



A K E R   H O R I Z O N S

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# GREEN FINANCE FRAMEWORK

January 2021

# Introduction

This Green Finance Framework will enable Aker ASA and Aker Horizons to finance activities and investments within Aker Horizons and its subsidiaries by issuing Green Bonds. Aker Horizons, which is a newly established subsidiary of Aker ASA, has a broadly defined mandate to invest in renewable energy and technologies that contribute to reducing greenhouse gas emissions.

## Aker ASA in brief









Aker ASA (“Aker”) is an industrial investment company that exercises active ownership to create value. In our capacity as an active owner, we combine industrial expertise and financial strength with knowledge about capital markets. We work to drive strategy developments, operational improvements, financing, restructuring and industrial transactions forward.

For nearly 180 years, Aker has been a driving force for the development of internationally focused, knowledge-based industry in Norway. Aker is the largest shareholder, directly or indirectly, in eleven companies listed on Oslo Stock Exchange and Euronext Growth Oslo. Our ownership interests are concentrated in the oil and gas, renewables and technologies enabling decarbonization, maritime assets and marine biotechnology sectors. Aker and companies in which Aker is the largest investor had a total turnover of more than NOK 83 billion in 2019, and a workforce of approximately 37,000, including temporary hires. About 21,000 of the workforce is located in Norway. Aker’s main shareholder is Mr. Kjell Inge Røkke, who currently owns 68.2 per cent of Aker through his company TRG Holding AS.

The investments consist of two portfolios:

- **Industrial portfolio companies:** Strategic in nature and managed with a long-term perspective. Comprise ownership interests in Aker Horizons, Aker BP, Aker Solutions, Akastor, Ocean Yield, Aker BioMarine, Cognite and Aker Energy.

- **Financial investments:** Comprise cash, listed financial investments, real estate investments and other financial assets.

Industrial Holdings			AKER	Listed investments	Unlisted investments
Industrial Holdings			Financial Investments		
	Aker BP	40.0%	Cash		
	Aker Solutions <sup>1)</sup>	32.1%	Listed financial investments <sup>3)</sup>		
	Akastor <sup>1)</sup>	36.7%	Real Estate Investments		
	Ocean Yield	61.7%	Other financial investments		
	Aker BioMarine	77.8%			
	Aker Horizons <sup>2)</sup>	100%			
	Cognite	64.0%			
	Aker Energy	50.8%			

<sup>1)</sup> Owned partly through Aker Kvaerner Holding, in which Aker had a 70% ownership interest prior to its dissolution. Additionally, Aker has a direct ownership interest in Aker Solutions and Akastor  
<sup>2)</sup> Reflected as listed asset as the portfolio mainly consists of listed entities, ACC and AOW  
<sup>3)</sup> Consists of American Shipping Company, Philly Shipyard, REC and Solstad Offshore

## Introduction to Aker Horizons

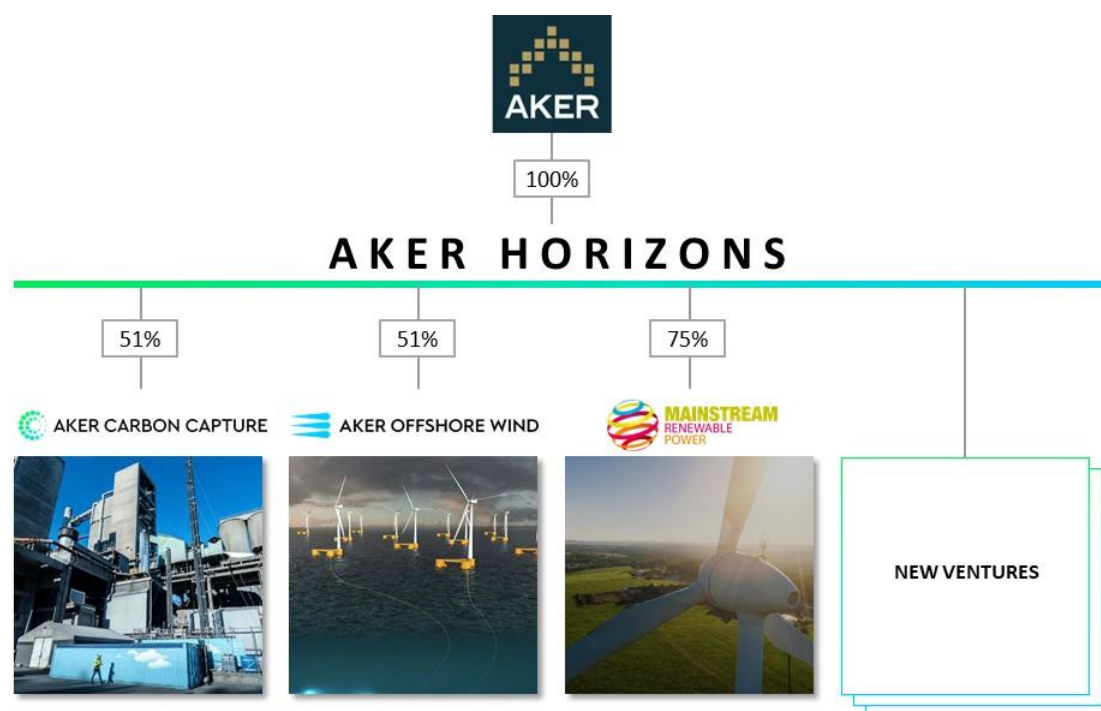
Aker Horizons, established in 2020, is an investment company with a focused portfolio in the renewable energy and low-carbon technologies space. The company has a flexible mandate to engage in active ownership to build and develop leading companies in emerging industries, including through M&A, to achieve long-term value creation.

Through Aker Horizons, Aker is taking an active role to develop and operate in broader and rapidly growing renewable energy and low-carbon technology segments. Aker Horizons comprises a dedicated team developing leading companies that can meaningfully reduce CO<sub>2</sub> emissions while providing substantial value creation over time.

Aker Horizons’ mission is to drive accelerated decarbonization, develop industrialized solutions and create attractive financial returns. The objective is to establish Aker Horizons as long-term growth platform where technology, industrial and software capabilities of the Aker group can add most value.

Aker Offshore Wind and Aker Carbon Capture form the basis for Aker Horizons’ portfolio of industrial companies. In January 2021, Aker Horizons announced an agreement to acquire 75 percent of Mainstream Renewable Power (“Mainstream”), a leading independent renewable energy company within onshore and offshore wind and solar. The transaction is subject to regulatory and customary approvals, and is expected to close in Q2 2021.

Each portfolio company works to optimize value individually, with separate management teams and boards, but with strong support from Aker Horizons to ensure activities are optimized across the entire value chains and to capitalize on internal expertise in the broader Aker group.



# Sustainability

## Sustainability in Aker ASA

As an investment company, our Environmental, Social and Governance (ESG) priorities are integrated in our role as an active owner. Our ambition is that our portfolio companies represent the benchmark for profitable, safe, and sustainable operations, as we believe that companies that integrate sustainability in their operations and business decisions will be more successful and create more long-term value. That is why our long-term impact on sustainability and environmental concerns are part of both how we exert active ownership within our existing portfolio companies and how we evaluate new investment and business opportunities.

Acting responsibly and with integrity is important to Aker, and to ensure that our footprint – mainly through the activities of our portfolio companies – reflects transparency, integrity, and sustainability. This means taking responsibility for the impact and ensuring that the corporate culture in each company is based on good business practice, openness, honesty, and the highest integrity.

Aker is therefore committed to the Ten Principles of the UN Global Compact, derived from the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the UN Convention Against Corruption.

Aker also recognizes and respects the UN's 17 Sustainable Development Goals (SDGs) and has identified four priority SDGs in our own work<sup>1</sup>.



Aker expects that the portfolio companies to also follow the UN Global Compact and identify priority SDGs in their work.

<sup>1</sup> More information about our work with the SDGs can be found on our webpage

## “Principles for Sustainability”

Based on the main governing document in the Aker group, the shared Code of Conduct, Aker expects all our portfolio companies to adhere to the Aker’s *Principles for Sustainability*. Further, Aker expects that the portfolio companies also ensure that business partners and suppliers act according to the same principles.

Aker’s work with ESG considerations falls along two main pillars:

- Proactive engagement with the portfolio companies.
- Responsible investment policy.

### 1. Proactive engagement

As an active owner, Aker uses its ownership rights to engage with the portfolio companies on ESG-related issues with the aim of improving the long-term performance of the company and shareholder value.

The industrial portfolio companies differ in their business practices and their material ESG issues. While Aker has an individual approach for each portfolio company, meaning the focus differs based on the portfolio companies’ exposure to various ESG issues, Aker has defined a set of shared principles in our engagement.

### *Sustainability strategy and reporting*

- Aker expects each portfolio company to develop a sustainability policy and strategy that is aligned with their corporate strategy. The policy should be expressed in terms of the impact the company has on ESG-related issues, as well as demonstrate the link between its corporate strategy and commitment to more sustainable development. ESG policies are expected to be approved on the Board level.
- Aker expects the portfolio companies to publish an annual sustainability / ESG report that includes a materiality assessment, progress towards addressing material topics, including occupational health and safety, diversity, responsible supply chain, corruption and business ethics, annual greenhouse gas emissions and an evaluation of climate-related risks and opportunities. The report can either be stand-alone or as part of their annual report. The report should be the main platform for communicating sustainability performance and impacts.

### *Managing climate-related risks and opportunities*

- Aker expects companies to address and manage their climate-related risks and opportunities that are material to their business. This include having procedures in place for identifying risks and opportunities, and having the reporting be part of the overall risk management framework and governance structure that ensures sufficient oversight.
- Aker encourages its portfolio companies to report in accordance with TCFD in order to increase awareness of climate-related risks and opportunities within each company, resulting in better risk management and more informed strategic planning.
- Each portfolio company is required to set Scope 1 and 2 greenhouse gas (GHG) emission reduction targets, disclose these targets to Aker on an annual basis, and inform Aker on how they work to implement lower-emission energy solutions and improve energy efficiency.

Aker has established an ESG forum where representatives from each company meet on a quarterly basis to engage on sustainability related issues, share knowledge and align on ESG-considerations across the group.

### 2. Responsible investment policy

Aker incorporates ESG issues into our investment policy, which is addressed both in the investment analysis and in the decision-making processes. In doing so, the resilience of the portfolio companies improves while also being better positioned for new opportunities in a more sustainable future.

The investment policy aims to ensure that Aker only invests in companies which operate in an environmentally responsible manner, that respect human and labor rights, have a strong HSE track record and follow good corporate governance practices that align with Aker’s own Corporate Governance Policy and Code of Conduct.

Aker’s investment policy also lays out the structure for the management control and reporting framework for our investments, the annual review and follow-up cycle, as well as a clear definition of roles and responsibilities anchored in our ownership agenda.

Through board positions, investment reviews and close collaboration with the portfolio companies on strategy and performance, Aker seeks to ensure that the portfolio companies are developing in a responsible, value-creating manner.

***“We seek to ensure that our portfolio companies implement processes and procedures for sustainable development in a way that ensures long-term value creation for our shareholders.”***

**– Aker ESG Report 2019**



## Sustainability in Aker Horizons

As an active owner, Aker Horizons is engaged with its portfolio companies on ESG-related aspects with the aim of improving the long-term performance of the company and stakeholder value. The active ownership is expressed through Aker Horizons' representation in the Board of Directors and in direct dialogue with senior management of the portfolio companies. Aker Horizons has also established a Sustainability Working Group where representatives from Aker Horizons, Aker Carbon Capture and Aker Offshore Wind (and, going forward, other portfolio companies) meet regularly to engage, coordinate measurement of progress towards key performance indicators (KPIs), and share best practices on sustainability-related topics.

Aker Horizons and its portfolio companies have established an internal framework for measuring and reporting the sustainability performance of the group on the three dimensions of sustainability - Environmental, Social and Governance (ESG). The outlined framework is aligned with global best practice for sustainability reporting, Norwegian sustainability reporting requirements for listed companies, Euronext guidelines for listed companies on Oslo Børs, and incorporates anticipated reporting requirements resulting from the EU Green Deal and EU Taxonomy.

The internal ESG framework defines a set of KPIs for managing and measuring each company's material topics, and outlines a structure for sustainability disclosures, starting with the annual report for 2020. The KPIs will be approved by the Board of Directors of each company and subsequently

implemented in the companies' management systems and communicated externally. The ESG topics that are considered most important for Aker Horizons' and its portfolio companies' work with sustainability have been identified through a materiality assessment validated by an independent third-party in line with the standards of the Global Reporting Initiative (GRI).

ESG disclosures made by Aker Horizons, as well as each of the portfolio companies, will focus on the positive impact on reducing or avoiding GHG emissions, the continued reduction of the companies' own operational emissions footprint, and its track record in safeguarding social and governance principles such as health and safety, human and labour rights, ethics, and anti-corruption.

## Aker Horizons' main investments

### Aker Offshore Wind

**Aker Offshore Wind is an offshore wind developer with focus on assets in deep waters. With global operations, the current portfolio consists of development projects and prospects located in Asia, North America and Europe.**

Aker Offshore Wind has access to unique floating offshore wind technologies, offshore engineering and project management capabilities as the company utilizes the significant technical knowledge of offshore floating platforms and associated technologies gained by Aker Solutions over many decades, combined with experience from offshore project execution.

As the principal shareholder of Aker Offshore Wind, Aker Horizons is supporting it with business expansion, financial structuring, and certain support functions.

We consider offshore wind power to be on the path to become a major part of the world's future energy mix. Fixed bottom offshore wind is already an established energy source in many markets. Introducing floating wind parks opens access to superior wind conditions for offshore wind power generation.



## Proven Technology & Promising Development Portfolio

**Aker and its portfolio companies have more than five decades of experience and proven technologies for floating structures. Aker Offshore Wind is building on competency to take early mover positions in offshore floating wind projects around the world. The required solutions are today mature enough for commercial-scale developments, while innovation continues to drive down costs and support local job creation.**

For the offshore wind market, “deep water” is defined as deeper than 60 meters. Eighty percent of offshore wind resources are in deep water. With simple, bottom-fixed foundations not viable in water depths of 60 meters and more, effective deepwater structures, and especially floating designs, are integral to access deepwater markets.

Collaboration with other Aker companies provides access to unparalleled competence and five decades worth of offshore expertise and experience, including:

- Close collaboration between Aker Offshore Wind and Aker Solutions
- More than 50 years’ experience designing, delivering and servicing offshore floating and deepwater facilities in harsh environments across the world
- Experience from designing 160 floating structures (semisubmersibles, spar buoys, TLPs and ship shape) that are some of the most advanced in the world, including the largest semisubmersible in the world
- Access to unique deepwater jacket technologies to drive down costs and unlock acreage also on intermediate depths (50-70 meters) where monopiles and floaters are often less optimal
- Unique subsea technologies (such as dynamic power cables) and world-class offshore project execution
- Innovation in installation and execution to reduce the need for large, specialty vessels

- Large Norwegian construction site at Verdal available for optimization of supply chain for North Sea basin projects

Aker Offshore Wind has invested in Principle Power Inc., a US-based offshore wind technology company with a proven technology concept for a floating wind turbine foundation.

Principle Power has a strong technology brand in the offshore floating wind industry, allowing for further acceleration of development through their field-proven technology.

Aker Offshore Wind has a global and expanding portfolio of projects and prospects in South Korea, North America, Norway and the UK.

In Korea, the company owns a stake in KFWind, a consortium that has an MoU with Ulsan City for three potential floating sites for development. Gross capacity for the project is expected to be up to 1.5GW, with 500MW in the first phase. In the US, the company is part of a consortium that aims to develop about 150MW of floating offshore wind in the Redwood Coast Offshore Wind project, offshore northern California.

In Europe, the company is involved in early-phase prospects in Scotland and Norway. These opportunities are at a less mature stage than the US and Korean projects.

## Aker Carbon Capture

**Aker Carbon Capture is a dedicated carbon capture technology provider that offers a reliable, field-proven and HSE-friendly way of enabling industrial companies to remove CO2 emissions from their respective production processes.**

Aker Carbon Capture was founded on more than 20 years of experience developing carbon capture technologies.

The company’s mission is to mitigate the environmental cost of industry for a brighter, more sustainable future. To accomplish this goal, it has developed technologies and solutions including a proprietary carbon capture amine solvent.

The company has developed patented solutions and technologies to serve a range of industries with carbon emissions, including cement, waste-to-energy, refineries, and steel.

The company’s market potential grows every day, as a rising number of industrial companies look for ways to manage their CO2 emissions. Carbon capture is seen as a key measure to reduce global CO2 emissions, hence implementing carbon

capture across industries, in combination with renewables and energy efficiency, is essential to meet the Paris Agreement targets. Large CO2 emitters in cement manufacturing, waste-to-energy, steel production, and other heavy industries need to invest to become carbon neutral and maintain their license to operate.

Although Aker Carbon Capture’s scope in the CCUS value chain is limited to the carbon capture phase it is acknowledged that activities related to transportation, usage and storage impacts the business. It is expected that the vast majority of the CO2 captured will be permanently stored, while limited volumes will be utilized towards production of fertilizers, alternative fuels or enhanced oil recovery (EOR). The current market condition with declining oil price and increased climate focus makes the previous business case with EOR less attractive in the market.

## Technology and experience

**With over two decades of operational experience, delivering superior performance for customers in some of the toughest environments, Aker Carbon Capture's technology is validated by an extensive track-record and long-term operations at industrial scale.**

Aker Carbon Capture's technology is cost-effective, robust and flexible, meaning it can be applied to existing plants or new builds. The company's process technology has recorded more than 50,000 operating hours and is certified by DNV GL for multiple applications.

The company's proprietary carbon capture process uses a mixture of water and organic amine solvents to absorb the CO<sub>2</sub> which gives a high capture rate with low energy consumption and very little degradation, and has ambitions to accelerate technology investments to maintain and strengthen its market position.

The company's Just Catch modular carbon capture offering is applicable across a wide range of industries. The Just Catch solution covers both mid-range and large-scale emitters, with emissions of up to 100,000 metric tonnes per year. The solution has been designed for easy transport and construction, as the modules can be transported by trucks to the site in containers. The delivery time for a Just Catch unit is about 15-21 months.

Big Catch is the name of the offering for large emission points of about 400,000 tonnes per year, or more. These plants are engineered and optimized to meet the specifications and requirements of each site and client.

The Sleipner field, the world's first offshore CO<sub>2</sub> storage project, came on stream in 1996. The Sleipner platform was delivered by Aker and has been sequestering more than 1 million tons of CO<sub>2</sub> in an aquifer ever since. Today, data from Sleipner is provided as an open source towards companies venturing into offshore storage to share knowledge and expertise in this growing market.

In 2007, SOLvit, an eight-year EUR 37 million research program, was launched. The program focused on developing energy efficient and environmentally friendly post-combustion carbon capture systems for large-scale industrial CO<sub>2</sub> emissions. Work was conducted within the fields of solvent development, process optimization and operational understanding through pilot plant testing.

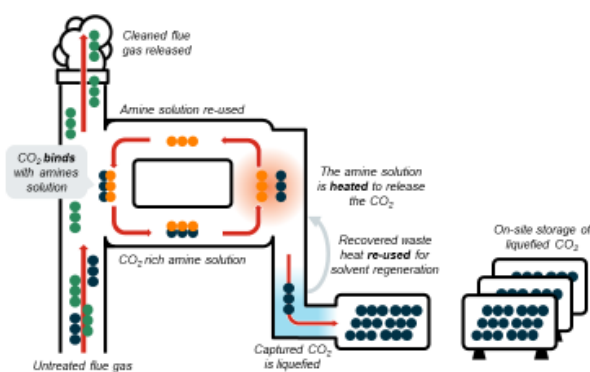
Several new solvents were developed in the project, offering up to 35% improvement in energy consumption relative to standard MEA (monoethanolamine) along with significantly improved degradation and environmental performances. Through the various tests, the Aker Carbon Capture proprietary solvent was tested for thousands of hours resulting in a unique solvent with extremely low degradation, low energy consumption and an industry leading HSE profile.

In 2008 the company invested in a mobile capture facility, the Mobile Test Unit (MTU) which can demonstrate test results for various types of flue gases. This facility has been actively used in various locations across the globe, including Norway, Scotland, and the US, and is in 2020 installed at the Preem refinery in Sweden. The unit is popular among customers with flue gases that need further verification, as well as for customers planning large scale plants and that would like to perform risk-reducing activities.

Since 2012, Aker Carbon Capture has gained extensive experience from operation of the amine plant at the Technology Centre Mongstad, Norway, which the company designed and delivered.

The company in 2019 and 2020 signed its first firm contracts for the delivery of both Just Catch and Big Catch units. In Norway, the company has signed a framework contract with Norcem, a subsidiary of HeidelbergCement, to design and deliver a carbon capture plant at the Norcem cement plant in Brevik, Norway. The contract has an estimated value of NOK1.7 billion for Aker Carbon Capture and the project will commence in early 2021. The project is part of the Norwegian government's Longship project to demonstrate the full CCS value chain. This is also the first industrial scale application of CCS at a cement plant, anywhere in the world.

In the Netherlands, Aker Carbon Capture has signed a contract to deliver a Just Catch unit to the Twence-operated waste-to-energy plant in the town of Hengelo. Here, the captured CO<sub>2</sub> will be transported to a nearby greenhouse and used as fertilizer. The project, which is pending government funding, will be an early demonstration of the market for Carbon Capture and Utilization.



## Best-in-Class HSE features

A Health, Safety and Environment (HSE) friendly CO<sub>2</sub> capture process is essential when realizing carbon capture at scale. Aker Carbon Capture's patented, proprietary solvent and technologies are designed to prevent hazardous emissions.

### Best-in-Class HSE Profile

- Non-toxic
- Biodegradable
- Low degradation and waste
- Minimum corrosion

### Cost-Efficient and High-Performing

- CO<sub>2</sub> capture rate of about 90 percent

- Minimum emission to air
- More than 99 percent CO<sub>2</sub> purity
- Minimum liquid waste
- Less energy requirement
- Cheaper materials with a lifetime of more than 25 years
- Easy operation and monitoring
- Efficient reclamation with HSS removal
- Improved energy consumption

## Mainstream Renewable Power

Aker Horizons on January 19 agreed to acquire 75 percent of Mainstream Renewable Power, a leading independent renewable energy company with assets and prospects in onshore and offshore wind and solar. Mainstream a portfolio of projects in operation and under construction, a large project development pipeline and significant identified project opportunities.

Mainstream has a global footprint and a proven track record across renewable power industries. Mainstream's global organization consists of 335 employees across 11 countries, with capabilities covering the entire lifespan of renewable energy assets, from sourcing and development through to operations.

Mainstream's current portfolio includes 1.4 GW (net) in operation or under construction, primarily made up of

onshore wind and solar assets in Chile and South Africa. Mainstream furthermore has an advanced pipeline of 700 MW (net) expected to reach financial close in 2021, and more than 9 GW of other development assets, in addition to several large-scale offshore wind opportunities.

The transaction is expected to close in Q2 2021, subject to customary closing conditions, including regulatory approvals.

## Experience

Since its establishment in 2008, Mainstream has developed and brought forward assets totaling 6.4 GW of renewable energy capacity to financial close and sold a significant number of wind and solar projects to world class counterparties.

Mainstream is one of the most successful independent developers of offshore wind at scale globally. It has developed, and later divested, projects representing 22

percent of the UK's offshore wind capacity either in operation or under construction.

## Strategic benefits to Aker Horizons

Adding Mainstream to its portfolio enables Aker Horizons to accelerate the development of a global position within renewable energy and marks a significant step towards realizing its planet-positive ambitions.

The deal gives Aker Horizons a platform and key competencies to strengthen the Aker Horizons' group and its capacity to scale new ventures. Giving access to a deep pool of industrial experience from the realization of 6.4 GW of renewable energy projects. Combining Mainstream's

expertise, experience and premium renewable assets with Aker's financial and industrial capabilities and track record of developing successful industrial companies. Based on the pipeline, Aker Horizons expect plan to bring 5.5 GW of renewable assets to financial close globally by 2023.

## New Ventures

Since Aker Horizons has a broadly defined mandate to invest in renewable energy and green technologies that contribute to reducing greenhouse gas emissions, it is actively pursuing value-creating opportunities in several segments that fall within its mandate.

Potential investments include opportunities within onshore wind power, solar power technology, hydrogen solutions and more. Aker Horizons is evaluating different ways to enter these markets, whether through acquisition of, or partnering with, established players or setting up new entities based on

the competency and experience across the Aker companies, or a combination of the above. The timing of the launch of new ventures is uncertain, but the company is prepared to act quickly to capitalize on attractive investment opportunities.



# Green Finance Framework

As an investment company holding shares in operating subsidiaries and affiliates Aker Horizons' mission is to drive accelerated decarbonization by investing in companies engaged in renewable energy and green technologies. It is inherent in the business model of investment companies that investments happen when opportunities arise. To finance these investments, and thereby promoting low-carbon and climate-resilient development, we have put in place this Green Finance Framework (the "Framework").

This Framework is aligned with the ICMA Green Bond Principles (the "GBP") and the LMA/LSTA Green Loan Principles (the "GLP"), both published in 2018. The Framework enables Aker ASA, Aker Horizons and any of the subsidiaries of Aker Horizons, to issue Green Bonds, establish Green Loans, and enter into other types of debt instruments (collectively referred to as "Green Finance Instruments") to in whole or in part finance or refinance investments in renewable energy assets and projects, production of hydrogen (both green and blue) as well as investments in further developing the full-scale application of Carbon Capture technologies and solutions ("Green Projects"), as further described below.

In line with the GBP and the GLP, this Framework includes information on use of proceeds, process for project evaluation and selection, management of proceeds and reporting. Each Green Finance Instrument issued under this Framework should in their relevant transaction documentation refer to this Framework.

We acknowledge EU's Environmental Objectives and the EU Taxonomy with the relevant Technical Screening Criteria as proposed at this point in time. Our aim is not to make a statement on Taxonomy alignment of the investments qualifying as Green Projects under this Framework, but will make an assessment when the relevant EU regulations are in full force and effect, and report on our alignment in accordance with the requirements.

## Use of proceeds

The net proceeds from Green Finance Instruments issued under this Framework can be allocated to Green Projects.

Only such assets and projects in Aker Horizons and its subsidiaries that comply with the list of Green Projects below are deemed eligible to be financed with Green Finance Instruments. Green Finance Instruments can be used for the financing of new assets and projects. New assets and projects are defined as ongoing Green Projects and those taken into operation less than 12 months prior to the issuance of a Green Finance Instrument.

For the avoidance of doubt, Green Finance Instruments will not be used to finance neither investments to generate fossil energy or nuclear energy, nor investments linked to research and/or development within weapons and defense,

potentially environmentally negative resource extraction, gambling or tobacco.

Further, the following investments are not eligible under this Framework:

- Renewable energy projects and infrastructure which directly supply electricity to oil and gas activities;
- The specification and application of CCUS technology to projects which are directly linked to enhanced oil recovery (EOR);
- CCU technology and projects where the use of the captured carbon is likely to lead to an increase in net-emissions unless such increase is offset by other projects with a decrease in net-emissions and demonstrate a clear environmental benefit across the portfolio of carbon capture projects.

## Green projects

The following Green Projects may be financed by Green Finance Instruments issued under this Framework. This also includes acquisitions of such projects as well as investments in shares and equity participations in companies operating in any of the Green Projects categories listed below. In addition, the net proceeds from Green Finance Instruments can also be used to refinance loans related to acquisitions and investments in projects and shares in companies where the main activity is in any of the Green Projects categories listed below:

### Renewable energy

- Investments and related expenditures made to develop, construct and install renewable energy generation

projects and assets within onshore and offshore wind power, solar power and hydropower<sup>2</sup>, or the repair and maintenance of such assets as well as expenditure for the improvement of such assets and projects which results in significantly increased power generation efficiency.

- Investments into infrastructure fully dedicated towards renewable energy production, such as, but not limited to, foundations, mooring systems, grid development and grid connection.
- R&D designated towards improvement of existing, and development of new, products and solutions which will likely increase the power generation efficiency and/or reduce the environmental impact of construction,

<sup>2</sup> Subject to meeting the requirement of either (i) CO<sub>2</sub> emissions of electricity generated < 100gCO<sub>2</sub>e/kWh calculated over the lifetime of the asset or (ii) power density of the facility > 5W/m<sup>2</sup>.

installation, operation and maintenance of renewable energy projects and infrastructure.

### Carbon capture

- Investments and related expenditures directed towards developing carbon capture technologies and solutions as well as expenditure for the improvement of such technologies and solutions which results in significantly increased capture efficiency.
- Investments into infrastructure fully dedicated towards development of carbon capture technologies and solutions.
- R&D designated towards development of new technologies, products and solutions related to carbon capture, including investments in pilot projects where carbon could be captured and released as part of R&D towards full-scale commercial applications that will have a clear environmental benefit.

### Hydrogen production

- Investments and related expenditures made to develop, construct and install hydrogen production projects and

assets, including electrolytical hydrogen production using renewable energy and/or thermochemical hydrogen production using natural gas as feedstock in combination with carbon capture utilization and storage (CCUS) technologies, or repair and maintenance of such assets and projects as well as expenditure for the improvement of such assets and projects which results in significantly increased production efficiency or in emissions reductions.

- Investments into infrastructure fully dedicated towards hydrogen production such as, but not limited to, production facilities related to conversion of hydrogen to end-product (e.g. ammonia, synfuel, etc.)<sup>3</sup>, storage, distribution, and transportation.
- R&D designated towards improvement of existing, and development of new, products and solutions which will reduce the environmental impact of construction, installation and maintenance of hydrogen projects and infrastructure.

## Process for project evaluation and selection

Aker and Aker Horizons have established internal committees which evaluate, prioritize and select Green Projects to be financed with proceeds from Green Finance Instruments. Part of this process will be to ensure that the Use of Proceeds from selected Green Projects are fully in line with the defined Green Project categories.

Relevant business units in Aker ASA, Aker Horizons and subsidiaries of Aker Horizons will nominate assets and projects to be evaluated, depending on which company is the issuer of a Green Finance Instrument:

- For Aker, eligible Green Projects which Aker Treasury department recommend being financed from Green Finance Instruments will be presented to the already established Finance Committee, which makes the decisions. The Finance Committee in Aker consists of the Chairman of the Board, the President & CEO and the CFO.
- For Aker Horizons and each of its subsidiaries, a committee consisting of the respective CEO, CFO and Investment Director (the Green Finance Committee) in each of the companies will evaluate and select Green

Projects to be financed with proceeds from Green Finance Instruments.

The respective committees will, in consultation with the Aker Treasury department, be responsible of including eligible Green Projects in the portfolio of Green Projects and keep a register of all Green Projects financed by Green Finance Instruments. Moreover, all decisions made by the Green Finance Committee will be documented and filed for transparency purposes.

Further, as part of the evaluation process related to a project within the Carbon Capture category, the Green Finance Committee will identify, and using its best endeavors quantify<sup>4</sup>, the environmental benefit relative to the baseline emissions of a production facility without the carbon capture technology (whether it is a cement factory, gas power plant, hydrogen plant, etc.) to ensure clear environmental benefits are achieved across the portfolio of capture projects by applying the carbon capture technology.<sup>5</sup>

## Management of proceeds

An amount equal to the net proceeds from issued Green Finance Instruments will be earmarked for financing and refinancing of Green Projects as defined by this Framework.

The finance department of Aker or Aker Horizons will endeavor to ensure that the value of Green Projects at all

times exceed the total nominal amount of Green Finance Instruments outstanding. If a Green Project already funded by Green Finance Instruments is sold, or for other reasons no longer qualifies as a Green Project, it is the intention to replace that asset or project by other qualifying assets or projects as soon as possible. Due to the opportunity-driven

<sup>3</sup> Excluding conversion of Blue Hydrogen to synfuel as well as to other end-products which have or could have a negative environmental benefit.

<sup>4</sup> An example for Norcem is given in Gassnova's calculation method: [Carbon footprint calculator | tool to calculate the amount of CO2 emitted \(ccsnorway.com\)](https://www.gassnova.no/en/Carbon-footprint-calculator-tool-to-calculate-the-amount-of-CO2-emitted-ccsnorway.com)

<sup>5</sup> Two projects for the application of Aker Carbon Capture technology are at advanced stages of development. These are the Brevik cement plant in Norway where captured carbon will be permanently stored, and the Twence waste-to-energy plant in the Netherlands where captured carbon will be utilized as fertilizer in greenhouses and contribute to the replacement of natural gas. Considering the impact of Aker Carbon capture technology on both projects we expect a clear environmental benefit.

way in which investment companies enter and exit projects, periods where some proceeds are temporarily unallocated may occur. However, an amount equal to net proceeds from an issued Green Finance Instrument will be fully allocated to Green Projects before the maturity of that Green Finance Instrument.

Net proceeds from Green Finance Instruments awaiting allocation to Green Projects will be invested in short-term money market instruments or held as bank deposit in accordance with the overall cash management policy of Aker. For avoidance of doubt, funds awaiting to be allocated will be subject to the same exclusions as stated earlier in this Framework.

## Reporting

To enable investors, lenders and other stakeholders to follow our issuance of Green Finance Instruments and the Green Projects being funded, a Green Finance Report will be published on the respective issuing company's website on an annual basis as long as there are Green Finance Instruments outstanding.

The report will include an overview of the allocation of proceeds as well as the environmental impact of the investments. The finance department of Aker or Aker Horizons will endeavor to ensure that double reporting of allocation as well as impacts are avoided.

### Allocation report

- Amount of Green Finance Instruments outstanding, divided into bonds and loans
- Amounts allocated to each Green Project category and the share of new financing versus refinancing, and, to the extent relevant, the expected look-back period for refinanced Green Projects.

- Examples of Green Projects that have been funded by Green Finance Instruments
- An amount of net proceeds awaiting allocation to Green Projects (if any)

### Impact report

The impact report aims to disclose the environmental impact of Green Projects financed under this Green Finance Framework. Impact reporting will, to some extent, be aggregated and depending on data availability, calculations will be made on a best intention basis.

The impact assessment may, where applicable, be based on the metrics listed below.

#### Renewable energy

- Number of installed floating wind turbines financed by Green Finance Instruments
- Installed power generation capacity (GW), divided into energy source
- Annual power generation (GWh), divided into energy source
- Avoidance of CO2 emissions (tonnes of CO2e)
- Description of relevant infrastructure investments

#### Carbon capture

- Number and volume of contracted CCS development projects not related to enhanced oil & gas recovery
- Installed CCS capacity (tonnes of CO2e)
- Annual volume of CO2 emissions captured (tonnes of CO2e)
- For the portfolio of carbon capture projects, the reduction in CO2 emissions by a customer of Aker Carbon Capture measured immediately after implementing its carbon capture solution (nominal and/or percentage reduction in CO2e for CCS projects vs. CCU projects)

#### Hydrogen assets

- Number of hydrogen projects under development (#, MW)
- Installed hydrogen capacity (kg H2)
- Annual hydrogen produced (kg H2)
- Reduction/avoidance of CO2 emissions (tonnes of CO2e)

## External review

Aker and Aker Horizons has obtained an Eligibility Assessment from DNV GL to confirm the transparency of this Green Finance Framework and its alignment with the ICMA Green Bond Principles and the LMA Green Loan Principles. The

Second Party Opinion will be made available on Aker's and Aker Horizons' websites together with this Green Finance Framework.

## APPENDIX

### The offshore wind energy market

#### Drivers for Deepwater Wind Power

- 80% of offshore wind resources found in water depths of >60 meters
- Deepwater Technology now available
- Not In My Back Yard (NIMBY)
- More Wind Energy Further From Shore



#### Capacity factor by wind concept:



The offshore wind market is a truly global market and has gained significant traction since the 2000s with a current installed capacity around 29GW globally<sup>6</sup>. As of 2019, offshore wind has become a significant part of European power generation with an installed capacity of about 22GW, representing a fivefold increase over 2009 levels of 4GW<sup>7</sup>. During the last decade, energy generated from offshore wind grew more than 30% annually in Europe<sup>8</sup>.

Offshore wind can broadly be categorised into two main technologies used depending on water depth: bottom-fixed and floating.

About 80% of all offshore wind resources are in waters of 60 meters and deeper where the simplest bottom-fixed foundations are technically infeasible and / or economically unattractive<sup>9</sup>. Floating foundations for offshore wind turbines are a natural response to this challenge and represents a rapidly maturing technology. While project planning and execution differ, large LCOE synergies can be leveraged between bottom-fixed and floating offshore wind projects as the two cost bases overlap for several key components. Most notable are synergies in turbine design, export cables and substations/landfall. This overlap is expected to contribute to rapidly driving down the cost of floating offshore wind projects. Further focus areas for lowered LCOE are connected to pairing local content expectations with industrialization and large-scale supply of floaters and their associated systems as well as the floating power system.

Floating offshore wind holds some key advantages compared with bottom-fixed, particularly in terms of placement for optimum wind resource and the reduction of impact on external stakeholders. Further from shore some of the challenges associated with onshore and near shore bottom-fixed offshore wind, such as visual pollution and noise emission into the oceans, are reduced. By locating the wind farms away from fishery zones, one limits disturbance to the industry. Floating offshore wind farms can also be located outside of traditional shipping routes and military training areas.

Floating wind farms will be able to tap into areas with generally higher and more consistent wind speeds due to location further from shore. All else equal, increased wind speeds and more consistent wind will increase the overall load factor of the wind farm, thereby increasing the energy production of the wind farm. Furthermore, installation of turbines is generally less weather dependent as turbines and foundations can be assembled and pre-commissioned at quayside with onshore facilities before being towed offshore.

The market for floating offshore wind is in an early phase of development, compared to bottom-fixed, with an installed capacity of 124MW but is expected to grow significantly in the coming years. Growth projections continue to be raised year over year and the potential is vast. Most of the growth is expected to take place in Asia and Europe. However, projections for North America are also growing. Due to the current immaturity of the industry, different market forecasts have yet to converge on a narrow band of expected installed capacity for the years and decades to come.

Most floating projects installed to date have been single-unit for demonstration purposes. Demonstration projects have provided important learnings for de-risking the technology ahead of commercialisation and large-scale deployment. Notable pre-commercial projects include the 30MW Hywind Scotland project and 25MW WindFloat Atlantic already commissioned and the Kincardine and Golf de Lion projects which are in execution. These are projects structured in arrays with three or more turbines. The pre-commercial

<sup>6</sup> Lee, Joyce & Zhao, Feng (2020). Global Wind Report 2019. GWEC

<sup>7</sup> WindEurope (2020). Offshore Wind in Europe: Key trends and statistics 2019

<sup>8</sup> Reed, Stanley (2020). A New Weapon Against Climate Change May Float. The New York Times

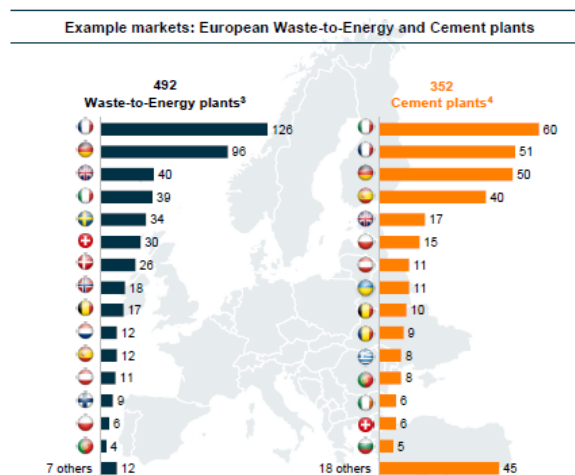
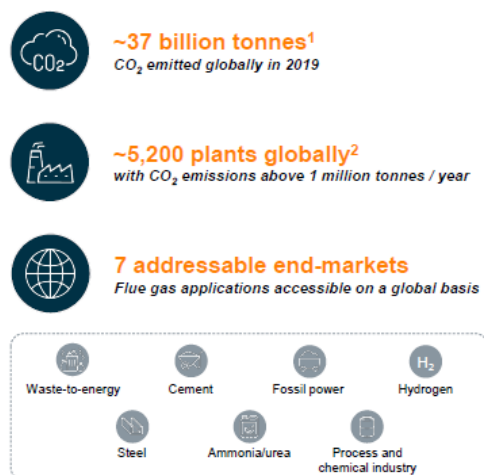
<sup>9</sup> Carbon Trust and Industrial Technology Research



projects provide industry training and testing of supply chains and have been as a steppingstone for floating wind towards commercial scale projects, also with respect to bankability.

## The market for carbon capture solutions

### A huge carbon capture market



The market for carbon capture solutions should still be considered in early development as the value chain is still developing in most geographies. A key milestone underway is the establishment of sufficient transportation and storage infrastructure which will receive the captured CO<sub>2</sub>. There are currently several ongoing initiatives such as the Northern Lights Project, the Greensand Project, Net Zero Teeside Project, Hynet North West Project and the Rotterdam Backbone Initiative (Porthos), which purpose is to develop the required infrastructure to transport and store CO<sub>2</sub> in reservoirs below the seabed. Due to the high capital requirement to roll-out the required infrastructure, the execution of the abovementioned initiatives and others are highly dependent on positive government investment decisions, which in several cases are still pending.

#### Market size and growth outlook

The global targets set in the Paris agreement to combat global warming, by keeping temperature levels below two degrees Celsius above pre-industrial levels, conditions that society needs to develop solutions to reduce the emissions of greenhouse gases. In addition to energy efficiency, transitioning to renewable energy sources and alternative fuels, it is foreseen that society needs to leverage carbon capture technology to meet emissions targets. This is underpinned by the fact that there are few other alternatives for low emission transitioning of processing industries, such as cement production. Against this backdrop governments have shown strong commitment to develop and support the adaptation of carbon capture technology.

The commitment to environmental targets thus entails a huge future demand for carbon capture solutions which is the backbone for the belief in a rapid development of a global carbon capture market. The market potential could be as high as ~2,400 large scale industrial carbon capture plants to meet the two-degree Celsius target in 2040.

It is expected that the market will grow quickly as the carbon capture value chain materialises and that the growth will further increase as the supply industry builds scale, reducing cost through scale-efficiency and standardisation. It is likely that carbon capture technology will follow a similar cost curve development as other mature technologies as energy production through wind and solar PV, which have seen a reduction in levelized cost of energy between 70-80% since 1995 (wind) and 2010 (solar PV). In addition to cost reduction, growth is expected to be highly driven by regulatory measures taken to reduce emissions, such as carbon-taxes, other carbon pricing initiatives as well as through a tightening carbon quota system with reduced amount of new quotas coming to market in the coming years.

#### Market regulation and public funding

Market development is currently dependent on governmental involvement in many regions. This is expected to be a key contributor, at least in the initial development phase of the CCUS value chain and the necessary supply chains. It is expected that governments will provide support through funding for CCUS infrastructure, in addition to implementing tightening emissions regulations and other national carbon pricing incentives and/or initiatives such as fines, giving industry players increased incentives to reduce emissions. Several regional initiatives have also been implemented to complement the national regulations. These initiatives are often more stringent than the national regulations. This includes, as an example, Copenhagen which has a stated goal to be the world's first carbon neutral capital city by 2025. Hence, the cost of carbon emission is a combination of emission trading systems, national carbon tax system as well as regional pricing initiatives and fines.

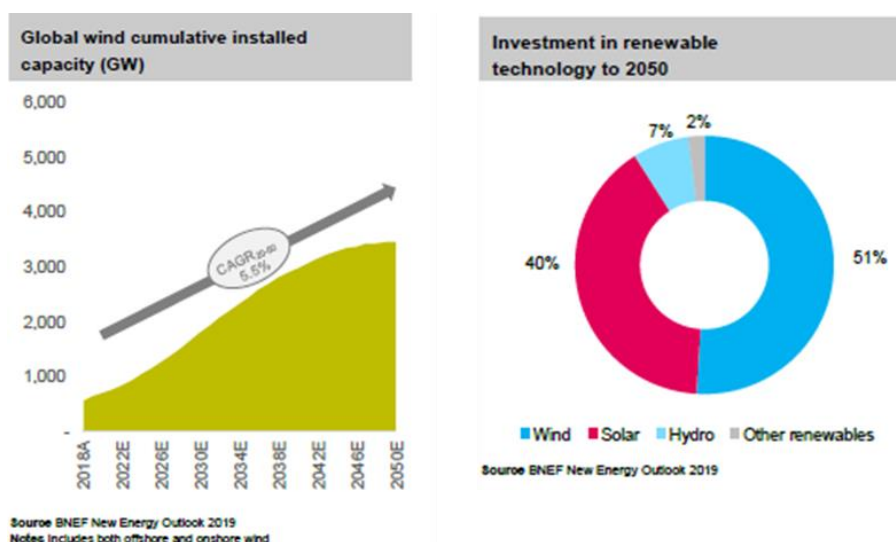
As of May 2020, there were 61 carbon pricing initiatives implemented or scheduled for implementation, whereof 31 related to emissions trading systems and 30 related to carbon taxes. Most of these initiatives are implemented on a national level. This implied that a total of 46 nations were putting a price on carbon. Going forward it is expected that several new initiatives will emerge, mostly in developed countries, and that many jurisdictions will deepen their carbon pricing and tax initiatives to better align with their climate goals.

From 2010 until 2021, the countries with an implemented carbon pricing initiative will have increased from 19 to 61. These countries represent more than 22% of all global greenhouse gas emissions planned in 2021. The EU has in addition established several vehicles to invest in solutions which support the transition to a zero-emission society by 2050. This includes, amongst other, the European Green Deal Investment plan which aim is to mobilise at least EUR 1 trillion in sustainable investment over the next decade.

## The onshore wind energy market

Renewable energy development is crucial to meet the increasingly important long-term global climate change and sustainability goals. Globally, governments' focus on such themes is demonstrated by the many global and regional pacts such as the Paris Agreement and country specific decarbonization targets. Large corporates and investors have also been increasingly emphasizing the importance of Environmental Social and Corporate Governance ("ESG") matters. These, together with the expected global population growth (c.2 billion people increase foreseen by 2050) and the forecast increase in global electricity demand by 62% by 2050 will drive significant renewable energy growth in the future.

The continued declining costs across all renewable energy sources have also underpinned the exceptional growth in installed capacity. In fact, dramatic reductions in the cost of onshore wind of 49% since 2010 have led to onshore generation being the cheapest source of new electricity generation across most of the world, with new onshore wind being cost competitive with new a even existing coal in much of the world.



### Market size and growth outlook

Most renewable energy growth is expected in emerging markets where there is still significant reliance on hydrocarbons and other conventional sources and where foreign investment and expertise is required to establish a sustainable renewable energy market. Bloomberg New Energy Finance ("BNEF") expects c. USD 10 trillion will be invested in renewable energy from 2018 to 2050, representing 77% of all investments in new energy generation globally. More than 50% of this is expected to be in wind.

In 2019, onshore wind electricity generation increased by an estimated 12%. Capacity additions began to grow again by 22% after stagnating during 2016-18. However, more efforts are needed: annual onshore wind capacity additions need to increase much more quickly through 2030 to get on track with IEA's Sustainable Development Scenario ("SDS"). Despite a 20% increase in capacity additions compared with 2018, onshore wind is not fully on track to reach the levels envisioned in the SDS and therefore needs improvement. Despite a modest recovery in recent years, onshore wind annual capacity additions need to grow much more quickly. In order to reach the SDS level by 2030 would require annual generation increases of 10%. To get on track with the SDS, yearly net capacity additions need to expand continuously from around 55 GW in 2019 to 108 GW in 2030.

Onshore wind developers and manufacturers has experienced supply chain disruptions as the sector has developed a globally interconnected supply chain, with manufacturing located across all continents. In addition to equipment supply disruptions, lockdown measures have slowed construction and permitting activity, as they often require workers to stay at home or developers to implement social-distancing rules at construction sites. The pandemic's impact is expected to result in delays in onshore wind

deployment in the short-term. However, longer-term prospects depend on the implementation of planned government targets and policies and additional measures reducing financing risks for wind projects.

## The market for solar power technology

### The market for polysilicon

The solar market has experienced a strong growth over the last decade and at the same time seen large utility-scale solar plants become a standard, whereas mainland China has been the primary driver for increased capacity over the last years. The good prospects for the industry fuelled significant investments into new polysilicon production capacity driving the market into oversupply. The growth in the solar market has weakened over the last couple of years driven by decline in installations in China and a weakened US demand driven by high tariffs and the USA-China trade war. The significant increase in polysilicon capacity and slower market growth have resulted in a sharp decline in polysilicon prices, falling below the cost of production. The mentioned market developments have resulted in several producers being forced to shut down their producing facilities.

The global demand for solar PV is expected to rebound with solid growth driven by global political initiatives to decarbonize energy production. The global solar market can be divided into the four major markets China, United States, Europe and the Rest of the World (RoW). The low barriers of entry and non-complex production have resulted in the solar value chain and associated production capacity being dominated by the Chinese players. As a result, the US solar market is currently dependent on the Chinese for imported solar wafers, cells and modules despite adequate domestic polysilicon production. For instance, in 2019, > 90% of solar panels installed in the US were imported mostly from Chinese-owned companies located outside China in order to avoid US tariffs. Hence, driven by the increased political awareness and the COVID-19 pandemic there is now an increasing momentum to re-establish a non-Chinese supply chain in the solar market, and several market initiatives are ongoing.



### The US-China trade war

The trade war between the US and China has been ongoing since 2021 when the US Department of Commerce (US DoC) imposed approximately 25% tariffs on all Chinese solar panels/cells after an investigation revealed that the Chinese were dumping state subsidies solar panels on the US market. The response from the Chinese were to impose a 57% tariff on all solar grade polysilicon imported from the US. The tariffs have changed over the years, but the current status is a 25% tariff on solar panels imported to the US from China and a 57% tariff on solar grade polysilicon from the US to China. Part of the Phase 1 trade deal between the US and China involved a commitment from the Chinese to purchase USD 120bn worth of US goods in 2020 and USD 132bn in 2021, whereby US solar grade polysilicon was highlighted as one of the items in the agreement. Execution of the trade deal has been delayed due to the COVID-19 pandemic.

### The market for silane gas

Silane gas is a niche product mainly used in the production of LCD/LED displays, but also used in semiconductor- and solar cell production to carry out the deposition of thin layers of silicon. The semiconductor market is expected to see a continued stable upward trajectory following a normalization after COVID-19. The market growth is set to be driven by an increasing demand for electronics devices worldwide, and to be further fuelled by an increased importance of AI, IoT and machine learning.

A growing market opportunity for silane gas is its potential vital role development of lithium ion (Li-ion) batteries. Li-ion batteries have grown in popularity over the last decades and is today the market leader in portable electronic devices driven by their advantage over other forms of battery technology, including higher energy density, better self-discharge rate and lower maintenance requirement. Silicon is widely considered as the most promising anode material for Li-ion batteries due to its high theoretical capacity at 10x that of graphite, implying that the capacity will be higher the more silicone one can get into the anode.

# The market for hydrogen

Hydrogen can be used as a feedstock, a fuel or an energy carrier and storage, and has many possible applications across industry, transportation, power generation and building and heating sectors. Hydrogen does not emit CO<sub>2</sub> and almost no air pollution when used, and hydrogen thus offers a solution to decarbonise several sectors.

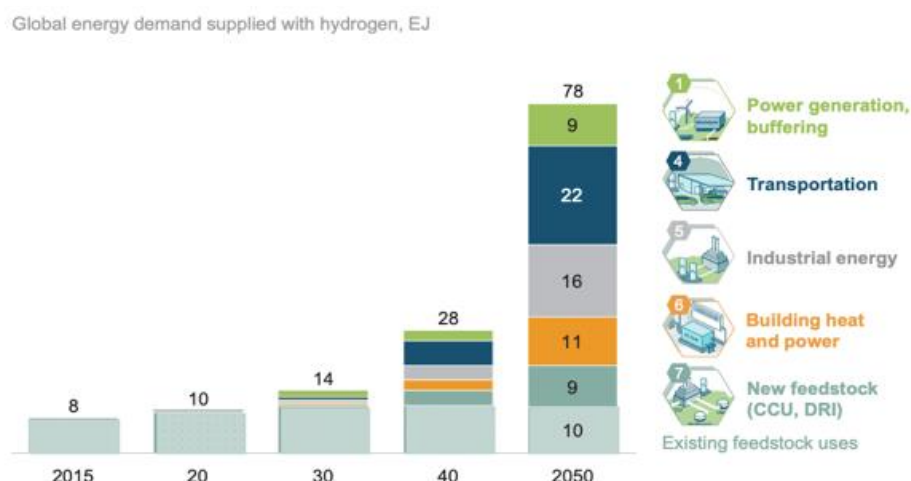
Due to the benefits of no CO<sub>2</sub> emissions from utilizing hydrogen, hydrogen is a key pillar of the decarbonization strategies to reach carbon neutrality for governments and regulators around the world, including EU, Spain, France, UK and Germany.

Yet, today, hydrogen represents a modest fraction of the global and EU energy mix, and is still largely produced from fossil fuels, notably from natural gas or from coal, resulting in the release of 70 to 100 million tonnes CO<sub>2</sub> annually in the EU. For hydrogen to contribute to climate neutrality, it needs to achieve a far larger scale and its production must become fully decarbonised.

## Market size and outlook

In the past, there have been peaks of interest in hydrogen, but it did not take off. Today, the rapid cost decline of renewable energy, technological developments, and the urgency to drastically reduce greenhouse emissions, are opening up new possibilities. Many indicators signal that we are now close to a tipping point. Every week new investment plans are announced, often at a gigawatt scale. Between November 2019 and March 2020, market analysts, according to the EU, increased the list of planned global investments from 3.2 GW to 8.2 GW of electrolyzers by 2030 (of which 57% in Europe).

There are many reasons why hydrogen is a key priority to achieve the European Green Deal and Europe's clean energy transition. Renewable electricity is expected to decarbonise a large share of the EU energy consumption by 2050, but not all of it. Hydrogen has a strong potential to bridge some of this gap, as a vector for renewable energy storage, alongside batteries, and transport, ensuring back-up for seasonal variations and connecting production locations to more distant demand centres. In its strategic vision for a climate-neutral EU published in November 2018, the share of hydrogen in Europe's energy mix is projected to grow from the current less than 2% to 13-14% by 2050.



Investment in hydrogen will foster sustainable growth and jobs, which will be critical in the context of recovery from the COVID-19 crisis. The EU commission's recovery plan highlights the need to unlock investment in key clean technologies and value chains. It stresses clean hydrogen as one of the essential areas to address in the context of the energy transition and mentions a number of possible avenues to support it.

According to the EU, cumulative investments in renewable ("green") hydrogen in Europe could be up to EUR 180-470 billion by 2050, and in the range of EUR 3-18 billion for low-carbon fossil-based ("blue") hydrogen.

## Hydrogen production processes

Low-carbon hydrogen may be produced through a variety of processes:

- 'Electricity-based green hydrogen' is hydrogen produced through the electrolysis of water (in an electrolyser, powered by electricity), and with the electricity stemming from renewable sources. The full life-cycle greenhouse gas emissions of the production of renewable hydrogen are close to zero. Renewable hydrogen may also be produced through the reforming of biogas (instead of natural gas) or biochemical conversion of biomass, if in compliance with sustainability requirements.
- 'Fossil-based hydrogen with carbon capture' refers to hydrogen produced through a variety of processes using fossil fuels as feedstock, mainly reforming of natural gas where greenhouse gases emitted as part of the hydrogen production process are captured.