

## Climate-related Scenario Analysis & Risk Assessment

In accordance with TCFD recommendations



# **Executive Summary**

In 2023, Aker Solutions conducted a climate-related scenario analysis using the Task Force on Climate-related Financial Disclosures (TCFD) guidelines. The purpose of the analysis was to update the scenario analysis undertaken in 2022 and complete a thorough assessment of energy transition and physical climate risks and opportunities, using the most recent scenarios from the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC).

We engaged an external consultancy to undertake this analysis, which was based on the IEA's Net Zero Emissions (1.5°C), Announced Pledges (1.7°C) and Stated Policies (2.4°C) scenarios, along with the IPCC's SSP3-7.0 scenario (3.6°C) to test physical risks. The analysis considered Aker Solutions' full value chain and operations in oil and gas and renewable energy markets, such as offshore wind, hydrogen and carbon capture and storage (CCS). For the purposes of this report, we will refer to the Net Zero Emissions scenario as NZE, Announced Pledges scenario as APS and Stated Policies scenario as STEPS.

A workshop was held with senior representatives from strategy, finance, sustainability, and technical departments to examine climate-related risks and opportunities and their potential financial impact on Aker Solutions' business model and strategy. As a result of the scenario analysis, two climate-related risks previously identified in 2022 were re-confirmed as being financially material and were updated.

- Risk 1: Declining investment in upstream oil and gas in core markets
- Risk 2: Attraction and retention of talent

Additionally, two financially material climate-related opportunities previously identified in 2022 were also confirmed and updated:

- Opportunity 1: Increase competitiveness in oil and gas through decarbonization solutions and services
- Opportunity 2: Revenue diversification into markets supported by the energy transition

Details on the financial impact, risk mitigations, and strategies to capture the opportunities can be found in this disclosure, along with information on Aker Solutions' governance of climate-related risks and opportunities and the metrics and targets used to assess and manage them.

The findings from this scenario analysis have been considered as input to Aker Solutions' corporate strategy process to improve its resilience. The climate-related risks will be incorporated into Aker Solutions' Enterprise Risk Management system and process.



Governance	Disclose the organization's governance around climate-related risks and opportunities
a) Describe the board's oversight of climate-related risks and opportunities.	Climate-related issues are discussed each quarter during Board meetings. The topics are mainly related to climate-related risks and opportunities and progress against the KPIs, including sustainable business performance and internal emissions targets. The Board approves the company strategy and supporting business
	plans, with scheduled agenda items such as the identified risks and progress against KPIs, including sustainable business performance and emission reduction targets.
	The Audit Committee performs a qualitative review of the quarterly and annual reports of the company, including the annual disclosure in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).
	The Audit Committee also supports the Board in overseeing that the company's Enterprise Risk Management framework is implemented and accurately reflects the company's major risk areas, including climate-related risks.
b) Describe management's role in assessing and managing climate-	Aker Solutions' CEO and EVP for Strategy, Portfolio and Sustainability assess and manage sustainability and climate-related issues, including those related to the energy transition.
related risks and opportunities.	The CEO presents climate-related issues at Board meetings. The presentations generally include the overall enterprise risk information, including climate-related risks, how climate-related matters are managed and the results that have been achieved. The CEO also interacts with internal and external stakeholders. Climate-related issues are also a priority when presenting tenders to the Board for approval.
	EVP Legal and Safeguarding is responsible for overseeing enterprise risk management, including climate-related risk. The Enterprise Risk Committee reports risks as per established procedure by the enterprise risk management function on a quarterly basis, which is consolidated into the enterprise risk portfolio.
	The portfolio is evaluated by the enterprise risk management function, and approved by the EVP, Legal and Safeguarding, before being aligned with the Executive Management Team and reported to the Audit Committee.



Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	In 2023, Aker Solutions conducted a climate-related scenario analysis using the Task Force on Climate-related Financial Disclosures (TCFD) guidelines. To do this, the company used three IEA scenarios and one IPCC scenario and defined short-term, medium-term, and long-term as 2025, 2030, and 2050, respectively. Through this assessment, the following climate-related risks and opportunities were identified:
	Risk 1: Declining investment in upstream oil and gas in core markets
	<b>Type of risk</b> Market
	<b>Description of the risk</b> In the NZE scenario, demand for oil and gas falls to levels that do not necessitate new oil and gas field developments beyond those already approved. However, investment in existing fields remains. On average, annual upstream oil and gas spending in this scenario is two-thirds lower than in the STEPS scenario and is primarily directed towards maintaining existing fields. A similar trend is observed in the APS scenario from 2030 onwards. In all three IEA scenarios, the consolidation of oil and gas production towards low-cost providers in the Middle East reduces the demand for North Sea oil and gas supply.
	As Aker Solutions has a low market share among OPEC countries, the decline in investment would significantly decrease the size of the addressable future market and result in a loss of revenue for the company in the medium to long term.
	This risk is to some extent mitigated by agreements between the EU and Norway on energy security following the decision by the EU to reduce reliance on Russian oil and gas as a result of the invasion of Ukraine.
	<b>Potential financial impact</b> We estimate that this risk could result in NOK 8-10b less revenue per annum in the medium term (2030) due to reduced demand for products and services and NOK 20-25b per annum in the long term (2050).
	The medium-term impact is based on current greenfield oil and gas revenues (incl. subsea) of approximately NOK 20b per annum and an



assumption that 50% will not materialize in the NZE and APS scenarios in 2030.
The long-term impact is based on current greenfield and brownfield oil and gas revenues of approximately NOK 30b per annum and an assumption that 75% of this is at risk in 2050.
Risk mitigation
Aker Solutions is responding to this risk through the following levers:
<ul> <li>Diversification of revenue streams into growing renewables markets, including offshore wind, carbon capture and storage (CCS), hydropower and hydrogen (H2)</li> </ul>
<ul> <li>Increased emphasis on decarbonizing existing and new oil and gas projects to reduce carbon emissions and minimize long-term climate impact</li> </ul>
<ul> <li>Development of innovative technologies to enhance competitive differentiation in the renewables and low carbon oil and gas sectors</li> </ul>
<ul> <li>Implementation of digitalization initiatives to lower capital and operational expenses in oil and gas projects</li> </ul>
The cost of responding to this risk is estimated at:
<ul> <li>NOK 100 m per annum for established enterprise-level competence development program to drive transformation and ensure upskilling and reskilling of our people</li> <li>NOK 150 m per annum in new technologies to enhance competitiveness in renewables and low carbon oil and gas markets</li> </ul>
Risk 2: Attraction and retention of talent
Type of risk Reputation
<b>Description of the risk</b> Unfavorable public perception of the oil and gas sector can make it challenging for Aker Solutions to recruit and retain employees, and this trend may intensify in all scenarios.
Human capital is a critical component of Aker Solutions' business model and its ability to compete and retain top talent is necessary to maintain competitiveness.



The difficulty in attracting and retaining employees may have a negative impact in the short to medium term on both direct operating costs and productivity loss.

#### Potential financial impact

We estimate that the higher cost of human capital and loss of productivity resulting from this risk could lead to an increase in costs of NOK 300m per year in the medium term and NOK 600m per year in the long term.

This estimate assumes that Aker Solutions has 11,000 full-time employees and that there will be a 5% increase in salary costs and loss of productivity in the medium term, and a 10% increase in salary costs and loss of productivity in the long term.

#### **Risk mitigation:**

Aker Solutions is responding to this risk through the following levers:

- Diversification of revenue streams into growing renewables markets (as per mitigation for Risk 1)
- Clear and measured communication on ambitions and targets both externally and internally
- Recruiting program tailored to future needs
- Investing in the development of our people by providing upskilling and reskilling opportunities
- Cultural transformation programs to drive awareness and behavior across the company

The estimated cost for addressing this risk is NOK 50-100m. However, with our increased focus on diversification into growing renewables markets and our established programs for recruiting, retention, and competence development, we are confident that Aker Solutions will remain a desirable employer in the future. Therefore, we believe that the measures we have put in place will effectively mitigate this risk.

Note: The costs of the mitigations are not mutually exclusive.

### Opportunity 1: Increase competitiveness in oil and gas through decarbonization solutions and services

Type of opportunity Products and services

Primary potential financial impact



Increased revenue and margins
<b>Description of the opportunity</b> In the NZE and APS scenarios, low carbon solutions and execution models will improve Aker Solutions' competitiveness in oil and gas markets. This also applies in the STEPS scenario, as customers continue to focus on decarbonization of their operations.
Aker Solutions has an opportunity to differentiate itself in the market and help customers lower their emissions by taking a market-leading position on decarbonizing their infrastructure. This will also enable Aker Solutions to attract and retain talent and customers.
<b>Potential financial impact</b> We estimate that this opportunity has the potential to increase our annual revenue by NOK 5-10 bn in the medium term, from about NOK 5 bn in 2023.
<b>Strategy to realize the opportunity</b> Aker Solutions is capturing this opportunity through the following levers:
<ul> <li>Developing new technologies and delivery models for decarbonizing existing oil and gas assets, such as electrification</li> <li>Implementing digital solutions to reduce energy consumption and emissions, such as the life cycle assessment tool</li> <li>Safely decommissioning oil and gas and other energy assets and recycling materials</li> </ul>
Opportunity 2: Revenue diversification into markets supported by the energy transition
<b>Type of opportunity</b> Market
<b>Description of the opportunity</b> Aker Solutions is diversifying into new markets that support the energy transition, including offshore wind, carbon capture and storage (CCS), hydrogen, hydropower, and power and grid infrastructure.
Across all scenarios, these technologies are assumed to have viable business models and achieve significant growth (except CCS in STEPS). Aker Solutions has a broad range of services and solutions that can (and currently are) being used in them. This requires that Aker Solutions



	<ul> <li>succeeds in adjusting its business and delivery models, as well as organization and competencies, to serve these markets.</li> <li>To further diversify our offerings, we are also exploring opportunities for inorganic growth through mergers and acquisitions (M&amp;A), and technology development.</li> <li>Potential financial impact</li> <li>We estimate that this opportunity has the potential to increase our annual revenue by NOK 10-15b in the medium and more than NOK 30b longer term, from about NOK 4b in 2023. This is based on annual addressable market for Aker Solutions in target renewables markets of NOK 150-200b in 2023 to NOK 500-1000b in 2030 and NOK 1500-2500b in 2050.</li> </ul>
	<b>Strategy to realize the opportunity</b> To realize this opportunity Aker Solutions is :
	<ul> <li>Actively targeting emerging markets such as offshore wind, carbon capture and storage (CCS), hydropower, and hydrogen</li> <li>Actively engage with customers and policy makers to ensure balanced risk-reward profiles and sustainable profitability in these emerging markets</li> <li>Growing into broader energy and sustainability consulting services to increase scope of supply and relevant customer base</li> <li>Selectively investing in technology development to differentiate ourselves in these markets and better serve our customers</li> <li>Expanding our capabilities by forming strategic partnerships with companies that complement our offerings and geographical footprint</li> <li>Improving our project execution in these markets and continuously developing our people, including upskilling and reskilling to ensure that we have the necessary expertise</li> <li>Exploring new ways of working, including the adoption of digital tools, automation, and robotics to enhance efficiency and improve our cost competitiveness</li> </ul>
	We estimate the cost of capturing this opportunity at NOK 100-300 m annually (excluding M&A activities).
b) Describe the impact of climate-related risks and opportunities on the	Climate-related risks and opportunities are fully embedded within Aker Solutions' strategy via our transition plan (Climate Action Plan) and financial planning process.
organization's businesses, strategy, and financial planning.	The five-year Climate Action Plan was approved by the Board in 2021 and launched in January 2022. The plan follows the Science Based Targets



	initiative's guidance and includes input and engagement from all parts of our value chain.
	The plan provides a roadmap to transform our business towards a net- zero future while helping society solve global energy challenges for future generations. Since launching, the plan has evolved from a corporate initiative to business-driven transition programs owned by each segment in Aker Solutions. These individual segment plans address emissions reduction, optimizing energy use, reducing and removing waste and spills, improving circularity and protecting biodiversity.
	As a result of declining demand for oil and gas under the NZE and APS scenarios, and the growth of renewable energy under all scenarios, Aker Solutions is making a strategic shift to grow in renewables and low-carbon markets including offshore wind, carbon capture and storage (CCS), and hydrogen by working closely with our customers and partners and leveraging our core capabilities.
	Our target is that two-thirds of our revenue will come from transitional energy solutions and/or from renewable energy business by 2030. We have initiated a sustainable financial planning framework as part of the activities in the energy transition to ensure company growth is in line with these targets. Each business delivery center is required to establish a target based on the percentage of revenue that is sourced from low carbon or renewable technology.
c) Describe the resilience of the organization's strategy, taking into	In 2023, Aker Solutions conducted a climate-related scenario analysis using the Task Force on Climate-related Financial Disclosures (TCFD) guidelines.
consideration different climate-related scenarios, including a 2°C or lower scenario.	The purpose of the analysis was to update the scenario analysis undertaken in 2022 and complete a thorough assessment of energy transition and physical climate risks and opportunities, using the most recent scenarios from the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC).
	The analysis used the IEA's Net Zero Emissions (1.5°C), Announced Pledges (1.7-2°C) and Stated Policies (2.4-3°C) scenarios, along with the IPCC's SSP3-7.0 scenario:
	The Net Zero Emission's (NZE) scenario describes a pathway for the global energy sector to reach net-zero CO <sub>2</sub> emissions by 2050 through rapid deployment of a wide portfolio of clean energy technologies. NZE limits global warming to 1.5°C and prioritizes an orderly transition that aims to safeguard energy security through strong and coordinated policies and incentives that



<ul> <li>minimize energy market volatility and stranded assets. In advanced economies with net-zero pledges, carbon prices rise to \$140 t/CO2 in 2030, \$205 in 2040, and \$250 in 2050.</li> <li>The Announced Pledges (APS) scenario assumes that all climate commitments made by governments and industries around the world as of the end of August 2023, including Nationally Determined Contributions (NDCs) and longer-term net zero targets, will be met in full and on time. In APS, the temperature rise in 2100 is 1.7°C. Carbon prices in advanced economies with net-zero pledges rise to \$135 t/CO2 in 2030 to \$175 in 2040 and \$200 in 2050.</li> <li>The Stated Policies (STEPS) scenario reflects current policy settings based on a sector-by-sector and country-by-country assessment of the energy-related policies that are in place as of the end of August 2023, as well as those that are under development. In STEPS, the temperature rises to 1.9°C in 2050 and 2.4°C in 2100. Carbon prices in the EU rise to \$120 t/CO2 in 2030 to \$129 in 2040 and \$135 in 2050.</li> <li>The IPCC's SSP3-7.0 represent the medium-to-high end of the range of pathways. CO2 emissions rise steadily and double by 2100. Resurgent nationalism, concerns about competitiveness and security, and regional conflicts push countries to increasingly focus on domestic or, at most, regional issues. Countries focus on achieving energy and food security goals within their own regions at the expense of broader-based development. By the end of the century, average temperatures have risen by 3.6°C. This scenario was used to test physical risks.</li> </ul>
The analysis considered Aker Solutions' full value chain, including upstream oil and gas production and downstream customer demand, as well as the production and demand for renewable energy fuels and technologies such as offshore wind, hydrogen, and carbon capture and storage (CCS).
We conducted a workshop with senior representatives from strategy, finance, sustainability, and technical departments to consider the scenarios and climate-related risks and opportunities.
The results of the scenario analysis were used to inform the development of our corporate strategy and improve our resilience. Key findings from the climate scenario process included:
<ul> <li>The policy actions taken by governments are the key variable and the main reason for the differences in outcomes across the scenarios. Carbon prices are the main driver.</li> </ul>



<ul> <li>The electrification of transport reduces oil demand to a varying extent in all three IEA scenarios (in the STEPS scenario, the lower demand is offset by an increase in aviation and shipping).</li> <li>Oil and gas production becomes increasingly concentrated in OPEC in all the IEA scenarios. Import dependency on fossil fuels in Asia remains high in all scenarios, leading to further concentration of trade flows between the Middle East and Asia.</li> <li>Plummeting investment in upstream oil and gas in NZE and APS scenarios create challenges for the supply chain, with competition intensifying in a declining market.</li> <li>Renewable energy grows in all IEA scenarios but also creates challenges given lower returns than oil and gas and competition from existing players chasing the same growth.</li> <li>Under the IPCC's SSP3-7.0 scenario, Aker Solutions' locations are based in areas that may be exposed to rising acute and chronic physical risks, including heat waves and/or drought, water stress, severe storms, and flooding and/or sea level rise.</li> </ul>
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Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.
a) Describe the organization's processes for identifying and assessing climate- related risks	The climate-related risks that were identified through the scenario analysis exercise will be incorporated into Aker Solutions' Enterprise Risk Management (ERM) system. All risks, including climate-related risks, are gathered in a quarterly risk report that is presented to the Audit Committee.
b) Describe the organization's processes for managing climate- related risks.	All risks are given a risk score according to their probability and the potential impact. A substantive financial or strategic impact or risk is defined as causing losses in revenue by more than NOK 500 m, and / or reduction in EBITDA of more than NOK 50 m. In addition to the risk score, all risks are measured with quantifiable indicators stating how they impact financial value, customer value, internal processes and people and organization.
c) Describe how processes for identifying, assessing, and managing climate- related risks are integrated into the organization's overall risk management.	Any substantive financial or strategic impact will be reported to the Audit Committee, the Executive Management Team and to the Board. Appropriate actions to eliminate or mitigate these risks will be implemented. The information is also used in a dashboard, where the impacts to our direct operations and risks related to customers and suppliers are included.



	In addition to the ERM process that covers risks and their impacts, Aker Solutions has implemented an EPM (Enterprise Performance Management) process to seize opportunities.	
	Each business segment reports their risks and opportunities as part of the ERM and EPM processes in relation to our suppliers and customers, with potential costs (in terms of financial impact - cost / income or investment needs), their impacts on the business, and on future strategies.	

Metrics and Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
a) Describe the targets used by the organization to manage climate- related risks and opportunities and performance against targets.	<ul> <li>The following targets are used by Aker Solutions to manage climate-related risks and opportunities:</li> <li>2050 <ul> <li>Long term net-zero target by 2050</li> </ul> </li> <li>2030 <ul> <li>Two-thirds revenue from renewables and transitional energy solutions</li> <li>Targeting to reduce absolute Scope 1 and 2 emissions 50% reduction by 2030 from 2023 baseline</li> </ul> </li> </ul>
b) Disclose the metrics used by the organization to assess climate- related risks and opportunities in line with its strategy and risk management process.	<ul> <li>The following metrics are used by Aker Solutions to assess climate-related risks and opportunities:</li> <li>GHG emissions: <ul> <li>Absolute Scope 1, 2 and 3 GHG emissions</li> <li>Intensity-based Scope 1, 2 and 3 GHG emissions (Metric tons per million worked hours)</li> <li>Gross Scope 1 covered under EU ETS or other trading schemes</li> </ul> </li> <li>Climate-Related risks and opportunities <ul> <li>Metrics used to track mitigation of transition risks and progress on climate-related opportunities:</li> <li>Key indicators for Scope 1+2 emissions reductions: <ul> <li>Absolute and intensity-based energy consumption</li> <li>Share of our energy use from renewable sources</li> </ul> </li> </ul></li></ul>



<ul> <li>Split of non-renewable fuel consumption</li> </ul>
Key indicators of exposure to declining oil and gas market:
<ul> <li>Share of revenue from work related to oil and gas sector</li> </ul>
Key indicators for attraction and retention of talent:
<ul> <li>Employee turnover split per age group, region, and gender</li> <li>Age groups split for employees</li> <li>Employee engagement</li> </ul>
Key indicators for market growth and ability to transform into profitable renewable player:
<ul> <li>Profit margin of revenue from work related to renewables markets and transitional energy solutions</li> </ul>
<ul> <li>Profit margin of revenue from work related to existing oil and gas market</li> </ul>
<ul> <li>Total addressable market revenue for Aker Solutions within renewables markets and transitional solutions</li> </ul>
<b>Capital Deployment:</b> Amount of investment deployed toward climate related risks and opportunities:
<ul> <li>CAPEX investment into decarbonization activities</li> <li>Share of total CAPEX relating to decarbonization</li> <li>Percentage of annual revenue invested in R&amp;D of low carbon solutions and technology including digitalization</li> </ul>
Remuneration:
<ul> <li>Proportion of executive management remuneration linked to climate considerations</li> </ul>
<ul> <li>Management remuneration based on several KPIs linked to climate considerations</li> </ul>
Aker Solutions discloses its Scope 1, 2 and 3 greenhouse gas (GHG) emissions in its 2023 annual report which is available at: https://www.akersolutions.com/investors/annual-reports/

