduced in 2017. This includes of a corporate-wide requirement for the assessment of the carbon intensity and emission reduction opportunities for all potential projects and investments.

vii) How the Paris Agreement has influenced the business strategy (e.g. the process of transition planning alongside the ratcheting of Intended Nationally Determined Contributions (INDCs)): The Climate roadmap explains how Equinor plans to deliver on our strategic ambition to create a low carbon advantage and develop our business in support of the ambitions of the Paris climate agreement and of the United Nations sustainable development goals (SDGs) 7 and 13. The Climate roadmap responds to risks and opportunities arising from the energy transition and emphasises collaboration. An example is Equinor's participation in the Oil and Gas Climate Initiative (OGCI) to accelerate the oil and gas industry's response to climate change.

viii) Forward-looking scenario analyses, including a 2°C scenario, to inform our organization's businesses, strategy, and/or financial planning: Equinor publishes an annual analysis of the long term macro and energy market outlook, including scenario analysis in our "Energy perspectives" report. This includes a scenario ("Renewal) that is aligned with a below 2°C ambition (Energy Perspectives 2018). The analysis informs strategy, risk assessment and financial planning. In addition, Equinor conducts an annual stress test towards the IEA's scenarios (World Economic Outlook).

C3.1d

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details

IEA Sustainable development scenario IEA NPS IEA CPS	To implement our Climate roadmap, we have focused on three broad areas for our Equinor operated portfolio: • Realising a lower carbon oil and gas portfolio • Building an industrial position in new energy • Accountability and collaboration, including stress testing our portfolio and disclosure of climate-related business risk. Equinor has for several years tested all investment projects after 2020 against a global CO2 price of USD 55 er tonne (or higher in countries where a higher price is used and/or predicted) and we have a high share of production with relatively low CO2 intensity. This makes our portfolio robust against the introduction of higher CO2 costs in all regions where we are present. 76% of forecast CAPEX in 2028 is related to activities that have not yet been sanctioned, so there is a significant potential for continued investments in high value oil and gas projects, renewable energy and low carbon solutions. Conventional oil and gas is forecasted at 77% of total production in 2025, while heavy oil contributes less than 4%. The analysis conducted in 2018 demonstrated that due to the significant differences in assumptions around oil and gas prices in the different IEA scenarios, the impact on Equinor's net present value (NPV) varies significantly in the various scenarios. Due to the combination of a high CO2 price used by Equinor in internal planning assumptions, and a relatively low CO2 intensity (around half of the industry average of 18) the changes in value are almost entirely driven by the oil and gas price assumptions. Portfolio optimisation and efficiency improvements have substantially strengthened the robustness of our portfolio during the past few years, and despite the negative impact on NPV in the ''sustainable development scenario'', we see very limited stranding of assets. Equinor's portfolio continued to improve its robustness in 2017 compared to 2016 – achieving a breakeven oil price of USD 21 per barrel for next generation projects. This analysis is based on Equinor's and the IEA's energy scenario assumptions which may not be accurate and which are likely to develop over time as new information becomes available. Scenarios should not be mistaken for forecasts or predictions. Accordingly, there can be no assurance that the assessment is a reliable indicator of the actual impact of climate change on Equinor's portfolio. In 2018 we tested our portfolio against the IEA's Current Policies, New Policies and Sustainable Development scenarios. the scenarios and assumptions are presented in the World Energy Outlook 2018 report (IEA). Equinor has not tested it's portfolio against a 1,5 scenario, as the IEA has so far not published such a scenario with corresponding oil, gas and carbon price, assumptions.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

Our strategy and Climate roadmap form the basis for how we respond to climate-related risks and opportunities. As part of this we have embedded climate considerations into our incentives, reporting and decision-making, and have targets in place to measure progress and incentivise performance across the entire company - starting at the top. CO2 intensity (upstream) is a key performance indicator and influences executive pay. The Climate Roadmap describes how we plan to maintain a low-carbon business advantage by reducing our emissions, growing in new energy solutions and collaborating to amplify our impacts. The roadmap sets out ambitions, targets and an action plan towards 2030. In addition, the "high value" element of our strategy, with continued focus on cost reductions and cost competitiveness, is an important element of how we manage climate-related risk. High capex flexibility is another additional element of our low carbon transition plan. Capex flexibility makes it possible for the company to adjust as the energy transition unfolds.

Our energy scenario informs the economic planning assumptions used on our investment decisions and the formulation of our strategy. Our Energy Perspectives 2018 report illustrates that there is significant uncertainty around the future of energy mix and the exact pace and scale of the energy transition. In that report we also access sensitivities to our Renewal scenario related to potential disruptive technologies, CCS and climate policy action. Renewal scenario represents a future trajectory, supported by strong, coordinated policy intervention, that delivers energy-related emission reductions consistent with the 2° target for global warming. Renewal is supplemented with two sensitivities on addition to the main scenario projections to address two keys uncertainties of low carbon emission scenarios; one where the role of carbon capture, utilization and storage (CCUS) remains minuscule and is limited to currently operating and sanctioned projects; and another where climate policy action is delayed to 2025. In the Reform scenario energy markets build on recent and current trends within market and technology development, rather then policy support, to be the main driver of change.
Rivalry describes a volatile world, where development and policy focus are determined mainly by geopolitics and other political priorities then climate change.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Both absolute and intensity targets

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Scope 1

% emissions in Scope

100

Targeted % reduction from base year

20.3

Base year

2016

Start year

2017

Base year emissions covered by target (metric tons CO2e)

14,802,856

Target year

2030

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

4.2

Target status

Underway

Please explain

We aim to achieve, by 2030, annual CO2 emissions that are 3 million tonnes less than they would have been, had no reduction measure been implemented between 2017 and 2030. This includes our offshore operations in Norway (Konkraft target, 2 million tonnes of CO2 per year by 2030 compared to 2020).

We delivered 264,000 tonnes of CO2 emission reductions in 2018, mainly due to many smaller energy efficiency projects. So far we have achieved around 0.6 million of the 2030 target of 3 million tonnes of CO2 emission reductions per year.

Target reference number

Abs 2

Scope

Scope 1

% emissions in Scope

100

Targeted % reduction from base year

21.4

Base year

2016

Start year

2017

Base year emissions covered by target (metric tons CO2e)

9,329,201

Target year

2030

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

5.5

Target status

Underway

Please explain

In 2008 the Norwegian petroleum industry, under the direction of Konkraft, set a collective energy efficiency goal equivalent to 1 million tonnes of CO2 per year between 2008 and 2020. Equinor's share of this was 800,000 tonnes. In 2015, four years ahead of schedule, Equinor achieved this goal, and therefore the company raised its target by 50 percent to 1.2 million tonnes the same year.

Our new contribution to the Konkraft target was set in 2016. We aim to achieve, by 2030, annual CO2 emissions that are 2 million tonnes less than they would have been, had no reduction measure been implemented between 2017 and 2030. This includes our offshore operations in Norway and our onshore plant Hammerfest LNG (Konkraft target, 2 million tonnes of CO2 per year by 2030 compared to 2016).

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Scope

Scope 1

% emissions in Scope

63.9

Targeted % reduction from base year

10

Metric

Other, please specify

kg CO2/boe

Base year

2016

Start year

2017

Normalized base year emissions covered by target (metric tons CO2e)

10

Target year

2020

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

100

Target status

Underway

Please explain

In 2018, we continued to be one of the world's most carbon efficient oil and gas producers, with a carbon intensity half of the industry average. This target was set in 2016, when the CO2 intensity upstream was 10 kg/barrel of oil equivalent (boe). At the end of 2018 our upstream CO2 intensity was 9 kg CO2/barrel of oil equivalent (boe). Still, we see our target as challenging to reach, given several mature fields in our portfolio. We have established a KPI and a 2020 target of 9kg CO2/barrel of oil

equivalent (boe) for our operated upstream activities. We believe that the target is ambitious, but achievable, and it reflects our ambition to be an industry leader in carbon efficiency. To further enhance this ambition, upstream carbon intensity is incorporated as a key performance indicator at corporate level.

% change anticipated in absolute Scope 1+2 emissions

-10

% change anticipated in absolute Scope 3 emissions

0

Target reference number

Int 2

Scope

Scope 1

% emissions in Scope

63.9

Targeted % reduction from base year

20

Metric

Other, please specify

kg CO2/boe

Base year

2016

Start year

2017

Normalized base year emissions covered by target (metric tons CO2e)

10

Target year

2030

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

50

Target status

Underway

Please explain

In 2018, we continued to be one of the world's most carbon efficient oil and gas producers, with a carbon intensity half of the industry average.

This target was set in 2017, when the CO2 intensity upstream was 10 kg/barrel of oil equivalent (boe). At the end of 2018 our upstream CO2 intensity was 9 kg CO2/barrel of oil equivalent (boe). Still, we see our target as challenging to reach, given several mature fields in our portfolio. We have established a KPI and a 2030 target of 8 kg CO2/barrel of oil equivalent (boe) for our operated upstream activities. We believe that the target is ambitious, but achievable, and it reflects our ambition to be an industry leader in carbon efficiency. To further enhance this ambition, upstream carbon intensity is incorporated as a key performance indicator at corporate level.

% change anticipated in absolute Scope 1+2 emissions

-20

% change anticipated in absolute Scope 3 emissions

0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target

R&D investments

KPI – Metric numerator

Annual research expenditures used on new energy solutions and energy efficiency technologies.

KPI – Metric denominator (intensity targets only)

Total annual research & development expenditures (USD).

Base year

2016

Start year

2017

Target year

2020

KPI in baseline year

18

KPI in target year

25

% achieved in reporting year

21

Target Status

Underway

Please explain

The KPI is measured as the share (%) of total internal annual R&D expenditures that is allocated to low carbon/energy efficiency.

The basis for technologies and research activities includes: energy efficiency, CCUS and/or decarbonisation, methane emissions, wind, solar and other renewables. Technologies included must have a business case definition with documented low carbon potential. The technologies may have effect on scope 1, 2 or 3 of Equinor's emissions.

Part of emissions target

Our R&D investment target supports both our intensity and emission reductions as well as methane and NES targets through maturing new low emission technology.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Target

Other, please specify

New energy solutions CAPEX

KPI – Metric numerator

Annual capex potential for Equinor's new energy business (mUSD).

KPI – Metric denominator (intensity targets only)

Base year

2016

Start year

2017

Target year

2030

KPI in baseline year

500

KPI in target year

1,500

% achieved in reporting year

Target Status

Underway

Please explain

We will grow significantly within new energy solutions and expect to invest around 15-20% of our annual capital expenditure (capex) in new energy solutions by 2030.

Capital expenditure (capex) for new energy solutions in 2018 was in line with the ambition for annual investments - 4% of the total organic capex investments of USD 9.9 billion (nearly USD 500 million).

Part of emissions target

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

C-OG4.2a

(C-OG4.2a) If you do not have a methane-specific emissions reduction target for your oil and gas activities or do not incorporate methane into your target(s) reported in C4.2 please explain why not and forecast how your methane emissions will change over the next five years.

Equinor's methane ambition is to maintain a very low methane intensity and continue to explore emission reduction opportunities (2018 performance 0.03%*). Through the OGCI, Equinor is committed to supporting the OGCI in reaching its collective methane emissions target of 0.25% by 2025.

*Includes all methane emissions from operated activities (including midstream) divided by marketed gas volumes.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	10	1,200,000
To be implemented*	10	600,000

Implementation commenced*	19	46,692
Implemented*	73	263,037
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative type

Other, please specify

Flaring reduction

Description of initiative

Estimated annual CO2e savings (metric tonnes CO2e)

600

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

30,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Tjeldbergodden: Reduced period for start-up of methanol facility. New procedure results in less flaring and increased production.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

1,100

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

55,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Reduced flow of steam to Åsgard unit flare. Steam reduces soot and the loading of the flare tip. Previously, more steam than necessary was produced, but after the improvement measures were implemented, the amount of steam has been reduced.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

1,600

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

80,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Additional reductions in steam production in Åsgard unit, connected to measure reported last year. Procedure change and traffic light at control room dashboard.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

600

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

30,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Increased capasity through the Åsgard monitoring station. This will reduce the loading of non-prefered pipeline between dew point control unit (DPCU) and Statpipe gas for sale.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

4,400

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

220,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Mongstad: Steam consumption is optimized and reductions are implemented. In crude oil unit only 3 towers are now receiving strip steam. Fuel gas reduction.

Initiative type

Energy efficiency: Processes

Description of initiative

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

10,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

700,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Kalundborg, Denmark: Build a LPG recovery system and LPG can now be sold. Earlier LPG was used as supplementary fuel gas, but now natural gas will be used. Due to optimizations, the delta is reduced CO2 emissions.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

3,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

150,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Additional reductions due to Model Predictice Control (MPC) . Flare reductions have been reported.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

1,300

Scope

Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
60,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
Mongstad: Vent is upgraded to reduce steam to air. Reduces steam production and fuel gas consumption.

Initiative type
Energy efficiency: Processes

Description of initiative
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
1,800

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
90,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
Kårstø: Optimized the return flow of oil wash (hot condensate). This flow removes wax coating in the process trains. Now, reduced amount is used which reduced the fuel gas consumption.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

5,900

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

250,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Implemented MPC (software) at the buthane splitter (isobuthane and normalbuthane) in process train T300.

Initiative type

Energy efficiency: Processes

Description of initiative

Machine replacement

Estimated annual CO2e savings (metric tonnes CO2e)

200

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

10,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Closure of old fire fighting pumps. Three pumps have been test-run 12 h/month. Reduced diesel consumption. Safety driven and huge cost.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

1,300

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

60,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Åsgard gas driers are operated on a longer time-scale and will be runned longer before regenerations. Each regeneration requires steam (and fuel gas) consumtion. Water monitoring and the catalysator (drying) mass is now of a better quality.

Initiative type

Low-carbon energy purchase

Description of initiative

Hydro

Estimated annual CO2e savings (metric tonnes CO2e)

37,660

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

Hammerfest LNG: Permanently stop of one of the five gas turbines. The potential is probably even higher. Increased electricity is also part of the measure.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

6,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

300,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Tjeldbergodden: Reduced additional load at the auxiliary boiler. A large reduction was performed in 2016, but we see an additional reduction after tuning and the last reporting was too conservative.

Initiative type

Low-carbon energy purchase

Description of initiative

Hydro

Estimated annual CO2e savings (metric tonnes CO2e)

9,300

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Decision to run compressors on electricity over gas. Tested since May 2018. Decision taken in KAR MC and procedure is changed in August. 1/3 of the potential is reported. Creates increased gas sales and higher energy efficiency.

Initiative type

Other, please specify

Installed photo cell to the LED floodlightning

Description of initiative

Estimated annual CO2e savings (metric tonnes CO2e)
29

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
500

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
11-15 years

Estimated lifetime of the initiative
16-20 years

Comment
Hammerfest LNG: Installed photo cell to the LED floodlightning.

Initiative type
Energy efficiency: Processes

Description of initiative
Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)
10,300

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
50,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment

Hammerfest LNG: Reduce / avoid flaring during vessel loading. Require that the vessel is cooled down before loading and LNG is routed via tanks. New operational proecedure.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

7,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

300,000

Investment required (unit currency – as specified in C0.4)

1,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

Kårstø: Modify exhaust channel and damper at Åsgard B compressor/boiler.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

2,932

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

300,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

Oseberg C: Improved valve to 1 train separator, improved transformer.

Initiative type

Energy efficiency: Processes

Description of initiative

Heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

4,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

450,000

Investment required (unit currency – as specified in C0.4)

2,400,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Drilling rig Askeladden: Installation of waste heat recovery at exhaust and cooling water, which reduces need for diesel generated power for heating.

Initiative type

Energy efficiency: Processes

Description of initiative

Heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

4,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

450,000

Investment required (unit currency – as specified in C0.4)

2,400,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Drilling rig Askepott: Installation of waste heat recovery at exhaust and cooling water. This new WHRU reduces need for diesel generated power for heating.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

141

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

14,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg C: Installed new turbine meter on test separator, with a better type that easier controls the process.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

1,219

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

120,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg Øst: Implemented new flaring strategy and better follow up of flaring rates.

Initiative type

Process emissions reductions

Description of initiative

Behavioral change

Estimated annual CO2e savings (metric tonnes CO2e)

1,300

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

130,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg Feltsenter: Implemented new software and visualization of turbine emissions and flaring emissions. The new visualization and operations is estimated to reduce fuel consumption and flaring.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

166

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

9,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Norne: Removal of level sensors that resulted in false shut downs, improved instrumentation.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

4,190

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

400,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Norne: Decided to stop all use of Direct Electrical Heating on Alve pipeline.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

5,055

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Åsgard A: Opening a cross over between train 1 and train 2 results in more effective operation of the subsea compressor plant.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

731

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

73,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

1-2 years

Comment

Åsgard A: Has reduced the injection pressure

Initiative type

Energy efficiency: Processes

Description of initiative

Other, please specify

Flare gas recovery

Estimated annual CO2e savings (metric tonnes CO2e)

19,552

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

2,000,000

Investment required (unit currency – as specified in C0.4)

3,000,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Statfjord C: Modification project, implemented partly flare gas recovery at Statfjord C, an ejector sucks gas from the flare drum, and delivers the gas back to process, via 2 train compressor.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

9,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

950,000

Investment required (unit currency – as specified in C0.4)

1,000,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Visund: Rebuilding of a water injection pump from 8 to 6 impellers, resulted in reduced energy consumption

---

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

484

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

48,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Changed testing procedure of emergency diesel generators from 2 hours per week to 0,5 hours every second week.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

680

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

68,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Changed procedure and stopped a cooling liquid pump, in order to reduce power need.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

6,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

600,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Åsgard A: Changed procedure for well clean up operations, well clean up to Åsgard A instead of to the drilling rig.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

351

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

35,000

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Oseberg C: Rebuild of flare tip to make it more stable in strong wind, thereby reducing flaring.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

600

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

60,000

Investment required (unit currency – as specified in C0.4)

30,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg C: Rebuilding of leak valves, rebuild to a new type valve and change of Fieldview arrangement

---

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

4,870

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

2,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Grane: Installation of new inlet filter on gas turbine, resulting in a cleaner turbine with higher efficiency.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

1,400

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

140,000

Investment required (unit currency – as specified in C0.4)

500,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Heidrun: Installation of new air intake on the PPL turbine, resulting in less stops due to maintenance and better efficiency

---

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

4,400

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

440,000

Investment required (unit currency – as specified in C0.4)

50,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Veslefrikk: Changed procedures, stopping diesel motor in periods with good weather conditions, resulting in improved efficiency in the power generation

---

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

3,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

300,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Statfjord C: Changed procedures, will run with one turbine, instead of two during parts of the year.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)
2,500

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
250,000

Investment required (unit currency – as specified in C0.4)
50,000

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Troll B: Installation of slug damper system, resulting in more stable conditions and less flaring

---

Initiative type
Process emissions reductions

Description of initiative
Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)
1,250

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
120,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Reduced the pressure in the produced water separator, resulting in more methane being recovered and routed back to the process through the flare gas recovery system.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

5,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Changed procedure and reduced the differential pressure over the gas export valve, lift height for compressors is hence reduced, resulting in en less energy demand.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

2,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

200,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: The need for cooling water has been reduced, a sea water pump could be stopped.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

2,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

250,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Lowered set points with 0,5 bar at compressors. The suction pressure has been reduced at the compressors, resulting in improved production capacity and lower energy consumption.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

1,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

100,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Changed inventory with larger topside chokes (CV in M-line).

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

450

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

45,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Gullfaks C: Reduced differential pressure with 0,7 bar at the export line, resulting in reduced lift height for the compressor, and less energy consumption.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

1,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

100,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg South: Mass regulation for the oil export system has been optimized by changing to a new regulation valve.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

216

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

20,000

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Statfjord B and Statfjord C: Change in the barrier envelope for the wells, so that gas lift valve (GLV) is no longer part of the barrier, resulting in stop of testing of wells that have changes their barrier envelope.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

504

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

50,000

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Statfjord B and Statfjord C: Reduced annulus pressure to 50% of the well head pressure (earlier 70% differential pressure) , when testing of GLV valves.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

224

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

22,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun: Faster cooling of the PPL turbine after stop/trip results in less flaring

---

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

1,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

100,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Heimdal: The the fixed frequency drive is reduced at the condensate pumps, giving a more correct output pressure, and the pumps use less energy

---

Initiative type

Other, please specify

Rebundling of compressors

Description of initiative

Estimated annual CO2e savings (metric tonnes CO2e)

9,105

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

900,000

Investment required (unit currency – as specified in C0.4)

1,000,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Sleipner A: Rebundling of both 1. train compressors.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

2,500

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

250,000

Investment required (unit currency – as specified in C0.4)

1,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Troll B: Rebuilding air intake on both generatorturbines, resulting in lower loss at inlet suction, and better efficiency

---

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

10,109

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,000,000

Investment required (unit currency – as specified in C0.4)

1,500,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Troll C: Rebundling of export compressor B, resulting in improved efficiency and lower power demand.

Initiative type

Other, please specify

Flare gas recovery

Description of initiative

Estimated annual CO2e savings (metric tonnes CO2e)

675

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

65,000

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg Feltsenter: Flare gas recovery, recovery of gas from a gas injection line to process instead of flaring, changed procedure

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

904

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

90,000

Investment required (unit currency – as specified in C0.4)

50,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg C: Installation of Circulation Valve in the well. Heavy liquids can now be circulated in the well, instead of being produced at start up, and wells now start at the first attempt, where previously up to ten start up attempts were not uncommon.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

295

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

30,000

Investment required (unit currency – as specified in C0.4)

50,000

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

Oseberg Feltsenter: Installation of a circulation valve in wells, in combination with glass plug. Because of possibility of circulation, flaring is avoided.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

1,596

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

160,000

Investment required (unit currency – as specified in C0.4)

500,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Transocean Endurance: Heat tracing is improved with set point at lower temperature, diesel consumption is hence reduced

---

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

1,300

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

130,000

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun; Change in procedure, at stops and disturbances, only 1 main power generator is used.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

638

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

63,000

Investment required (unit currency – as specified in C0.4)

800,000

Payback period

11-15 years

Estimated lifetime of the initiative

11-15 years

Comment

Troll B: Installation of a new exhaust collector at a generator turbine, and less loss in the exhaust results in improved efficiency.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

1,346

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

130,000

Investment required (unit currency – as specified in C0.4)

1,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Troll C: Installed new export riser, lower compressor work needed.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

240

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

24,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Oseberg Feltsenter: Changed procedures, increased the interval for testing of pressure relief valve against the flare.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

1,250

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

125,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

Åsgard B: Optimization of the amine treatment plant, by reducing the amine rate, resulting in less flaring.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

4,615

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

460,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

Åsgard A: Shut down of an injection train for a period.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

11

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

110,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun: Less flaring by stopping of PPL compressor.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

6,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

600,000

Investment required (unit currency – as specified in C0.4)

2,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun: Rebundling of produced water injection pumps and sulphate water injection pumps in order to reduce the injection pressure. Less energy needed.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

5,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun: Reduced export pressure to Halten Pipe, less energy consumption at PPL export compressor.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

800

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

80,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Heidrun: Smaller impeller installed at the crude export pump, and reduced pressure and less energy consumption.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

4,211

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

400,000

Investment required (unit currency – as specified in C0.4)

10,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Troll B; Reduced to 1 oil export oil pump, less energy needed.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

852

Scope

Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
85,000

Investment required (unit currency – as specified in C0.4)
20,000

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Troll C: More frequent water wash (cleaning) of turbines, based on surveillance of the turbine efficiency. Improved efficiency.

Initiative type
Process emissions reductions

Description of initiative
Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)
7,258

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
700,000

Investment required (unit currency – as specified in C0.4)
20,000

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Åsgard B; Anti ice on compressor lowered with 1 degree Celcius. Reduced gas temperature on compressors. In addition changes for use of direct electrical heating on flowlines.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

4,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

400,000

Investment required (unit currency – as specified in C0.4)

2,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

Åsgard B: Introduced online water wash of turbines. Better cleaning and improved turbine efficiency.

Initiative type

Process emissions reductions

Description of initiative

Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)

2,700

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

270,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Snorre B: Surge test of all compressors. The control line was moved closer to the surge, resulting in less re-circulation anti surge and lower energy consumption.

Initiative type
Process emissions reductions

Description of initiative
Changes in operations

Estimated annual CO2e savings (metric tonnes CO2e)
839

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
80,000

Investment required (unit currency – as specified in C0.4)
10,000

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Heimdal: Implemented new flaring strategy. Better control during shut down and start up , and better focus on operations that lead to flaring.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment

Compliance with regulatory requirements/standards	Compliance with external requirements: Equinor's operations in Europe are subject to emissions allowances according to the EU Emissions Trading System (EU ETS). Equinor's Norwegian operations are subject to both the Norwegian offshore CO2 tax and EU ETS quotas. All operating fields and installations in Europe have a discharge permit and a permit for climate quota bound CO2 emissions given by national authorities. The permits include requirements i.a. on energy efficiency, energy management and use of Best Available Technology (BAT) (ref IPPC directive). Compliance to the requirements are followed up locally and are continuously being monitored by the authorities during frequent audits. In the US, the Environmental Protection Agency has taken steps to regulate greenhouse gas emissions under the Clean Air Act authority by proposing a Clean Power Plan (CPP). The plan aims to reduce emissions from the US power sector by setting performance standards for power plants. In 2015, the EPA also proposed new source performance standards, in addition to those issued in 2012, targeting volatile organic compound emissions, that are intended to further reduce oil and gas methane emissions. For our US operations, the USEPA's new source performance standards (NSPS) on the federal level set restrictions on venting gas so that gas from hydraulic fracturing flowbacks, tank ventilations systems, etc., is captured and flared or put in the sales line instead of being vented to the atmosphere. In North Dakota, however, the state additionally requires operators to implement a gas capture plan to reduce the amount of produced gas being flared thereby increasing the volume of gas going to sales in a phased approach to 2020. Regulations on methane emissions in the USA are likely to be revised over the next years with stricter requirements for existing emission sources. This could lead to increased costs for onshore shale activities. The exact impact is unknown and will depend on the nature of the regulations. Compliance with internal requirements: Requirements for use of BAT; minimum requirements for energy efficiency, non- production flaring or evaluation requirements for CO2 reduction projects are part of our corporate technical requirements/ corporate policies. Non-compliance with the internal requirement requires a formal dispensation and a mitigation plan.
Dedicated budget for energy efficiency	Equinor's internal requirements demand that annual Energy Management Plans are established for each facility/installation. This plan should contain an energy efficiency target and the list of potential initiatives to achieve the target. When approved by the facility/installation manager, budget will be allocated. Plan and expenditure are closely monitored during the year.
Dedicated budget for low-carbon product R&D	Equinor's internal R&D expenditure has been approximately 300 million USD on average per year for the last three years. Equinor has a 2020 target of 25% of R&D funds to be used on low carbon and

	energy efficiency technologies. In 2018, such R&D costs represented 21% of the total R&D expenditure (See 2018 Sustainability report page 26).
Employee engagement	Encouraging cycling to work, arranging for Company buses for transportation between airport and offices and providing bus transportation for commuters between hotel and offices (for larger offices) to reduce use of individual taxi. Approximately 7000 Equinor employees participated in the "Sustainability matters" communication campaign running up to the COP21. In 2017 - 2019 we've arranged "Climate Ambassador training" for our employees, in order to create employee knowledge of and engagement in Equinor's climate roadmap.
Internal price on carbon	Equinor considers the potential cost of a project's CO2 emissions in all investments decisions. We use an internal carbon price of USD 55 per tonne of CO2 (increased from UDS 50 in 2018) to all potential projects and investments after 2020. In countries where the actual carbon price is higher than USD 55 (e.g. in Norway), we use the actual price and predicted future carbon price in our investment analysis.
Internal incentives/recognition programs	Annual CEO Safety and Sustainability (SSU) Award.
Other	Konkraft commitment, with respect to the climate issue, is an industry led voluntary initiative in partnership with government to drive emission reductions in order to reach future anticipated regulatory requirements in Norway.
Marginal abatement cost curve	We have developed Marginal Abatement Curve for evaluating our emissions reduction projects across the company, considering equity, scale and economy. These provide a method of evaluating potential emissions reductions activities by comparing the largest equity CO2 reduction measures and other relevant factors.
Partnering with governments on technology development	Carbon capture, and storage (CCS) and hydrogen Investment in CCS is vital to reduce emissions from oil and gas and other sectors. Equinor has been a pioneer in CCS. We have as an operator captured and stored more than 23 million tonnes of CO2 to date, and we have since 2012 operated a technology centre (Technology Centre Mongstad) for testing and developing carbon capture technologies. Now we are trying to develop new business models to make CCS commercially viable. Together with Total and Shell, Equinor is carrying out studies on behalf of the Norwegian authorities to develop full-scale CCS in Norway. The concept includes capturing CO2 from onshore industry, transporting it by ships and injecting and permanently storing it 1,000-2,000 meters below the seabed.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Product

Description of product/Group of products

Low Carbon Electricity (Offshore wind) in UK . Currently we focus on developing offshore wind parks (bottom fixed and floating). Our operated wind farms in the UK Sheringham Shoal, Dudgeon, and Hywind Scotland) provide renewable energy to ~750.000 households. We are a partner in Arkona offshore windfarm in Germany, which will deliver energy to ~400.000 households when fully operational.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

% revenue from low carbon product(s) in the reporting year

0

Comment

Currently we focus on developing offshore wind parks (bottom fixed and floating). Our operated wind farms in the UK (Sheringham Shoal, Dudgeon, and Hywind Scotland) provide renewable energy to ~750.000 households. We are a partner in Arkona offshore windfarm in Germany, which will deliver energy to ~400.000 households when fully operational. The Arkona windfarm started production in 2018. In 2018, we deepened our position in offshore wind in Poland and the USA through accessing three licenses in the Baltic Sea and securing the winning bid for a Massachusetts lease area. We expect our offshore wind portfolio to continue to expand. Costs are decreasing while efficiency is increasing through larger wind turbines, better design and streamlined operations. We believe that offshore wind, over time, increasingly will become commercial without support schemes. With Hywind Scotland, the world's first floating wind farm, Equinor seeks to unlock the vast potential of floating offshore wind. We believe this is the next wave in renewable energy, as we can reach larger depths—further away from shore, which is ideal for our innovative solution, Hywind. In 2018 Equinor installed Batwind, the world's first battery for offshore wind, at Hywind Scotland. When in operation the

concept will offer the opportunity to optimise when to store and when to sell power, mitigating the intermittency in offshore wind. To further develop floating offshore wind technology, reduce costs and make the solutions more competitive, Equinor, together with the Snorre and Gullfaks licence partners, decided the concept for the Hywind Tampen floating wind project in 2018. This project, if realised, is aiming at partially powering Snorre and Gullfaks offshore oil and gas fields with floating wind that could reduce CO2 emissions by more than 200,000 tonnes per year.

We are also exploring opportunities in solar power. In 2018, we made investments in two solar projects in Brazil and Argentina, together with Scatec Solar ASA. The Apodi solar plant in Brazil started production in 2018. Equinor also acquired a 10% share in Scatec Solar ASA to increase our exposure to a fast-growing renewable sector, further complementing our portfolio.

Currently Equinor does not publish revenues specific for our New Energy Solutions Business Area.

Level of aggregation

Product

Description of product/Group of products

Norwegian natural gas accounts for more than 20 % of Europe's total natural gas consumption. In 2018 Equinor exported about two-thirds of Norwegian gas to Europe. Equinor's export of gas to Europe varies from year to year but is in the order of 400 TWh. This excludes gas that Equinor sells on behalf of others such as the Norwegian state. A significant amount of the gas that Equinor sells to Europe is used in the power sector, potentially replacing coal. A coal fired power plant emits more than twice as much CO2 per kWh electricity as a gas fired power plant. Natural gas therefore plays an important role in reducing power sector emissions in Europe. Theoretically natural gas could reduce CO2 emissions in Germany alone by as much as 280 million tonnes if all lignite and coal power plants were substituted with gas power plants (that would amount to more than 25% reduction in total German CO2 emissions). Assuming that the share of Equinor's gas used for power generation is around 25%, this amounts to 100 TWh. 100 TWh gas can generate 50 TWh of power with emissions of around 20 million tonnes. To generate a similar amount of power from coal, emissions would have been 45 million tonnes, giving savings of around 25 million tonnes. Natural gas also contributes to reduce emissions in other sectors. The remaining gas sold by Equinor, 300 TWh, can be assumed to be used for heating or in industry. When combusted, this gas will emit around 60 million tonnes of CO2.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

% revenue from low carbon product(s) in the reporting year

0

Comment

Level of aggregation

Product

Description of product/Group of products

Low Carbon Product:
Hydrogen to enable clean flexible power generation

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Feasibility study, early stage.

% revenue from low carbon product(s) in the reporting year

0

Comment

With a CO2 storage in place, it is possible to convert natural gas into hydrogen. The natural gas can be split into hydrogen and CO2 using steam methane reforming, a well-known technology. Hydrogen can basically be used in all the same segments as natural gas.

In the Netherlands, together with Nuon and Gasunie, we are working on a project to convert a gas fired power plant (Combined Cycle Gas Turbine, CCGT), to run on hydrogen. The project has a potential to save 4 million tonnes of CO2 per year.

In 2018 Equinor contributed to the Northern Gas Networks' report H21 North of England, launched in 2018. The report sets out how 3.7 million homes and 40,000 businesses in the north of England, currently heated by natural gas, could be converted to hydrogen and made emissions-free by 2034.

C-OG4.6

(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.

We develop and implement technologies and procedures to detect and reduce methane emissions, support industry efforts to reduce methane emissions across the oil and gas value chain, increase the quality and transparency of reported data, and support the development of

sound methane policies and regulations. A 2017 review of Equinor's reported emissions and third-party studies has demonstrated that methane emissions in the gas value chain from Norway to Europe (including transportation and distribution) are at a level where the advantage of gas compared to coal from a climate perspective is indisputable. According to the review, methane emissions related to distribution to the final consumer represent over 90% of the methane emissions to European customers.

In Norway, since 2014, Equinor has worked together with industry and the environmental regulator, on projects to improve our understanding of methane emission sources – initially in upstream production operations, and more recently in land-based refining and processing activities. Through these projects, an improved understanding of direct methane emission sources, quantification methodologies and abatement opportunities has been achieved. As a result of the offshore-focused project, the emission quantification methodologies used for regulatory reporting have been updated. These updates have increased the precision in our methane quantification and resulted in an approx. 50% reduction in reported methane emissions from direct sources in our NCS operations. A similar quantification methodology improvement process was undertaken in 2017 and 2018 for land-based plants in Norway. Using the most appropriate, source-specific methane emissions figures allows us to evaluate and prioritize potential emission reduction opportunities. In the US, measuring and reducing methane emissions from our US shale gas operations is a key priority for Equinor. For our Bakken asset, we completed during 2017, the upgrading of tank ventilation and flare systems to minimize leaks and ensure that flares can accommodate the tank vapors flowing to them. Equinor also supports methane emission reductions within the oil and gas industry, as a member of several collaborative initiatives to reduce methane emissions through voluntary programs. Some of the most relevant initiatives and associated key activities undertaken in 2018 are described in section C12.3a below. We calculate the abatement cost and emission reduction potential in CO2e to help prioritise the reduction projects.

COG4.7

(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

Yes

C-OG4.7a

(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

In the paragraphs below we describe how the concept of LDAR is practiced across Equinor's operations. Still, we want to emphasize that LDAR (Leak Detection and Repair) is a generic concept which is open to interpretation.

For our upstream, offshore production operations on the Norwegian Continental Shelf and our processing and refining activities in Norway and Denmark, leak detection is carried out using a variety of technical and operational solutions, including e.g. pressure monitoring in pressurized systems, stationary gas detection and regular inspection routines. Stationary gas detection is typically implemented through the installation of IR detectors. Open path / line detectors are used to increase the detection probability of small leaks. Safety critical valves are checked for leakages using nitrogen after actuation and shut downs. Also of note, for our Norwegian, land-based processing and refining facilities, measurement using DIAL (Differential Absorption Lidar) has been conducted every three years.

When it comes to inspections, for our upstream, offshore, as well as mid-stream, operations fugitive hydrocarbon emissions are monitored as a part of the regular routines. Each plant is required to define the interval for monitoring of fugitive hydrocarbon emissions, at least once a week. These regular, routine inspections could be described as AVO inspections, were hand-held "sniffer" gas detectors are used to confirm leakages. Each plant maintains a log for fugitive hydrocarbon emissions, where the leakage is described (location, tag numbers, etc.). Necessary actions (corrective maintenance, limitation of nearby activity, shut-down etc.) shall be considered based on size and development of the leakage. When the leakage has been repaired it shall be signed out of the log for fugitive emissions and tags shall be removed. The log for fugitive hydrocarbon emissions shall be updated after performed measurements. Leakages above a specific threshold level are also registered and followed-up in our safety incident management tool, Synergi.

Leakages are identified during inspections using a variety of tools, the most common being "sniffers". IR-cameras are playing an increasingly relevant role in complementing existing identification and control methods. Many plant-wide OGI inspections have been conducted on our NCS assets in the last several years, with each plant subjected to a comprehensive baseline inspection in 2016 or 2017. This "baseline" inspection was also carried-out for plants where IR camera inspections had been conducted previously and some of these plants were subjected to multiple inspections within 2016-2017. The large majority of these plants were also subjected to comprehensive IR camera inspections in 2018 as well.

Equinor's average US equity production accounts for nearly 20% of Equinor's total equity production. For our US onshore activities, leak detection and repair (LDAR) programmes, in addition to other routine operations and maintenance activities, are also in place to monitor the integrity and functionality of oil and gas processing equipment and emissions sources to ensure that emissions remain low. Emission reduction programs aimed at finding and fixing leakages have been implemented. IR camera are used to support in the identification of emission sources. These programs have prioritized focus on emission sources found from experience to be most relevant to our particular operations, e.g. storage tanks in the Bakken and pneumatic controllers in the Eagle Ford.

In 2017 and 2018, the use of infrared camera technology, that we were already using for our USA onshore and Norwegian continental shelf (NCS) assets, has been widely adopted at our mid-stream facilities in Norway, with plant wide inspections carried our by third-party specialists. In addition, some Equinor plant personnel have been trained in the use of IR cameras and utilized these for both planned and ad hoc emission surveys and leak identification activities. The use of IR cameras as an additional element in our leak detection routines has allowed us to better understand and quantify identified emissions emissions, as well as evaluate potential mitigation opportunities.

In our US operations, we have recently also added optical path laser spectroscopy (OPLS), a cutting-edge technology, to our suite of methane detection and repair measures for our US shale gas operations. This has been used to establish methane baselines through detection and quantification of methane emissions from multiple sources. The methane sensor is mounted on a drone which enables assessment of individual leaks from specific equipment types as well as total emissions from an entire facility. The OPLS data collected in 2017 and 2018 indicates that measured methane emissions are lower than the EPA Subpart W calculated emissions. Further work is ongoing to validate the methodology for reporting measured methane emissions at operations level in the USA.

C-OG4.8

(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

Flaring is relevant for Equinor's oil and gas production activities, both onshore and offshore. In Norway, regulation compared with proximity to gas infrastructure have contributed to the relatively low levels of flaring in our upstream operations compared to the industry average. All upstream offshore installations have developed flaring strategies, which describes how disruption shall be handled, e.g. how fast oil producers with associated gas should be shut down (after 1 hour, 2 hours, 5 hours, etc), if the gas export/injection compressors should fall out. Improved tools (e.g. digitalization and visualization) have also contributed to that it is easier for the operational people to follow up the flaring, and flaring results are on the agenda together with production results in daily and weekly operation meetings. As an example of improved flaring results, due to improved follow up tools and improved focus the Gullfaks field has reduced flaring by 35000 tons CO2/year.

To achieve our emission reduction target, we pursue energy efficiency measures, electrification and other low-carbon energy sources at our installations. We have set a company-wide upstream flaring intensity target of 0.2% by 2020 for our operated assets. This was set in 2012 as part of our commitment to the Sustainable Energy for All Initiative. Our aim is to stop routine flaring in our operations by 2030 at the latest, in line with the World Bank Zero Flaring by 2030 initiative. In Norway, we do not have routine flaring in our operations. We are also committed to working actively to help achieve the same objective in our partner-operated assets.

Our scope 1 greenhouse gas emissions (GHG) decreased to 14.9 million tonnes of CO2 equivalents. The reduction in emissions was mainly caused by reduced flaring levels at

Hammerfest LNG and a power outage followed by a temporary shutdown at our Mongstad refinery.

Our 2018 flaring intensity (upstream, operated) was around 0.2% of hydrocarbons produced, aligned with our 2020 target. This is significantly lower than the industry average of 1.2%. The flaring intensity increased slightly from 2.1 to 2.4 tonnes/1,000 tonnes compared to 2017. The increase was mainly caused by flaring increase at Bakken due to pipeline capacity constraints, as well as reduced production at the Norwegian continental shelf.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1, 2007

Base year end
December 31, 2007

Base year emissions (metric tons CO2e)
15,222,876

Comment

Scope 2 (location-based)

Base year start
January 1, 2007

Base year end
December 31, 2007

Base year emissions (metric tons CO2e)
106,674

Comment

Scope 2 (market-based)

Base year start

January 1, 2007

Base year end

December 31, 2007

Base year emissions (metric tons CO2e)

1,687,512

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003
Energy Information Administration 1605B
Environment Canada, Sulphur hexafluoride (SF6) Emission Estimation and Reporting Protocol for Electric Utilities
IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Mandatory Greenhouse Gas Reporting Rule
Other, please specify

See 5.2a

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

- Norwegian Oil and Gas Association (NOROG) - Guideline for annual emissions and discharge report
- EU Emission Trading Scheme- Brazil National/Local reporting requirements (IBAMA)
- Norwegian Directorate of Tax and Excise - emissions of NOx - ISO standard ISO 6976
- Calculation of heating values, density, relative density and Wobbe - ISO 6976
- US EPA Technology Transfer Network Clearinghouse for Inventories and Emissions Factors, Emisson Factors and AP42, Fifth Edition
- European Commission (EC) Eurostat: EC Statistics2006 IPCC Guidelines for Natural Greenhouse Gas Inventories
- US Energy Information Administration
- eGRID Web (Emissions and Generation Resource Integrated Database)
- European Residual Mixes 2017, AIB

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

14,946,447

Start date

January 1, 2018

End date

December 31, 2018

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Location based Scope 2 emissions are calculated using available regional emissions factor (kg CO2/MWh) for the physical mix available on the local/regional grid. Market based Scope 2 emissions are calculated using AIB residual mixes 2017 (kg CO2/MWh) for countries where GoO (Guarantees of Origin) mechanisms are implemented. For countries without GoO mechanisms, physical mix is used. Available factors do not take CH4 contribution into account.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

194,063

Scope 2, market-based (if applicable)

3,002,318

Start date

January 1, 2018

End date

December 31, 2018

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Scope 2 CH4 from all operations.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

Scope 2 emissions of CH4 are negligible compared to CO2 emissions from imported energy.

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Explanation

The emissions are relevant to our operations, but the emissions are assumed to be non-material compared to the use of our products. The size of the emissions will depend heavily on the chosen boundary, but since the boundary considerations and calculations are work in progress, the materiality of this category is not yet determined

Capital goods

Evaluation status

Relevant, not yet calculated

Explanation

Setting boundaries and performing calculations for this category is work in progress.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Not relevant, explanation provided

Explanation

We are an energy company with oil and gas in our portfolio, and our energy demand is mostly covered by our own fuels, or by electricity. These emissions are already accounted for in Scope 1 and Scope 2. Some of the diesel is purchased. In 2018, our Scope 1 CO2 emissions from diesel were just over 1 million tonnes. The upstream emissions from the fraction of the diesel that was purchased is therefore negligible (less than 0,1%) compared to our most material category - "Use of sold products".

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Explanation

Equinor is maturing several Scope 3 emissions categories as part of its climate roadmap implementation project. Data collection for 2018 is not finalized, but initial estimates show that emission in the “Upstream transportation and distribution” category are less than 0,5 % of emissions compared to the most material category – “Use of sold products”.

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Explanation

Assumed to be negligible in comparison to our main Scope 3 category - “Use of sold products”.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

102,157

Emissions calculation methodology

The emission factors are set by the UK Department of Business, Energy and Industrial Strategy. UK Government GHG Conversion Factors for Company Reporting:https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2016

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Equinor travel agency updated CO2 factors for air travel in 2018.

Employee commuting

Evaluation status

Not relevant, explanation provided

Explanation

Assumed to be negligible in comparison to our main Scope 3 category - “Use of sold products”.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Not applicable to the company.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Explanation

Equinor is maturing several Scope 3 emissions categories as part of its climate roadmap implementation project. Data collection for 2018 is not finalized, but initial estimates show that emission in the “Downstream transportation and distribution” category are

less than 1% of emissions related to the most material category – “Use of sold products”.

Processing of sold products

Evaluation status

Explanation

Assumed to be negligible in comparison to our main Scope 3 category - “Use of sold products”. Our own processing of sold products is included in scope 1 and 2. The rest of oil and gas products are sold worldwide, making it very challenging to analyze the processing of our products.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

314,000,000

Emissions calculation methodology

Based on gas and liquids sold and applying emission factors based on Norwegian Environment Agency (NEA) guidelines.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Based on gas and liquids sold and applying emission factors based on Norwegian Environment Agency (NEA) guidelines.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Explanation

In our Scope 3 approach, it is assumed that all sold products are burnt or oxidized, which is a conservatice approach to category 11. Using this approach, no end-of life treatment of sold products is needed. Therefore, there are no end-of-life treatment emissions,

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Not applicable to our operations. Our leased downstream assets are vessels and tankers covered in category 9 - downstream transportation and distribution.

Franchises

Evaluation status

Not relevant, explanation provided

Explanation

Not applicable to our operations.

Investments

Evaluation status

Not relevant, explanation provided

Explanation

Not applicable to our operations.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Explanation

Assumed to be negligible in comparison to our main Scope 3 category - “Use of sold products”.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Explanation

Assumed to be negligible in comparison to our main Scope 3 category - “Use of sold products”.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

190

Metric numerator (Gross global combined Scope 1 and 2 emissions)

15,140,509

Metric denominator

unit total revenue

Metric denominator: Unit total

79,593,000,000

Scope 2 figure used

Location-based

% change from previous year

26

Direction of change

Decreased

Reason for change

The intensity figure for scope 1 +2 intensity (t/ revenues USD million) is 190. There has been a decrease in scope 1 & 2 in 2018 compared to 2017 from 15.6 mill tonnes CO2 eq to 15.1 mill tonnes CO2 eq in 2018. This is due to lower troughput levels at refinery plants compared to last year. There is also reduction at NCS (Norwegian continental Shelf) due to turnarounds and planned maintenance stops. Also around 264 000 tonnes of CO2 from emissions reductions initiatives have been reported in 2018. Total revenues and other income has also increased from 61.2 bn USD in 2017 to 79.6 bn USD in 2018.

Please note that to be meaningful this indicator should use equity based emissions, because revenues are based on equity.
However we report here on operated assets as according to the guideline. Source: https://www.equinor.com/en/investors.html#annual-reports

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Intensity figure

9.5

Metric numerator (Gross global combined Scope 1 and 2 emissions)

9,711,995

Metric denominator

Other, please specify

mBOE

Metric denominator: Unit total

1,027,060

Scope 2 figure used

Location-based

% change from previous year

2

Direction of change

Increased

Reason for change

The scope of this intensity is limited to the upstream segment.

The main drivers for the increase in intensity are reduced production levels in the Norwegian Continental Shelf, and significant CO2 contributions from drilling and start-up activities of new fields.

C-OG6.12

(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

8.7

% change from previous year

3

Direction of change

Increased

Reason for change

Conventional oil & gas segment: The CO2e intensity of the Conventional Oil and gas segment has increased from from 8,5 tonnes CO2e per mBOE in 2017 to 8,7 tonnes CO2e per mBOE in 2018.

This is mainly due to a decrease in gas export at some of the NCS assets.

Comment

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

9.1

% change from previous year

26

Direction of change

Decreased

Reason for change

Shale gas segment: The CO2e intensity of the Shale Gas segment has decreased from 12.4 tonnes CO2e per mBOE in 2017 to 9.1 tonnes CO2e per mBOE in 2018.

The intensity has decreased by 26%. The main driver for the decrease is a increase in production levels and a decrease in CO2 emissions. The decrease in CO2 emissions is mainly due to less flaring and less D&W activity. The increase in production is attributed to more wells on line.

Comment

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

18.8

% change from previous year

20

Direction of change

Decreased

Reason for change

LNG segment: The CO2e intensity of the LNG segment has decreased by 20% from 23.4 tonnes CO2e per mBOE in 2017 to 18.8 tonnes CO2e per mBOE in 2018.

The decrease in intensity is due to elevated flare rates and a turnaround in 2017, as well as implementation of several emissions reductions initiatives in 2018

Comment

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

21.3

% change from previous year

8

Direction of change

Increased

Reason for change

Heavy oil segment: The CO2e intensity of the Heavy Oil segment has increased by 8% from 19.8 tonnes CO2e per mBOE in 2017 to 21.3 tonnes CO2e per mBOE in 2018.

The increase in intensity is due to preparation for start-up of a new field.

Comment

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

22.7

% change from previous year

10

Direction of change

Increased

Reason for change

Tight oil segment: The CO2e intensity of the Tight oil segment has increased by 10% from 20.7 tonnes CO2e per mBOE in 2017 to 22.7 tonnes CO2e per mBOE in 2019.

There is a significant increase in CO2 from flare in 2018. This is due to increased flaring volumes as sales line capacity has decreased. This is associated with regional pipeline constraints .

Comment

Unit of hydrocarbon category (denominator)

Other, please specify

Thousand barrels of marketed hydrocarbon

Metric tons CO2e from hydrocarbon category per unit specified

0

% change from previous year

100

Direction of change

Decreased

Reason for change

Equinor divested its Oil sand segment on January 31st 2017.

Comment

C-OG6.13

(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

Oil and gas business division

Other, please specify

Total methane emissions for the whole company, divided by marketed upstream production volumes.

Estimated total methane emitted expressed as % of natural gas production or throughput at given division

0.03

Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.01

Comment

The unit for the intensity related to the total hydrocabon production (0,01%) is tonnes/tonnes.

The unit for the intensity related to gas production (0,03%) is m3/Sm3. The reason for

the difference in unit is to align the latter figure with the OGCI approach, and also our reported methane intensity in Equinor's 2018 annual sustainability report.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	14,446,903	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	499,544	IPCC Fifth Assessment Report (AR5 – 100 year)

C-OG7.1b

(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

Emissions category

Flaring

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

421,136

Gross Scope 1 methane emissions (metric tons CH4)

541

Total gross Scope 1 emissions (metric tons CO2e)

434,670

Comment

The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category

Flaring

Value chain

Upstream

Product

Gas

Gross Scope 1 CO2 emissions (metric tons CO2)

559,874

Gross Scope 1 methane emissions (metric tons CH4)

668

Total gross Scope 1 emissions (metric tons CO2e)

576,565

Comment

The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category

Flaring

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

189,463

Gross Scope 1 methane emissions (metric tons CH4)

161

Total gross Scope 1 emissions (metric tons CO2e)

193,477

Comment

Emissions category

Fugitives

Value chain

Upstream

Product

Oil

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

4,743

Total gross Scope 1 emissions (metric tons CO2e)

118,578

Comment

The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category

Fugitives

Value chain

Upstream

Product

Gas

Gross Scope 1 CO2 emissions (metric tons CO2)

0

Gross Scope 1 methane emissions (metric tons CH4)

5,178

Total gross Scope 1 emissions (metric tons CO2e)

129,452

Comment

The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category
Fugitives

Value chain
Downstream

Product
Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)
0

Gross Scope 1 methane emissions (metric tons CH4)
5,615

Total gross Scope 1 emissions (metric tons CO2e)
140,369

Comment

Emissions category
Combustion (excluding flaring)

Value chain
Upstream

Product
Oil

Gross Scope 1 CO2 emissions (metric tons CO2)
3,729,187

Gross Scope 1 methane emissions (metric tons CH4)
1,248

Total gross Scope 1 emissions (metric tons CO2e)
3,760,382

Comment
The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category
Combustion (excluding flaring)

Value chain

Upstream

Product

Gas

Gross Scope 1 CO2 emissions (metric tons CO2)

4,612,978

Gross Scope 1 methane emissions (metric tons CH4)

1,726

Total gross Scope 1 emissions (metric tons CO2e)

4,656,129

Comment

The allocation of emissions to oil and gas is performed by multiplying the emissions from each business segment with the respective fraction (%) oil and gas in the production mix.

Emissions category

Combustion (excluding flaring)

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

3,910,760

Gross Scope 1 methane emissions (metric tons CH4)

102

Total gross Scope 1 emissions (metric tons CO2e)

3,913,320

Comment

Emissions category

Combustion (excluding flaring)

Value chain

Other (please specify)

Combustion related to offshore wind power segment.

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

6,995

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

6,995

Comment

Emissions category

Process (feedstock) emissions

Value chain

Downstream

Product

Unable to disaggregate

Gross Scope 1 CO2 emissions (metric tons CO2)

986,717

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

986,717

Comment

Emissions category

Process (feedstock) emissions

Value chain

Upstream

Product

Gas

Gross Scope 1 CO2 emissions (metric tons CO2)

29,792

Gross Scope 1 methane emissions (metric tons CH4)

0

Total gross Scope 1 emissions (metric tons CO2e)

29,792

Comment

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Norway	13,014,706
Brazil	496,465
Germany	2,503
United Kingdom of Great Britain and Northern Ireland	44,955
United States of America	903,922
Denmark	481,166
Bahamas	350
United Republic of Tanzania	2,380

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
DPB (Development and Production Brazil)	442,795
CFO GBS (Global Business Services)	322
DPI (Devekopment and Production International)	903,922
DPN (Development and Production Norway)	8,149,015
MMP (Marketing, Midstream & Processing)	5,233,883
EXP (Exploration)	102,611
TPD (Technology, Projects and Drilling)	106,904
NES (New Energy Solutions)	6,995

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Oil and gas production activities (upstream)	9,705,569	
Oil and gas production activities (downstream)	5,233,883	

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Norway	44,960	2,801,181	5,643,217	0
Denmark	30,463	79,287	181,054	0
United States of America	111,827	111,827	396,534	0
Bahamas	2,011	2,011	3,003	0
United Kingdom of Great Britain and Northern Ireland	1,359	2,023	33,651	0
Germany	3,442	5,990	14,702	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)

DPN (Development and Production Norway)	11,186	698,806
MMP (Marketing, Midstream & Processing)	68,379	2,115,215
CFO GBS (Global Business Services)	691	38,113
TPD (Technology, Projects and Drilling)	444	27,739
NES (New Energy Solutions)	1,536	10,618
DPI (Devekopment and Production International)	111,827	111,827

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Oil and gas production activities (upstream)	123,704	848,746	Main offices included in upstream
Oil and gas production activities (downstream)	68,627	2,130,707	Main offices included in upstream

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	
Other emissions reduction activities	263,636	Decreased	2	Last year 0.3 million tonnes CO2e were reduced by our emissions reduction projects. Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2e. The percentage decrease is therefore (264 000/15 649 542)*100= 2 %. This is mainly due to numerous energy efficiency projects, e.g; rebundling both of the recompressors at Sleipner A.
Divestment	52,588	Decreased	0.3	Last year, changes in divestment contributed to a decrease of 52 588 tonnes CO2e. Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2eq. The percentage decrease is (52 588/15 649 542)*100= 0,3 %. The largest contributor to the decrease is the divestment of 'Statoil Deutschland Etzel Storage GmbH.
Acquisitions	0		0	
Mergers	0		0	
Change in output	29,095		0.2	Last year, changes in output contributed to an increase of 29 095 tonnes CO2e.Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2eq. The percentage increase is minor (29 095/15 649 542)*100= 0.2 %. The largest contributor is the start up of Gina Krog in mid June

				in 2017
Change in methodology	24,905	Decreased	0.2	"Changes in methodologies contributed to a decrease of 24 905 tonnes CO2e in 2018. Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2eq. The percentage decrease is (24 905/15 649 542)*100= 0,2 %. This is mainly due to higher emissions factor for storage and loading at large contributors like Heidrun and Åsgard C. The factors are collected from the Industrial Cooperation (VOCIC) report.
Change in boundary	0		0	
Change in physical operating conditions	309,445		2	Changes in physical operating conditions led to a decrease of 309 445 tonnes CO2e in 2018. .Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2e. The percentage increase is (-309 445/15 649 542)*100= 2 %. The main driver for this decrease is several turnarounds in 2018, particularly in the NCS (Norwegian Continental Shelf). An other large contributor is Mongstad due to a power outage in August 2018 for the whole refinery and subsequent temporary shut-down of the cracker facility.
Unidentified	0		0	
Other	112,446	Increased	1	Last year, changes in emissions allocated to the category "other" increased by 112 446 tonnes CO2eq in 2018. Equinors`s total Scope 1 and Scope 2 emissions in 2017 were 15 649 542 tonnes CO2eq. The percentage increase is (112 446/15 649 542)*100= 1 %. The "other" category includes emissions related to drilling and exploration activities. The most significant contributors is increased drilling at Aasta

				Hansteen and Johan Sverderup due to preparation to production start-up.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh

Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	59,808,111	59,808,111
Consumption of purchased or acquired electricity		5,756,877	491,893	6,248,770
Consumption of purchased or acquired heat		0	15,809	15,809
Consumption of purchased or acquired steam		0	7,254	7,254
Consumption of purchased or acquired cooling		0	329	329
Consumption of self-generated non-fuel renewable energy		0		0
Total energy consumption		5,756,877	60,323,396	66,080,273

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Butane

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

49,391

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

49,391

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Coke

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

2,763,762

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

2,763,762

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Other, please specify

CoLGO

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

8,038

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

8,038

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,068,790

MWh fuel consumed for self-generation of electricity

3,510,353

MWh fuel consumed for self-generation of heat

558,437

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

For diesel powered engines, one assumes that that all energy consumption is dedicated to generate electricity. Some boilers and turbines are also powered by diesel. The energy is converted to steam, and used for heat or electricity generation. The energy consumed by the diesel fired turbines are partly used to generate electricity, partly used for direct mechanical power. Due to the lack of appropriate category for mechanical power, this fraction of the energy consumption has been allocated to heat generation.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

42,855,734

MWh fuel consumed for self-generation of electricity

13,420,063

MWh fuel consumed for self-generation of heat

23,233,361

MWh fuel consumed for self-generation of steam

142,515

MWh fuel consumed for self-cogeneration or self-trigeneration

6,059,795

Comment

Most of our offshore turbines are powered by gas. For this purpose, we estimate that about 40% and associated gas consumption in the turbines are dedicated to the generation of electricity. Some heat is also produced - which may be utilized for heating or producing more electricity. The rest of the turbines power compressors directly, also with heat recovery. Due to the lack of appropriate category for mechanical power, this fuel consumption has been allocated to heat.

Fuels (excluding feedstocks)

Other, please specify

Fuel Oil

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,196

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

1,196

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Other, please specify

LOFS

Heating value

Total fuel MWh consumed by the organization

4,879

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

4,879

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Other, please specify

Not assigned

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,035,385

MWh fuel consumed for self-generation of electricity

1,035,105

MWh fuel consumed for self-generation of heat

280

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Other, please specify

Purge gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

275,212

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

275,212

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Refinery Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

8,577,718

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

3,585,469

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

4,992,249

Comment

Fuels (excluding feedstocks)

Other, please specify

Spill gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

38,197

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

38,197

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Other, please specify

Tail gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

129,809

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

129,809

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Propane Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Butane

Emission factor

3.03

Unit

metric tons CO2 per metric ton

Emission factor source

Asset-specific emissions factor.

Comment

An average - emission factor may vary throughout the year.

Coke

Emission factor

3.57

Unit

metric tons CO2 per metric ton

Emission factor source

An average - emission factor may vary throughout the year.

Comment

Diesel

Emission factor

3.17

Unit

metric tons CO2 per metric ton

Emission factor source

Most commonly used - Norwegian Climate and Pollution Agency.

Comment

Natural Gas

Emission factor

2.3

Unit

kg CO2 per m3

Emission factor source

Based on average for Development and Production Norway.

Comment

The figure is an approximate average. The emission factors are asset-specific and may vary even on a daily basis.

Propane Gas

Emission factor

64.7

Unit

Emission factor source

Comment

Refinery Gas

Emission factor
2.5

Unit
metric tons CO2 per metric ton

Emission factor source
Asset and source specific emission factor.

Comment
Emission factor varies through the year, sometimes updated on a daily basis.

Other

Emission factor
2

Unit
metric tons CO2e per metric ton

Emission factor source
Average of several sources and fuel sources.

Comment
Emission factor varies through the year.

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	10,507,089	9,620,586	5,267	0
Heat	13,632,507	13,632,507	0	0
Steam	71,257	71,257	0	0
Cooling	0	0	0	0

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Nuclear

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

1,747,695

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of nuclear power in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Hydropower

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

224,857

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of hydropower in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Wind

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

224,780

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of wind power in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Biomass (including biogas)

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

99,584

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of biomass energy in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Solar PV

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

43,660

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of solar energy in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Other low-carbon technology, please specify

Geothermal

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

2,891

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The low carbon factor is applied to the amount of geothermal energy in electricity mix, when using the marked based approach. No energy attribute certificates have been purchased.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Other low-carbon technology, please specify

Renewables Unspecified

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

10,358

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

Renewables unspecified calculated based on European Residual Mixes 2017, AIB (Germany and Denmark).

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Other, please specify

Upstream flaring intensity

Metric value

2.4

Metric numerator

tonnes of hydrocarbon flared

Metric denominator (intensity metric only)

1000 tonnes of hydrocarbons produced

% change from previous year

15

Direction of change

Increased

Please explain

"We are working towards a 2020 upstream flaring intensity target of 2 tonnes of gas flared per 1000 tonnes of hydrocarbons
produced (0.2% of hydrocarbons produced) for Equinor operated production. This was set in 2012 as part of our commitment to the
Sustainable Energy for All global initiative. This compliments our corporate ambition to eliminate production flaring by 2030, in line
with our commitment made through our participation in the Global Gas Flaring Reduction initiative that is coordinated by the World
Bank Group. We are also committed to working actively to help achieve the same

objective in our partner-operated assets."

Description

Other, please specify

Low carbon R &D

Metric value

21

Metric numerator

Low carbon R&D expenditure (NOK)

Metric denominator (intensity metric only)

Total R&D expenditure (NOK)

% change from previous year

17

Direction of change

Increased

Please explain

The goal is to increase the research efforts within new energy solutions and energy efficiency, which again will reduce our carbon footprint globally. The technologies may have effect on scope 1, 2 or 3 of Equinor's emissions. Equinor's target is to reach a 25% share of R&D operational expenditure committed to low carbon projects by 2020.

Description

Other, please specify

CAPEX for new energy solutions

Metric value

0.5

Metric numerator

Billion USD

Metric denominator (intensity metric only)

% change from previous year

0

Direction of change

No change

Please explain

Capital expenditure (capex) for new energy solutions is a new indicator so the trend cannot be determined. The current ambition is to have annual investments for new energy solutions between USD 500 million and 750 million.

C-OG9.2a

(C-OG9.2a) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).

	In-year net production	Comment
Crude oil and condensate, million barrels	408.56	Equity production including NGL
Natural gas liquids, million barrels	0	Included in "crude & condensate". See above.
Oil sands, million barrels (includes bitumen and synthetic crude)	0	Divested.
Natural gas, billion cubic feet	2,005.39	

C-OG9.2b

(C-OG9.2b) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.

As we are listed on the NYSE, we report proved reserves (1P) as defined and required by the US Securities and Exchange Commission (SEC).

We do not report 2P or 3P reserves, which is optional under SEC since 2009 (previously not allowed).

C-OG9.2c

(C-OG9.2c) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.

	Estimated total net proved + probable reserves (2P) (million BOE)	Estimated total net proved + probable + possible reserves (3P) (million BOE)	Estimated net total resource base (million BOE)	Comment
Row 1	0	0	20,000	Only proved reserves (1P) reported in first cell

C-OG9.2d

(C-OG9.2d) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.

	Net proved + probable reserves (2P) (%)	Net proved + probable + possible reserves (3P) (%)	Net total resource base (%)	Comment
Crude oil / condensate / Natural gas liquids	0	0	48	
Natural gas	0	0	52	
Oil sands (includes bitumen and synthetic crude)	0	0	0	

C-OG9.2e

(C-OG9.2e) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.

Development type
Onshore

In-year net production (%)
17

Net proved reserves (1P) (%)
12

Net proved + probable reserves (2P) (%)
0

Net proved + probable + possible reserves (3P) (%)
0

Net total resource base (%)
21

Comment

Development type
Shallow-water

In-year net production (%)
63

Net proved reserves (1P) (%)

76

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

0

Net total resource base (%)

50

Comment

Less than 500 m water depth.

Development type

Deepwater

In-year net production (%)

14

Net proved reserves (1P) (%)

18

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

0

Net total resource base (%)

9

Comment

500-1500 m water depth.

Development type

Ultra-deepwater

In-year net production (%)

6

Net proved reserves (1P) (%)

4

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

0

Net total resource base (%)

19

Comment

More than 1500 m water depth.

Development type

Arctic

In-year net production (%)

5

Net proved reserves (1P) (%)

9

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

0

Net total resource base (%)

10

Comment

Development type

Oil sand/extra heavy oil

In-year net production (%)

0

Net proved reserves (1P) (%)

0

Net proved + probable reserves (2P) (%)

0

Net proved + probable + possible reserves (3P) (%)

0

Net total resource base (%)

0

Comment

Development type
Tight/shale

In-year net production (%)
13

Net proved reserves (1P) (%)
10

Net proved + probable reserves (2P) (%)
0

Net proved + probable + possible reserves (3P) (%)
0

Net total resource base (%)
20

Comment

Development type
LNG

In-year net production (%)
2

Net proved reserves (1P) (%)
5

Net proved + probable reserves (2P) (%)
0

Net proved + probable + possible reserves (3P) (%)
0

Net total resource base (%)
10

Comment

C-OG9.3a

(C-OG9.3a) Disclose your total refinery throughput capacity in the reporting year in thousand barrels per year.

	Total refinery throughput capacity (Thousand barrels per day)

Capacity	15.7

C-OG9.3b

(C-OG9.3b) Disclose feedstocks processed in the reporting year in million barrels per year.

	Throughput (Million barrels)	Comment
Oil	98	
Other feedstocks	48	
Total	141	

C-OG9.3c

(C-OG9.3c) Are you able to break down your refinery products and net production?

Yes

C-OG9.3d

(C-OG9.3d) Disclose your refinery products and net production in the reporting year in million barrels per year.

Product produced	Refinery net production (Million barrels) *not including products used/consumed on site

C-OG9.3e

(C-OG9.3e) Please disclose your chemicals production in the reporting year in thousand metric tons.

Product	Production, Thousand metric tons	Capacity, Thousand metric tons
Other, please specify Production of methanol	824,517	

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Renewable energy

Investment maturity

Applied research and development

Investment figure

30,000,000

Low-carbon investment percentage

0-20%

Please explain

Equinor's low carbon R&D program consists of approximately 140 projects. Some of these are basic academic, while others are applied R&D or pilot demonstrations. Numbers given refer to our low carbon R&D segments as given in our sustainability report (USD 30 million on CCUS and renewables and USD 36 million on energy efficiency). These two areas constituted 21% of the total R&D spend in 2018.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Other energy efficiency measures in the oil and gas value chain

Investment maturity

Applied research and development

Investment figure

36,000,000

Low-carbon investment percentage

0-20%

Please explain

Equinor's low carbon R&D program consists of approximately 140 projects. Some of these are basic academic, while others are applied R&D or pilot demonstrations. Numbers given refer to our low carbon R&D segments as given in our sustainability report (USD 30 million on CCUS and renewables and USD 36 million on energy efficiency). These two areas constituted 21% of the total R&D spend in 2018.

C-OG9.7

(C-OG9.7) Disclose the breakeven price (US$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.

50

C-OG9.8

(C-OG9.8) Is your organization involved in the sequestration of CO2?

Yes

C-OG9.8a

(C-OG9.8a) Provide, in metric tons CO2, gross masses of CO2 transferred in and out of the reporting organization (as defined by the consolidation basis).

	CO2 transferred – reporting year (metric tons CO2)
CO2 transferred in	0
CO2 transferred out	0

C-OG9.8b

(C-OG9.8b) Provide gross masses of CO2 injected and stored for the purposes of CCS during the reporting year according to the injection and storage pathway.

Injection and storage pathway	Injected CO2 (metric tons CO2)	Percentage of injected CO2 intended for long-term (>100 year) storage	Year in which injection began	Cumulative CO2 injected and stored (metric tons CO2)
CO2 injected into a geological formation or saline formation for long-term storage	1,360,853	100	January 1, 1996	23,644,475

C-OG9.8c

(C-OG9.8c) Provide clarification on any other relevant information pertaining to your activities related to transfer and sequestration of CO2.

Carbon capture, utilisation and storage (CCUS) and hydrogen

Equinor has over 20 years' experience in CCUS, currently the main technology for decarbonising fossil fuels. We capture and store CO2 at our Sleipner and Snøhvit fields on the Norwegian continental shelf. To date we are storing around 22 million tonnes.

Investment in CCUS is vital to reduce emissions from oil and gas and other sectors. Equinor has been a pioneer in CCS. We have as an operator captured and stored more than 23 million tonnes of CO2 to date, and we have since 2012 operated a technology centre (Technology

Centre Mongstad) for testing and developing carbon capture technologies. We are trying to develop new business models to make CCS commercially viable. Together with Total and Shell, Equinor is carrying out studies on behalf of the Norwegian authorities to develop full-scale CCS in Norway. The concept includes capturing CO2 from onshore industry, transporting it by ships and injecting and permanently storing it 1,000-2,000 meters below the seabed. We are looking into early stage opportunities for converting natural gas to clean hydrogen, while capturing and storing the CO2, as a potential way to help customers in the power, heating and transportation sectors to reduce their emissions. It is still early days for hydrogen, but we see this as an exciting opportunity for natural gas in the future. In 2018 Equinor contributed to the Northern Gas Networks' report H21 North of England, launched in 2018. The report sets out how 3.7 million homes and 40,000 businesses in the north of England, currently heated by natural gas, could be converted to hydrogen and made emissions-free by 2034.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

2018 Equinor Sustainability report.pdf

Page/ section reference

See page 57 in our Sustainability report for KPMG's Independent assurance report.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2018 Equinor Sustainability report.pdf

Page/ section reference

See page 57 in our Sustainability report for KPMG's Independent assurance report.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Scope

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2018 Equinor Sustainability report.pdf

Page/ section reference

See page 57 in our Sustainability report for KPMG's Independent assurance report.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope

Scope 3- at least one applicable category

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Attach the statement

2018 Equinor Sustainability report.pdf

Page/section reference

See page 57 in our Sustainability report for KPMG's Independent assurance report.

Relevant standard

ISAE3000

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain

C6. Emissions data	Other, please specify The methane verification	ISAE3000	

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

Norway carbon tax

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

EU ETS

% of Scope 1 emissions covered by the ETS

82.4

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

6,554,878

Allowances purchased

5,355,356

Verified emissions in metric tons CO2e

11,910,234

Details of ownership

Facilities we own and operate

Comment

C11.1c

(C11.1c) Complete the following table for each of the tax systems in which you participate.

Norway carbon tax

Period start date

January 1, 2018

Period end date

December 31, 2018

% of emissions covered by tax

100

Total cost of tax paid

485,520,131

Comment

Applicable to 100% of all gas streams with more then 50% hydrocarbons.

Total paid Norwegian CO2 tax in 2018 was 3 949 123 645 NOK. The number reported above is in USD, using official exchange rates from the Norwegian Central Bank (https://www.norges-bank.no/en/topics/Statistics/exchange_rates/)

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Our first objective is to ensure that we are in compliance with the schemes in which we participate, and in addition that transaction cost is minimized. Equinor operates facilities which are subject to Norwegian and European carbon pricing . The company must each year submit quotas for the greenhouse gas emissions from our oil and gas production on the Norwegian and UK continental shelf and onshore facilities in Norway and Denmark. Emission allowances are purchased in the market to meet these compliance obligations. The emission trading group is responsible for compliance related CO2 trading for Equinor operated emissions. Equinor has been buying European Carbon Allowances (EUAs) in the carbon market since the start of the carbon exchange in 2005, and has been buying Certified Emission Reduction (CERs) since 2007 for compliance purposes. Equinor supports the developments of new emission trading schemes in different parts of the world. We recognize it as the most cost-efficient way to cut greenhouse gas emissions. Allowances purchased are subject to third party verification.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Other, please specify

Verified credits purchased on exchange

Project identification

Purchased credits for Equinor business travel by air not covered by EU ETS.

Verified to which standard

Other, please specify

Certified Emission Reduction (CER).

Number of credits (metric tonnes CO2e)

65,000

Number of credits (metric tonnes CO2e): Risk adjusted volume

65,000

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations

Change internal behavior

Drive energy efficiency

Stress test investments

GHG Scope

Scope 1

Application

The internal carbon price is applicable across Equinor for all potential projects and investments .

Actual price(s) used (Currency /metric ton)

55

Variance of price(s) used

Equinor applies an internal carbon price of USD 55 per tonne of CO2 to all potential projects and investments after 2020.

In countries where the actual carbon price is higher than USD 55 (e.g. in Norway), we use the actual price and predicted future carbon price in our investment analysis.

Type of internal carbon price

Shadow price

Impact & implication

CARBON TAXES AND QUOTAS
Our operations in Europe are part of the EU Emission Trading Scheme (EU ETS). Equinor buys EU ETS quotas for emissions. We receive a share of free quotas (allowances). The share of free quotas this year is expected to be significantly reduced in the future.

In addition, our operations in Norway are subject to Norwegian offshore CO_2 tax. In 2018, the cost of EU ETS quotas around USD 18/tonne CO_2 and the Norwegian CO_2 tax was around USD 55/tonne CO_2.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change
Climate change performance is featured in supplier awards scheme
Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 &2)
Offer financial incentives for suppliers who reduce your upstream emissions (Scopes 3)

% of suppliers by number

100

% total procurement spend (direct and indirect)

100

% Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

Equinor is committed to using suppliers who operate in accordance with our values and who maintain high standards of safety, security and sustainability. These aspects are incorporated in all phases of the procurement process. In 2018, our purchases of goods and services were around USD 17.4 billion. Suppliers to Equinor are requested to sign our supplier declaration, where the suppliers commit to "work according to internationally recognized environmental management principles and practices, and aim for continuous improvement".

Equinor engaged with more than 30 supply-, anchor handler- and standby vessels in Norway. CO2 emissions from these vessels were reduced by 27% from 2011 to 2018, adjusted for activity level. We discuss performance in regular meetings with suppliers. In addition, we monitor fuel consumption and benchmark (league table) results against other ship owners. We use supplier contracts that financially reward suppliers that are able to reduce fuel consumption. Success is measured through several parameters such as actual delivery of expected service, number of serious personal injuries related to the vessel, fuel consumption (directly paid by Equinor) and overall emissions from the vessel activity. Other benefits such as lower noise levels and NOx emissions from a vessel with shore power connection, while at shore, may also be taken into consideration. Equinor has meetings every quarter with license partners including discussions about larger investments for emission reducing measures.

Our logistics business includes 40-50 vessels and 19 helicopters in daily operations, plus roughly 150.000 truck transportation assignments per year. Our logistics activities accounted for 325.000 tonnes CO2 in 2016. Since 2011 we have worked systematically to reduce our carbon footprint, cutting CO2 emissions since then by over 280.000 tonnes CO2, which is the equivalent to the annual emissions from 140.000 gas- and diesel cars. We use technical, operational and fuel related measures to achieve results.

In order to contribute to the ambitions set in the Paris climate agreement, we aim to ensure that we reach full potential with our existing initiatives and have launched several exciting projects with suppliers and other external industry partners in order to drive carbon-efficient solutions going forward.

Impact of engagement, including measures of success

Equinor has worked actively for many years to encourage carbon efficiency in the fleet of marine vessels. Working together with long-term suppliers, we can incentivize emission reductions through technology and fuel efficiency improvements within these areas:
- Introduced digital reporting system for follow up of individual ships and emission related KPIs'
- Stricter Energy Efficiency Design Index requirements for newbuilds
- Super Eco ship design notation
- Alternative fuels – LNG and LPG
- Battery technology (installing battery systems onboard allows vessel to run engines more efficiently in hybrid mode).
- Onshore power supply.
- Propel polishing and hull cleaning.
- Allowing for "green speed".
- Optimal trim study.
- Conversion to LED lights.

We use technical, operational and fuel related measures to achieve results. Examples are battery-hybridization and LNG powered supply vessels, shore-power supply for vessels, optimising sailing routes and planning for green vessel speed vessel and maximising helicopter capacity utilisation and a truck pool with the highest euro class. We focus on fuel efficiency when entering into new vessel contracts; incentive schemes further encourage suppliers to ensure fuel efficient operations. Equinor will also get the first LPG ships running on LPG as fuel in service and will get 4 new shuttle tankers running on LNG with possibility to mix in LVOC from cargo operations.

Comment

More information is available at our web site www.equinor.com
Green logistics: https://www.equinor.com/en/how-and-why/climate-change.html#
Supplier requirements (Code of Conduct, Supplier declaration etc.):
https://www.equinor.com/en/supply-chain.html

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

25

% Scope 3 emissions as reported in C6.5

25

Please explain the rationale for selecting this group of customers and scope of engagement

It is difficult to define threshold for engagement with customers, as some of our engagement addresses sectors, governments and customers beyond our direct customers. As such we have roughly assessed the engagement figure to be 25%, but this is not an exact figure. A rough estimate is that we are engaging with 25% of the customers, and the share of scope 3 emissions addressed in our activities towards customers as described above would be in the order of magnitude of 25%.

We are exploring ways to work with users of our products, since over 90% of the total emissions from oil and gas comes from their use rather than their production. Our pilot projects on hydrogen and CCS are examples of this low-carbon research and technology.

We are looking into early stage opportunities for converting natural gas to clean hydrogen, while capturing and storing the CO2, as a potential way to help customers in the power, heating and transportation sectors to reduce their emissions. It is still early days for hydrogen, but we see this as an exciting opportunity for natural gas in the future. In 2018 Equinor contributed to the Northern Gas Networks' report H21 North of England, launched in 2018. The report sets out how 3.7 million homes and 40,000 businesses in the north of England, currently heated by natural gas, could be converted to hydrogen and made emissions-free by 2034. (https://northerngasnetworks.co.uk/h21-noe/H21-NoE-23Nov18-v1.0.pdf).

Equinor is also a part of the Oil and Gas Climate initiative, a $1B+ investment fund established to lower the carbon footprint of the energy and industrial sectors, including scope 3.

Other initiatives: Equinor participates in a range of climate-related initiatives, including the Oil and Gas Climate Initiative (OGCI), The Environmental Partnership, the One Future Coalition, the Climate and Clean Air Coalition Oil and Gas Methane Partnership, C2ES, and the Technology Centre Mongstad, to mention some. Several of these initiatives focus on reducing methane emissions in the gas value chain (production, transportation and distribution). Thus, these measures target emissions other than scope 3 emissions. The effect not possible to attribute to an individual company's scope 3 emissions. These efforts are therefore not included in the range above.

Impact of engagement, including measures of success

Carbon capture, and storage (CCS) and hydrogen Investment in CCS is vital to reduce emissions from oil and gas and other sectors. Equinor has been a pioneer in CCS. We have as an operator captured and stored more than 23 million tonnes of CO2 to date, and we have since 2012 operated a technology centre (Technology Centre Mongstad) for testing and developing carbon capture technologies. Now we are trying to develop new business models to make CCS commercially viable. Together with Total and Shell, Equinor is carrying out studies on behalf of the Norwegian authorities to develop full-scale CCS in Norway. The concept includes capturing CO2 from onshore industry, transporting it by ships and injecting and permanently storing it 1,000-2,000 meters below the seabed.
The Guiding principles on reducing methane emissions across the natural gas value chain:
We joined in 2017 with seven other major energy groups, the Environmental Defense Fund and the International Energy Agency, to develop and commit to a series of guiding principles to reduce methane emissions in our own operations, improve regulations and work with suppliers and customers to cut leakage in the entire value chain.

C12.1c

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

Equinor engage with business partners, suppliers, customers and society to find solutions for the low-carbon future, including innovative and commercially viable ways to reduce emissions across the oil and gas value chain.

We have teamed up with peer companies in the Oil and Gas climate Initiative (OGCI) to help shape the industry's climate response. To spur technology development, we are partner in the USD +1 billion investment fund OGCI Climate Investments.

To enhance our work on reducing methane emissions, we have joined the One Future Coalition, the Climate and Clean Air Coalition, Oil and Gas Methane Partnership and the Guiding Principles in Reducing Methane Emissions Across the Natural Gas Value Chain.

Equinor welcomes initiatives to promote transparency, such as The Financial Stability Board’s (FSB) Task Force on Climate Related Financial Disclosure (TCFD). Over the past few years, Equinor has taken significant steps to develop our disclosures on climate-related business risk. Equinor belives that the disclosures made in the Annual Report an Form 20-F and Sustainability report. During 2018 we have supported the implementation of the TCFD recommendations to drive convergence of disclosure practices across the industry. Equinor joined the TCFD Oil and Gas Preparer Forum in 2017 to identify efficient and feasible ways to implement the recommendations. The Forum's report was launched in 2018. Throughout 2018, Equinor also prepared a joint case study on TCFD implementation together with asset manager Storebrand and the UN Principles for Responsible Investment (PRI).

In 2018 Equinor Technology Ventures made investment into SeekOps (drone based methane detection technology) and Fos4X (wind turbine sensors and software platform). Equinor and

Techstarts have co-established the Techstars Energy Accelerator, which aims to develop disruptive solutions within oil and gas, renewables, new business models and digitalization. The companies can accelerate their work by tapping into a global network of experts from Equinor, Techstars and our partners Kongsberg and McKinsey&Company. Ten global companies were selected for a 13-week programme in 2018.

Early in 2019 Equinor issued a joint statement prepared with investors participating in Climate Action 100+, Equinor announces new steps to demonstrate further industry leadership on climate change and strong support for the goals of the Paris Agreement. From 2019 Equinor will assess its portfolio, including new material capital expenditure investments, towards a well below 2°C scenario. If and when a relevant well below 2°C scenario is available, with necessary price assumption, Equinor will include this in its overall stress testing.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers
Trade associations
Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Support	Contributing to position papers by IOGP and Business Europe. Equinor engages directly with policy makers in key markets.	Supporting the strengthening of EU ETS; including support to Market Stability Reserve, and ambitious 2030 GHG target for the EU.
Cap and trade	Support	Member of steering committee of the International Emission Trading Association's B-PMR, to support building on carbon markets initiatives around the world. Equinor is a founding Member of The World Bank's Carbon Pricing leadership Coalition.	Equinor actively advocates for an international price on carbon and supports initiatives on carbon pricing and linking of carbon market schemes through direct engagement with stakeholders and conference speeches.
Energy efficiency	Support with minor exceptions	Introduction of emission performance standards in the power sector Introduction of	112 d and 112 f power plant rules in the USA.

		emission performance standards in the power sector in the USA.	
Other, please specify EU 2030 climate target	Support	Norway has an agreement with EU to join EU's 2030 climate target of 40 % reduction from 1990 to 2030.	Endorsed by Norwegian Parliament June 2019. Equinor is a member of Norwegian government's climate council. Furthermore, we are also a member of Norway 20-30-40 business coalition to promote energy transition and green competitiveness.
Regulation of methane emissions	Support	Equinor has for many years undertaken a number of activities to respond to regulatory developments in US and Norway and has progressed on the objectives for methane improvement activities. In response to the (former) Obama Administration's increased focus on methane emissions, Equinor has been actively engaged on two fronts: (1) evaluating operational aspects and implementing reduction measures for our US onshore assets, and (2) engaging with industry and the Administration regarding the development of a voluntary program. In Norway, Equinor, and other industry peers, have been collaborating with the Norwegian Environment Agency (NEA) to improve the identification and quantification of methane and NMVOC emissions, and evaluate the possibilities for further emission reductions for existing and future operations. A key deliverable from this work was an update of the quantification methodologies for the regulatory reporting on methane and NMVOC emissions at the Norwegian Continental Shelf. 2016 was the first year in which Equinor utilized these	The future of regulatory framework in the US remains uncertain. Regardless of the outcome of President Trumps decisions, Equinor continues to work towards lowering its carbon footprint across US operations. Equinor has taken discrete steps to address methane, NMVOC and CO2 emissions. Since 2014, Equinor developed a comprehensive US Onshore Emissions Reduction Program that focusses on: (i) operational improvements – Equinor has implemented a voluntary leak detection and repair program and has invested significant capital to modify/upgrade facility designs to minimize fugitive emissions from process equipment and capture flare gas; (ii) technology – Equinor is collaborating with a breadth of industrial and academic partners to accelerate the technology development of methane sensing and mitigation technologies; (iii) outreach – Equinor has joined the OneFuture coalition and the API Environmental Partnership in order to facilitate greater policy and technology outreach with industrial partners and regulatory agencies. In 2017 Equinor, together with seven other oil and gas companies, committed to reduce methane emissions by signing on methane

		updated quantification methodologies for the reporting of upstream methane and NMVOC emissions from our upstream activities in Norway. In 2018 we continued a similar collaboration with Norwegian Environment Agency to address methane and NMVOC emissions at the onshore oil and gas facilities in Norway. In addition, Equinor has developed corporate principles on methane regulations to address: • How avoidable methane emissions in the oil and gas sector should be eliminated • Target the most significant emissions sources • Harmonisation of relevant monitoring, reporting and verification standards of methane emissions • Build upon industrial experiences and initiatives • Realistic reduction timeframe • Disclosure of methane emissions data. In 2017 Equinor carried out an internal study that indicates that the methane leakage rate for the natural gas value chain from offshore production in Norway to the customers in Germany and the UK is below 0.3%, which is well below the threshold for which the environmental benefit of natural gas vs coal is questioned.	guiding principles. Equinor is also a founding member of Climate and Clean Air Coalition Oil and Gas Methane Partnership (CCAC OGMP) and has in 2018 been giving advice to UNECE on regulation of methane in the UN member states. Equinor has also been central in giving input to the EU strategic plan for methane. As part of the Norwegian government's action plan on methane, the Norwegian Environment Agency (NEA), in close cooperation with industry, initiated, in 2014, a project to improve methane and non-methane volatile organic compounds (NMVOC) management and reporting. Through this project: • a comprehensive mapping of all potential sources for direct emissions of methane and NMVOC emissions has been undertaken • quantification methodologies have been assessed and updated • reduction potentials for emission sources have been assessed. A key deliverable from this work was updated quantification methodology for the regulatory reporting on methane and NMVOC emissions, which Equinor implemented from the calendar year 2016. A summary report in English is available at the Environment Agency's website. A similar process is now well underway for the midstream oil and gas facilities.
Other, please specify TCFD Preparer Forum	Support	The Financial Stability Board's (FSB) Task Force on Climate Related Financial Disclosure (TCFD) Preparer Forum.	During 2018 Equinor has supported the implementation of the TCFD recommendations to drive convergence of disclosure practices across the industry. Equinor joined the TCFD Oil and Gas Preparer Forum in 2017 to identify efficient and feasible ways to implement the

			recommendations. The Forum's report was launched in 2018. Throughout 2018, Equinor also prepared a joint case study on TCFD implementation together with asset manager Storebrand and the UN Principles for Responsible Investment (PRI).
Other, please specify The guiding principles	Support	Guiding principles on reducing methane emissions across the natural gas value chain.	In 2017, we joined with seven other major energy groups, the Environmental Defense Fund and the International Energy Agency, to develop and commit to a series of guiding principles to reduce methane emissions in our own operations, improve regulations and work with suppliers and customers to cut leakage in the entire value chain. The guiding principles were signed in November 2017. In 2018 additional signatories have joined and we have work together with all signatories to concretise the governing model, best practices for reducing methane, education programme, methane information portal and policy recommendations.
Regulation of methane emissions	Support	The Environmental Partnership.	In the USA, we joined the Environmental Partnership, comprised of companies in the USA natural gas and oil industry, committed to continuously improving the industry's environmental performance. Through our participation we will implement three specific performance programmes focused on minimizing emissions of methane and volatile organic compounds (VOCs) in onshore operations.
Other, please specify One Future coalition.	Support	One Future coalition.	In 2017, Equinor joined the One Future coalition. Member companies are committed to continuously improving their

			emissions management to assure efficient energy production and delivery. One Future's members include some of the largest natural gas production, processing, transmission and distribution companies in the USA representing nearly the entire natural gas value chain.
Other, please specify OGMP	Support	Climate and Clean Air Coalition Oil and Gas Methane Partnership (OGMP).	Equinor is a founding partner of the OGMP, that was established in 2014. Through this partnership, we are committed to systematically addressing methane emissions from nine 'core' methane emission sources and reporting on annual progress (from 2015). Our offshore, production installations on the NCS, representing nearly 90% of our operated oil and gas production, are included in the scope for this partnership. For the 2018 reporting year, we plan to report on additional performance metrics in the OGMP annual report. These additional performance-based metrics will provide readers of the report with more information about the methane emissions performance of our OGMP participating assets.
Other, please specify OGCI	Support	Oil and gas Climate Initiative (OGCI).	The Oil and Gas Climate Initiative, OGCI, is a CEO-led initiative that aims to lead the industry response to climate change. It is made up of 13 oil and gas companies that collaborate to reduce greenhouse gas emissions in the sector. Members share all costs equally and fund the Climate Investment (CI) vehicle - a $100m commitment over 10 years. CI invests in innovative startups to lower the carbon footprints of the energy and industrial sectors and their value chains and use our OGCI network to help them achieve commercial

			success. In 2018, OGCI announced a collective methane intensity target (below 0.25%, with the ambition to achieve 0.20% by 2025), including working across the value chain to achieve 'near zero' methane emissions. Additionally, through our membership in the OGCI, we have provided financial and technical backing for two major global studies of methane emissions from the natural gas value chain. The "Oil and Gas Methane Science Studies" together with the Climate and Clean Air Coalition (CCAC), Environmental Defense Fund (EDF) and European Commission and a lifecycle study with Imperial College London. It is anticipated that these could help identify new emission reduction initiatives and provide a scientific foundation to inform policy. As an OGCI member, we have also committed to work towards near zero methane emissions from the natural gas value chain.
Other, please specify Technology center Mongstad (TCM).	Support	Technology center Mongstad (TCM).	Technology center Mongstad (TCM). Equinor is responsible for operating the test plant. In 2017, Equinor signed a three-year contract with the Norwegian government, Shell and Total, to extend carbon capture testing at the Technology Centre Mongstad (TCM). TCM proved to be a valuable facility to test capture technologies under strict emission conditions. TCM is the world's largest testing institution, cooperating closely with vendors, researchers and other institutions such as National Energy

			Technology Laboratory (NETL) in the USA.
Other, please specify Protection of tropical forests	Support	Protection of tropical forests	In November 2018 Equinor stated that the company is ready to invest in the protection of tropical forests as soon as a well-functioning market is in place for the private sector. Equinor wants to help develop a robust market for private sector, ensuring responsible environmental and social protection of tropical forests.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

American Petroleum Institute

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

In favour of industry developed standards to reduce emission reductions. Less in favour of federal climate regulations and legislation in the US.

How have you influenced, or are you attempting to influence their position?

Equinor is a relatively small operating company in the US and has only limited influence on API's positions on climate change. However, we inform API when we disagree on positions they are taking.

Further assessment of potential misalignments is carried out as part of our review of industry associations that will be finalized by Q1 2020.

Trade association

International Emission Trading Association

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Promoting market-based climate change legislations around the world.

How have you influenced, or are you attempting to influence their position?

Actively participating in working groups on different topics. Provide direct input to positions papers.

Trade association

Center for Environment Policy Studies (CEPS).

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Discussing international climate negotiations and market based climate legislations around the world.

How have you influenced, or are you attempting to influence their position?

Actively participating in working groups on different topics. Provide direct input to positions papers.

Trade association

IPIECA (International Petroleum Industry Environmental Conservation Association).

Is your position on climate change consistent with theirs?

Unknown

Please explain the trade association's position

Not advocating on climate change legislation.

How have you influenced, or are you attempting to influence their position?

Not applicable as IPIECA does not do policy advocacy.

Trade association

International Association of Oil and Gas Producers, IOGP.

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

To represent and advocate industry views by developing effective proposals based on professionally established technical arguments in a societal context.

How have you influenced, or are you attempting to influence their position?

Equinor has a different view than IOGP on EU climate and energy policy and is providing input to position papers to adjust IOGP's position.

Further assessment of potential misalignment is carried out as part of our review of industry associations that will be finalized by Q1 2020.

Trade association

Center for Climate and Energy Solutions (C2ES).

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Advocates for economy-wide, market-based approaches to emissions reductions in the US, varying sector-by-sector. Supports a fair, effective, and binding international framework on climate change.

How have you influenced, or are you attempting to influence their position?

Actively participating in initiatives and working groups that contribute to policy position papers.

Trade association

FuelsEurope.

Is your position on climate change consistent with theirs?

Unknown

Please explain the trade association's position

To represent and advocate refinery industry interests in Europe.

How have you influenced, or are you attempting to influence their position?

Equinor supported the introduction of the Market Stability Reserve (MSR) of the EU Emissions Trading System (ETS), which started operating in January 2019. FuelsEurope did not actively advocate for the MSR. Equinor has been providing providing input to position papers to influence FuelsEurope's position and advocacy practice.
Further assessment of potential misalignments is carried out as part of our review of industry associations that will be finalized by Q1 2020

Trade association

OGCI (Oil and Gas Climate Initiative).

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Aims to increase the ambition, speed and scale of the initiatives taken by the individual companies to reduce the greenhouse gas footprint of the oil and gas business – and to explore new businesses and technologies. Not advocating on climate change legislation.

How have you influenced, or are you attempting to influence their position?

Actively participating in work streams on different topics. Corresponding GHG emission reduction target implemented though the Climate Roadmap.

Trade association

Hydrogen Council.

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Demonstrate hydrogen solutions and value chains to address decarbonization across the entire energy system, including those sectors which cannot be decarbonized with renewable solutions.

How have you influenced, or are you attempting to influence their position?

Equinor is taking a leading role in developing large scale hydrogen solutions based on natural gas reforming combined with CCS (permanent storage).

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Equinor has developed corporate climate positions that are aligned with our climate change strategy. The Corporate Sustainability Unit has frequent meetings with the Governmental and Public Affairs team and relevant colleagues in Equinor's Business Areas to develop and align positions and strategies for influencing policies and regulations globally and regionally/nationally. We engage the Corporate Executive Committee (CEC) regularly in climate discussions that also include policy-related topics. Equinor employees that engage in dialogue

on behalf of the company with industry organizations, policy makers, media or other stakeholders are required to use corporate policies and positions as a basis for the dialogue, according to Equinor's Code of Conduct.

Furthermore, leaders receive training in the subject of climate change how Equinor approaches this. We upload our policy positions and respond to consultations on our website. We aim for openness and transparency in our policy dialogue and aim to ensure that our employees are familiar with Equinor's positions on dedicated policy proposals. There are cases where we have different opinion than the industry organisations we are member of (for example IOGP positions on free allowances for offshore Oil and Gas, API position on US power plant rules). In such cases we are trying to revert the position of the business organization, or, if that is not possible, we inform the business organizations in writing as to the reasons why we cannot support the proposed statement.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

Equinor Annual report 2018.pdf

Page/Section reference

Equinor Annual Report 2018. Section 2.12. Page 88.

Content elements

Governance
Strategy
Emissions figures
Emission targets

Comment

The strategy and climate roadmap form the basis for how we respond to climate-related risks and opportunities. The climate roadmap describes how we plan to create a low-carbon
advantage by reducing emissions, grow new energy solutions and collaborate to amplify our impacts. The roadmap sets out ambitions, targets and an action plan towards 2030. (More
information is available on Equinor.com). As part of this, we have embedded climate

considerations into incentives, reporting and decision-making, and have targets in place to measure progress and incentivise performance across the entire company – starting at the top. CO2 intensity (upstream) is a key performance indicator and influences executive pay.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2018 Equinor Sustainability report.pdf

Page/Section reference

Equinor Sustainability report 2018. Page 15

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Environmental data is, unless otherwise stated, reported on a 100% basis for our operated assets, facilities and vessels, including subsidiaries and operations where we are the technical service provider, and for contracted drilling rigs and flotels(“operational control basis”).
Scope 1 CO2, emissions and upstream CO2 intensity are reported both on an operational control basis and on equity basis (financial ownership interest).
Scope 3 greenhouse gas emissions are reported on the basis of equity (volumes of products sold).

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Vice President Chief Operating Officer.	Chief Operating Officer (COO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC3.1

(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?

I am submitting my response	Public	Investors Customers	No, Submit Supply Chain Questions Later

Please confirm below

I have read and accept the applicable Terms