



Alder.

Sustainability Report 2019

Alder is a Nordic investment fund with the goal of creating good opportunities for sustainable technology companies to accelerate growth.

All our companies are able to deliver an environmental benefit, such as reduced consumption of energy and resources, reduced emissions to air and water and reduced waste, contributing to the UN Sustainable Development Goals.

In the role of an active owner, we add skills and capital, along with a wide network of industrialists and experts who can strengthen the boards and provide strategic support.

11
Years of
Sustainable Investing

10 Investments
5 Exits
5 Portfolio companies
31 December 2019

Current portfolio companies, 31 December 2019:

2,086 mSEK Sales
1,192 Employees
125 mSEK EBITDA
10% Average R&D % sales

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Letter from the Alder Team

We are proud to present our 2019 Sustainability Report. Sustainability is in the core of our value creation proposition and the fundamental reason for being - our Why.

Alder's Investment Belief is that a long-term value creation strategy must incorporate the principles of sustainability.

Our world is changing, with climate change, resource scarcity, demographic shifts and technological innovation. We invest in companies that are likely to be successful throughout these changes, and which can contribute to solutions to some of the challenges that we face.

Companies that are well positioned and resilient in a changing world are more likely to provide value growth, at lower risk, to our investors.

When we make our investments, we always look for a value proposition based on an environmental benefit. We use the United Nations Sustainable Development Goals (SDG:s) as a framework for the global challenges that we address through our portfolio companies.

All of our portfolio companies contribute to the SDG:s and their growth and success will have a positive impact on the environment. We also work continuously with our portfolio companies to address material sustainability topics in their operations.

We hope that this report will help the reader to better understand what sustainability means to us in practice. We describe our approach to sustainable investing and share sustainability highlights and KPI:s from our portfolio companies.

We look forward to continuing our sustainability efforts, building long term value for our planet as well as for our investors, customers, employees and for the communities in which we operate.

The Alder Team



From the top left: Ina Smolander, Henrik Flygar, Keiward Pham, Zacharias Rosenlew, Jonas Frick, Åsa Mossberg, Henrik Blomé, Henrik Lindholm, Lena Wahlberg, Arash Raisse, Thomas Nilsson and Dag Broman.

Alder's WHY:

To generate attractive returns by owning and developing companies that improve the long term sustainability of our environment.

Two dimensions of sustainability

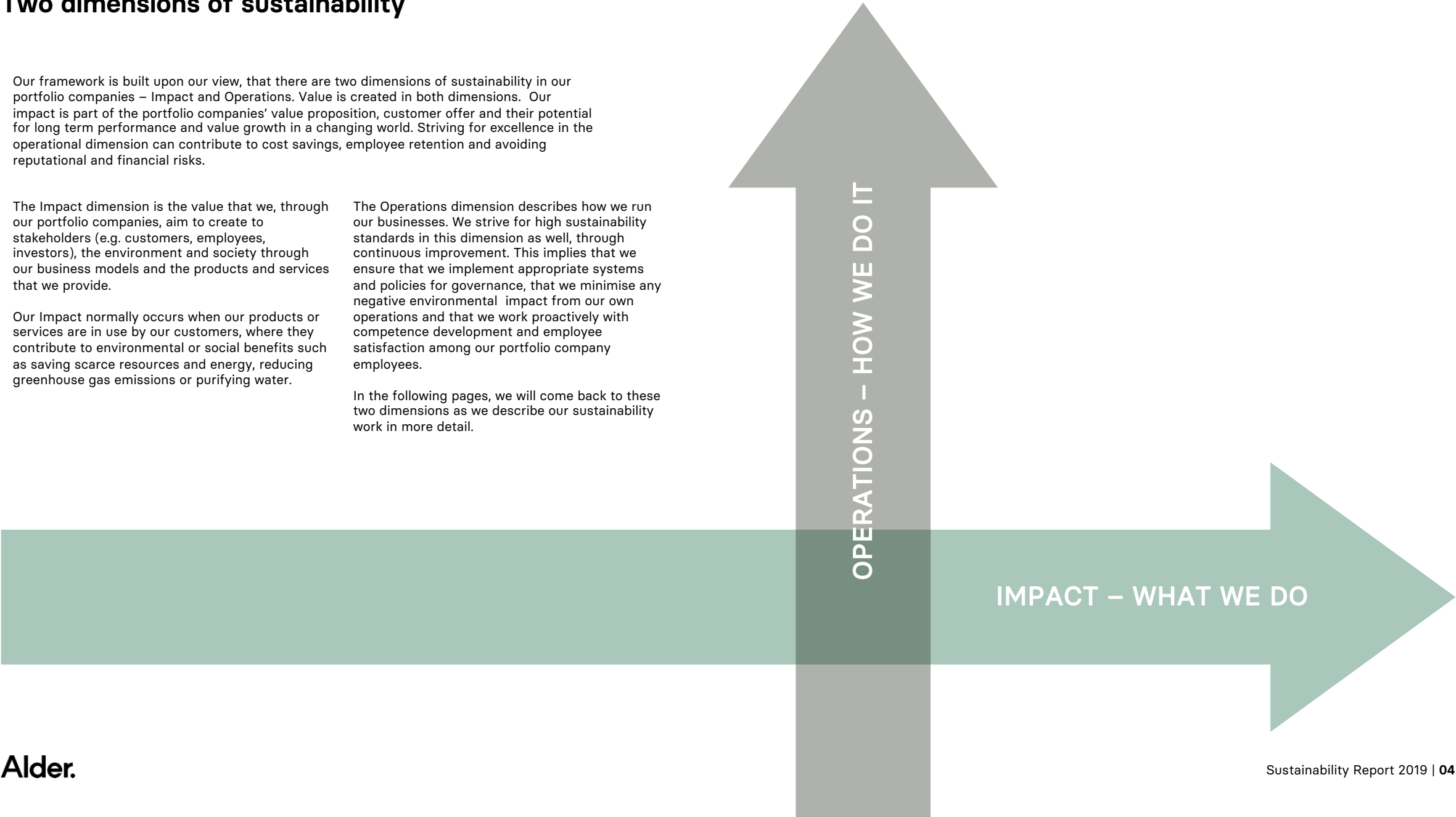
Our framework is built upon our view, that there are two dimensions of sustainability in our portfolio companies – Impact and Operations. Value is created in both dimensions. Our impact is part of the portfolio companies' value proposition, customer offer and their potential for long term performance and value growth in a changing world. Striving for excellence in the operational dimension can contribute to cost savings, employee retention and avoiding reputational and financial risks.

The Impact dimension is the value that we, through our portfolio companies, aim to create to stakeholders (e.g. customers, employees, investors), the environment and society through our business models and the products and services that we provide.









Our Impact normally occurs when our products or services are in use by our customers, where they contribute to environmental or social benefits such as saving scarce resources and energy, reducing greenhouse gas emissions or purifying water.

The Operations dimension describes how we run our businesses. We strive for high sustainability standards in this dimension as well, through continuous improvement. This implies that we ensure that we implement appropriate systems and policies for governance, that we minimise any negative environmental impact from our own operations and that we work proactively with competence development and employee satisfaction among our portfolio company employees.

In the following pages, we will come back to these two dimensions as we describe our sustainability work in more detail.



Portfolio Company Impact – Contribution to the Sustainable Development Goals

<div>2</div> <div>ZERO HUNGER</div> <div></div>	Satel: Precision farming, enabled through satellite communication, estimated to contribute to 10-20% higher farm productivity in the EU. ²		<p>Alder continuously seeks to increase the positive impact from the portfolio companies' operations. In this context, focus is on the impact created through the companies' product or service offering - the impact will be part of the customer value creation. The UN Sustainable Development Goals or SDG:s are used as a framework to track the impact of Alder's portfolio companies as they strive to increase impact through product development and growth.</p>		
<div>3</div> <div>GOOD HEALTH AND WELL-BEING</div> <div></div>	Scanacon: Safe handling of hazardous acids, minimizing manual operation and mitigating workplace health risks.				
<div>6</div> <div>CLEAN WATER AND SANITATION</div> <div></div>	Nordic Water: Contributes to purifying 30 million m³ of water every day in currently installed systems.	Satel: Contributes to the reliability of important utilities, including supply of drinking water.	Scanacon: Significant reduction in water use in stainless steel production through recycling system.		
<div>7</div> <div>AFFORDABLE AND CLEAN ENERGY</div> <div></div>	Aidon: Smart meters support energy saving. In a UK study ¹ , 86% of smart meter customers made energy saving behaviour changes.	Satel: Reliable communication solutions for utilities contributes to the reliability of electricity distribution	Umia: Identifying and delivering energy efficient solutions in buildings.		
<div>11</div> <div>SUSTAINABLE CITIES AND COMMUNITIES</div> <div></div>	Nordic Water: Compact filter solutions saving some 85% of space vs. conventional solutions, enabling high quality water treatment in urban areas.	Satel: Infrastructure solutions for public transport contribute to sustainable city transport solutions			
<div>12</div> <div>RESPONSIBLE CONSUMPTION AND PRODUCTION</div> <div></div>	Umia: Saving on average 13% of materials and appliances in projects.	Scanacon: Systems from Scanacon enable recycling of up to 90% of acids and 99% of metals like nickel and chrome.			
<div>13</div> <div>CLIMATE ACTION</div> <div></div>	Aidon: Smart meter grid enables the transition to renewable energy sources.	Nordic Water: Energy efficient and low maintenance solutions, saving up to 95% of energy use and reducing travel for maintenance.	Satel: Enabling technology for precision farming, which can reduce total GHG emissions from agriculture by 1.5% ³ .	Umia: Reducing project emissions through reduced use of materials, efficient logistics solutions and energy savings for customers.	Scanacon: Reduced acid waste cuts use of calcium oxide, translating into an annual reduction of 400,000 tCO ₂ e in installed systems.
<div>14</div> <div>LIFE BELOW WATER</div> <div></div>	Nordic Water: Filtering capacity down to a particle size of 0.006 mm , and from phosphorus to levels below 0.1 mg/l .	Scanacon: Preventing 270 Kilotonnes of nitric acid per year, and other toxic acids, from contaminating water.			

1.

Smart Energy GB/Populus: Smart meters and energy usage: a survey of energy behaviour before and after upgrading to a smart meter, October 2017

2.

Mid-term review of the European satellite navigation programmes as reported to the European Parliament and Council (ref. COM(2011)5)

3.




European Commission. The contribution of precision agriculture technologies to farm productivity and the mitigation of greenhouse gas emissions

IMPACT

1. Smart Energy GB/Populus: Smart meters and energy usage: a survey of energy behaviour before and after upgrading to a smart meter, October 2017
 2. Mid-term review of the European satellite navigation programmes as reported to the European Parliament and Council (ref. COM(2011)5)
 3. European Commission, The contribution of precision agriculture technologies to farm productivity and the mitigation of greenhouse gas emissions in the EU, 2019

Portfolio Company Operations

Rate of achievement, % of portfolio companies

	2018	2019	Operational indicator
<div>ENVIRONMENT</div> <div>  </div>	100%	100%	Actions to reduce GHG emissions
	50%	100%	CO ₂ KPI:s in place
	83%	100%	Actions to reduce energy use
	33%	100%	Energy KPI:s in place
	100%	100%	Sorting and recycling of waste
	33%	40%	Certified for ISO 14001
<div>SOCIAL</div> <div>  </div>	100%	100%	Systematic process for employee satisfaction
	100%	100%	Systematic process for customer satisfaction
	100%	100%	Sick leave measured and followed up
	13%	11%	Female employees (cumulative, all portfolio companies)
	100%	100%	Assessment of supply chain social risk level
	83%	100%	Supplier Code of Conduct
<div>GOVERNANCE</div> <div>  </div>	100%	100%	Code of Conduct implemented
	100%	100%	Anti-Corruption Policy
	67%	80%	Certified for ISO 9001

OPERATIONS

We continually strive to improve the operational sustainability in our portfolio companies. Focus areas and actions for improvement are included in the companies' value creation plans.

In 2019, progress has been made in establishing environmental KPI:s to enable tracking of improvement initiatives.

Gender diversity remains a challenge. One reason is that there are few women in the professions to which most of the employees in the portfolio companies are recruited.



Approach to sustainable investing – The Alder Way

Our objective is to create long term value to our investors. Sustainability is a key driver to achieve this, both as a cornerstone in our investment focus and as an integral part of our day-to-day work to develop our portfolio companies during ownership.

Alder’s Responsible Investment policy describes our framework for responsible investments, what we expect from our portfolio companies, and how we will support them in their sustainability work. The policy in full is available on our website, www.alder.se.

Our approach is for each portfolio company to develop a sustainability strategy, identifying and addressing environmental, social and governance risks and opportunities, and to integrate this into the overall strategy for the company. It is the responsibility of the boards in our portfolio companies to follow up on sustainability compliance, strategy and progress.

In 2019 we have focused on the practical implementation of the responsible investment policy. In order to support the portfolio companies in their sustainability work and align expectations, we have developed a sustainability handbook – “The Alder Way” - which has been presented to all portfolio companies’

CEO:s, boards and sustainability ambassadors and distributed to all management teams.

The handbook describes, step-by-step, what is expected from our portfolio companies during the different stages of our ownership, from hygiene factors that need to be established in the first year of ownership, to longer term strategic sustainability management guidelines. It also clarifies the ownership of each topic and gives a brief description/guide to key processes and frameworks and principles that we expect all companies to follow. A sustainability progress self-assessment tool is used to track progress and identify next steps.

Alder has been signatories of the PRI, the United Nations Agency for Responsible Investments, since 2012, and we report annually on our commitments and progress.

With the climate section of this report, and with our support of the TCFD (Task force on Climate related Financial Disclosure), we seek to contribute to the financial sector’s transparency and reporting on climate.



ENTRY

OWNERSHIP

EXIT

Policy

We evaluate risks and opportunities related to sustainability when considering possible investments. Our framework includes tools for the different stages of the investment process:

- Identifying possible target companies - screening of the company against Alder's exclusion list. Alder does not invest in any company whose business comprises sale of alcoholic beverages, commercial gaming, production of tobacco or tobacco products, pornography or production of military weapons.
- Initial assessment – Evaluation of whether environmental benefit in business model meets our investment criteria.
- Due Diligence: We perform a sustainability due diligence as a component of the overall due diligence process. Alder's bespoke model for this purpose covers environmental, social and governance topics to identify risks and opportunities, potential red flags and required actions.
- Investment decision – Conclusions from the sustainability assessment are included in the investment memorandum - sustainability risks and opportunities are highlighted, the company's current handling of these is evaluated and necessary and recommended action steps are identified. Sustainability aspects are considered in the investment decision in parallel with commercial, financial, and other relevant aspects.

Process

When identifying and evaluating potential investments, we always analyse them from a sustainability perspective. In addition to evaluating whether the company meets our investment criteria of environmental impact, we assess the business model to identify potential sustainability related risks and opportunities.

Frameworks that we use in this assessment include the Planetary Boundaries concept and the SDG:s. Our internal expertise and a strong network of environmental scientists are integral to this assessment.

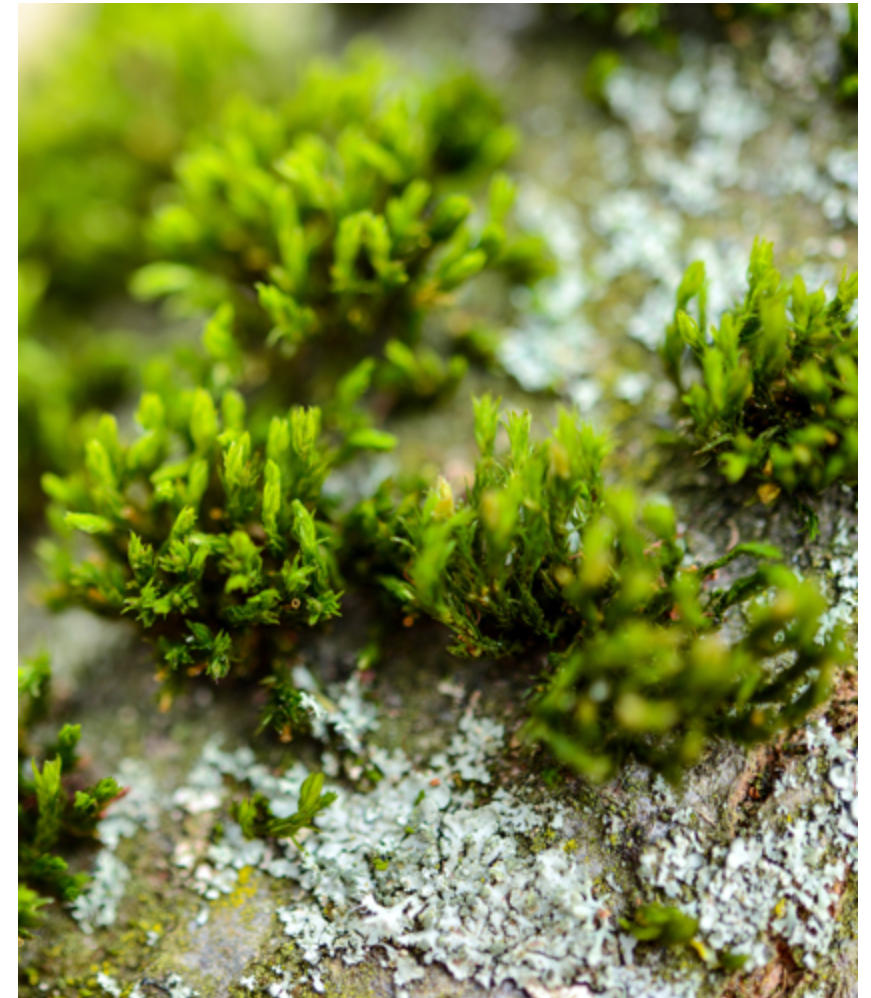
For Due Diligence, Alder has developed a model for assessing the company's status within a wide range of environmental, social and governance topics and dedicated ESG DD meetings are held with the target company's management. Impact and operational sustainability is assessed across the value chain, including supply chain and customer impact.

Focus topics are highlighted in the investment memorandum and investment committee meeting, and if an investment is made, the DD analysis forms the starting point for initiating the portfolio company materiality assessment and sustainability strategy.

Tools

Frameworks and tools applied during the entry phase include:

- Alder Due Diligence tool
- The UN Sustainable Development Goals
- The Planetary Boundaries (background in Appendix, p. 31)



ENTRY

OWNERSHIP

EXIT

Policy

When a company is acquired by Alder, it will be introduced to Alder's portfolio sustainability requirements and be expected to comply. The requirements for an Alder portfolio company are:

- The company will appoint a person to be responsible for sustainability.
- Sustainability will be on the agenda of the board of directors at least once a year.
- The company will make an assessment of sustainability related risks and opportunities and identify material environmental, social and governance topics. Based on this assessment, the companies will define strategic goals and action plans and ensure management commitment and board approval to these. The sustainability strategy should be integrated within the overall corporate strategy.
- The company will formulate a Code of Conduct covering all relevant aspects of Alder's Code of Conduct with possible additions to meet specific company needs. The Code will be approved by the board of directors, communicated to and understood by all employees.
- The company has responsibilities throughout their value chain, which means that they shall assess and act upon risks and opportunities up-stream in their supply chain as well as down-stream towards their customers to a reasonable extent.
- The company will regularly report their sustainability performance to Alder and participate in portfolio-wide exercises.
- Alder will support the portfolio companies by providing tools, advice and best practices, "The Alder Way", for the portfolio companies to make use of when developing and implementing their sustainability work.

Process

If we choose to invest in the company, we ensure that appropriate resources are in place to manage sustainability, with a sustainability responsible person in place and accountability for the CEO and the Board.

The company defines a sustainability plan, with clear goals and actions, linked to the company's overall business plan. A materiality assessment, based on interaction with key stakeholders, forms the basis for this plan. Alder supports the company on its sustainability journey with tools and expertise and with regular follow-up on the board.

Annually, all portfolio companies report back to Alder a sustainability scorecard, with KPIs and progress. Twice a year, the persons responsible for sustainability in all the portfolio companies – "sustainability ambassadors" – meet to build competence, discuss current sustainability topics, share experiences and best practices.

Tools

Frameworks and tools applied during the ownership phase include:

- Alder Materiality Assessment and strategy development
- Alder Sustainability progress self-assessment
- Alder Sustainability scorecard
- The UN Sustainable Development Goals
- The UN Guiding Principles for Business and Human Rights
- The UN Global Compact
- TCFD recommendations



ENTRY

OWNERSHIP

EXIT

Process

In the exit process, Alder considers the company's positive environmental impact as a key selling point for potential investors and its SDG contribution will be an important part of the company presentation material, strengthening the case for the company's resilience to future changes in the world, and its ability to continue its long term value creation.

Material topics identified, actions taken and KPI:s from these will be highlighted and steps will be taken for the company to continue its continuous improvement of sustainability topics in its internal operations under the new ownership.

Governance policies and processes that have been put into place during the Alder ownership, such as implementation of a Code of Conduct and anti-corruption policy, are expected to meet potential buyer requirements.

Potential buyers are reviewed from a sustainability perspective to assess whether there are any major sustainability risks, which may harm the various stakeholders or the long term returns of Alder and its investors.



Sustainability topics in focus for Alder in 2019

ENVIRONMENT

Material Topic:¹

- Climate Impact

With our investment focus on environment, we need to set high standards for ourselves. All Alder company cars are electric and we have moved to a new and energy efficient office with LED lighting.

Our calculated Scope 1-3 CO₂e emissions for 2019 were 175 tonnes CO₂e, an increase of 15% vs. 2018, mainly due to increased travelling during the sourcing phase of Fund II. Travel is by far the largest source of our emissions, accounting for 89% of Alder's total CO₂e.

The number of trips made by train increased somewhat in 2019, but there remains room for improvement by choosing train more often and to replace travel with video conferencing when possible.

Alder climate compensates for CO₂e emissions at a rate of twice the emissions generated. For 2019 emissions, we contribute to 350 tonnes of CO₂e reduction through the Gold Standard Bhilwara solar power project in India.

SOCIAL

Material Topics¹:

- Diversity
- Attracting and building competence

The Alder team consisted of 12 full-time employees and four regional partners at the end of 2019. We value diversity and the different perspectives that are added from team members with differences in backgrounds, interests, age, culture and gender. Within the Alder team, we speak 10 different languages fluently. 25% of our employees are female.

Career planning, training and development is managed in regular performance reviews, in which we also evaluate the team members' sustainability contribution.

Alder commits to the UN Guiding Principles on Business and Human Rights. We work with our portfolio companies to ensure fair working conditions and adherence to human rights in their supply chains.

GOVERNANCE

Alder - and our stakeholders - expect and demand high ethical standards within our own organization and in our portfolio companies. In the Alder Code of Conduct, shared on www.alder.se, we define the principles and standards for how we behave and conduct our business, and how we interact with portfolio companies, colleagues, investors and suppliers.

The Code of Conduct is inspired by the UN declaration of Human Rights, the ILO conventions about fair working conditions and the UN and EU conventions against corruption.

We provide an anonymous and externally handled whistle blowing channel, managed by WhistleB, to which complaints can be reported anonymously.

No incidents were reported in 2019.

CO ₂ e, tonnes	2019	2018
Travel	156	130
Energy and Heating	12	15
Other	7	7
Total	175	152
Climate compensation	(350)	(304)
Carbon intensity, tonnes CO ₂ e/employee	14,6	13,8



1. Alder's Materiality assessment is described in the Appendix, p. 32

Climate Report according to TCFD's recommendations

At Alder, we seek to contribute to the mitigation of Climate change. The integration of climate related risks and opportunities is an integrated part of our investment decisions and our value creation strategies with portfolio companies.

With this climate report, and with our support of the TCFD (Task force on Climate related Financial Disclosure), we seek to contribute to the financial sector's transparency and reporting on climate.

Reporting in accordance with the TCFD shall include:

- 1. Governance around climate-related risks and opportunities;
- 2. Strategy and actual and potential impacts of climate related risks and opportunities;
- 3. A description of climate-related Risks and Opportunities;
- 4. Information about the metrics and targets that we use.



Illustration from TCFD

Governance

The Alder partner group makes all investment decisions. Since mitigating climate change is a key driver to our investment focus, potential climate related risks and opportunities are an integral part of the analysis and investment decisions. Any risks and opportunities occurring during ownership will be discussed in the partner group and acted upon. The partner group stays abreast with current research on the subject through its strong network of environmental scientists.

The portfolio company boards are responsible for integrating climate into long-term strategy considerations. A TCFD session, with scenario analysis, was held in 2019 with all portfolio company CEO:s and COB:s and will be followed up in 2020.

Strategy and Risk Management

We have used the TCFD framework to define risks and opportunities in our portfolio, and also to structure the analysis of two different climate scenarios.

The TCFD divides climate risks and opportunities into two groups: transition risks and physical risks. Transition risks include policy, technological, market and reputation risk. Physical risks are divided into acute and chronic. On the opportunity side are resource efficiency, energy source, products/services, markets and resilience.

Using this framework, we have also assessed the potential impacts and strategies to mitigate risks and capture opportunities in two climate-related scenarios - Low-carbon future (1.5°C) and Limited mitigation (4°C). A summary of the conclusions from this analysis can be found in the Appendix, pp. 33-36.

Metrics and Targets

The Alder portfolio companies make significant contributions to mitigating climate change. In some cases, the impact can be measured or estimated, in other cases it is more difficult to single out the impact attributable to the portfolio company's contribution. We are therefore not attempting to summarise the positive impact of the portfolio but report this in the quantified or descriptive terms suitable for each portfolio company. However, the mitigating impact from our investments are significantly higher than the emissions generated by their operations.

The portfolio's absolute Scope 1 and 2 emissions totalled 2,076 in 2019 – which can be put in relation to the annual 14,500 tCO₂ saved through the reduced need for lime through the operation of one single Scanacon system (see page 26). Having said this, we strive to minimise the emissions from our operations.

From 2019, Scope 1 and 2 emissions are reported for all portfolio companies, and can be summarised for the portfolio in the below table. Scope 3 emissions are tracked based on materiality. Targets are set by the portfolio companies, with actions identified to improve performance.



Total Alder Funds I and II	2019
The portfolio's absolute emissions of greenhouse gases (Scope 1 och 2) (tCO ₂ e)	2,076
CO ₂ intensity related to the ownership share of the portfolio companies' revenue <i>The sum of the Fund's proportion of the companies' emissions divided by the sum of the Fund's proportion of the companies' revenue.</i> (tCO ₂ e/SEK million)	0,65



Portfolio Companies

Enabling Smart Energy Lifestyles

Aidon is an established supplier of smart grid and smart metering technology and services, enabling smart, sustainable, digital, and de-centralized energy systems.

Aidon's customers operate, maintain, and develop the energy distribution systems in their area. Based on smart metering, as well as on the refinement and utilization of grid data, the solutions provided by Aidon enable energy companies to increase efficiency, ensure the faultless delivery of electricity to end users and enable the transition to renewable sources.

Contribution to the UN Sustainable Development Goals



*Smart grids contribute to **affordable and clean energy** and **climate action** through energy savings and enabling of more renewable energy.*

Aidon's smart metering solutions and the utilization and analysis of data contribute to better energy management.

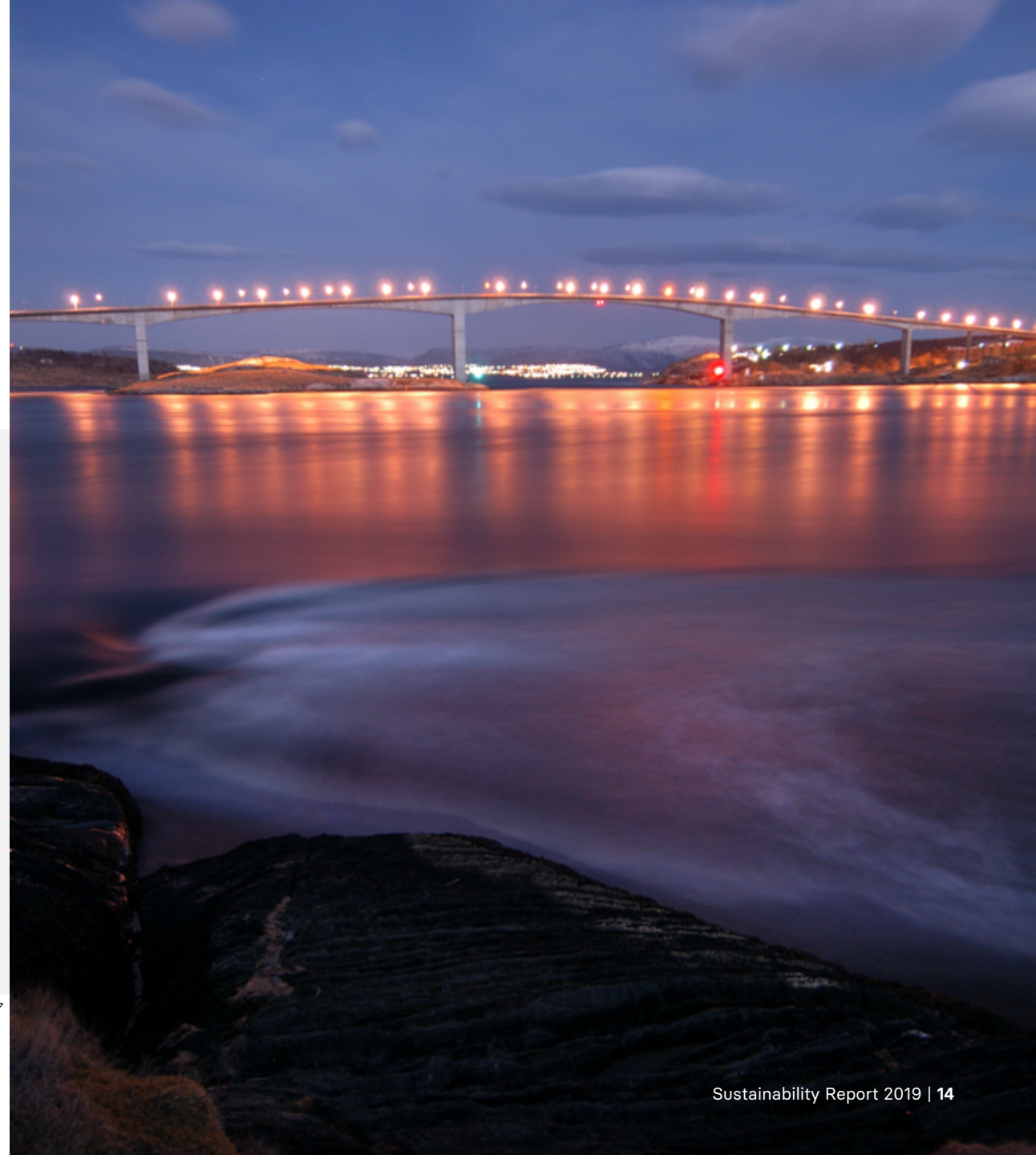
With timely, accurate and easily accessible information, end customers can improve their energy efficiency and reduce their use of energy. Research carried out in the UK¹ shows that the large majority of people with a smart meter (86%) make energy saving changes to their behaviour. Other studies show that the energy savings through meter feedback are between 1-20% and most often is seen in the range between 5-12%.²

Aidon's solutions also enable better risk management, faster detection and solutions to problems in the grid, such as interferences or faults. Through monitoring, transformer stations can be better managed and maintained.

As the energy market changes with a transition to more renewable sources of energy, Aidon's solutions enable energy companies to manage the increasing complexity.

The technology enables the connection of energy from new sources to the power grid. Customers with their own energy generation, for example an industrial building with solar panels, can feed peak production surplus energy into the grid.

1. Smart Energy GB/Populus: Smart meters and energy usage: a survey of energy behaviour before and after upgrading to a smart meter, October 2017
2. Fischer, Feedback on electricity consumption – a tool for energy saving, 2008.



ENVIRONMENT

Focus has been on understanding and reducing GHG emissions, quantifying the company's Scope 1-3 emissions in 2019 at a total 386 tCO₂e, which includes freight and business travel in Scope 3 emissions.

As concluded through the company's GHG life cycle analysis, there are opportunities to improve Aidon's carbon footprint from logistics. Emissions from freight are estimated at 163 tCO₂e in 2019, accounting for nearly half of the company's carbon footprint. Aidon strives to reduce this by optimizing the logistics flow and to track and minimise the proportion of air freight.

Reducing energy use in Aidon's own premises is another environmental focus area and was measured for the first time in 2019, with at total energy use of 452 MWh across all locations. With Aidon meters in the customization centre in Finland, the aim is to improve tracking and management of energy by, for example, installing LED lighting.

Waste is sorted into 12 fractions and reused when possible. For supplier shipments, reusable carton boxes are used, which are returned to the supplier. Incoming package boxes and pallets are also used on outgoing materials. Aidon sorted and recycled its waste in 100% of the recyclable fractions available in 2019.

SOCIAL

Aidon strives to build a motivated and capable workforce and to empower employees to do their best. Employee satisfaction is measured on an annual basis, with the latest score at 3.0 on a scale from 1-4.

To ensure employee health and safety, Aidon has been certified to the OHSAS 18001 health and safety management system. An audit was performed in Q3 2019 with good results. Occupational accidents leading to absence are tracked and monitored and the zero target was kept through 2019.

Customer satisfaction is measured with Net Promotor Score (NPS). The latest survey was conducted in 2019, with conclusions followed up in each market.

The Supplier Code of Conduct has been implemented to tier 1 suppliers and the company is evaluating focus areas and metrics for systematic follow-up.

GOVERNANCE

A focus topic in 2019 has been to continue our work to become ISO 27001 certified for information security management system (ISMS), which is an essential topic for Aidon's business. The Information Security Management System (ISMS) of Aidon consist of elements (processes, procedures, tools, guides) that altogether provide the business continuity and tolerance to possible disturbances and confirms compliance to requirements from stakeholders. The aim is to be certified by Q2 2020.

Aidon's Code of Conduct has been fully implemented with e-training for the entire personnel.

There were no reported violations of the Code of Conduct in 2019.

KEY DATA	2019	2018
Sales (Reported m€)	29	57
EBITDA (Reported m€)	0.0	4.0
Management systems	ISO 9001, ISO 14004 OHSAS 18001, ISO 27001 in progress	
Scope 1 Emissions, tCO ₂ e	59	N/A
Scope 2 Emissions, tCO ₂ e	101	N/A
Scope 3: focus emissions, tCO ₂ e		
- Freight	163	N/A
- Business travel	63	67
Energy use, MWh	452	N/A
Water used m ³	649	N/A
Waste: % of recyclable fractions sorted	100%	95%
Employees	55	63
Of which female	10	14
Employee Satisfaction (1-4)	3.0	3.1
Sick leave %	0.9%	0.9%



Case: Energy-awareness and responsible choices with smart technology

Vantaa Energy Electricity Network Ltd serves about 130,000 electricity distribution customers in the city of Vantaa, one of the fastest growing cities in Finland and located in the capital region around Helsinki. They use Aidon's technology to measure their customers' electricity consumption. The technology also enables them to optimise tasks related to distribution network monitoring and management.

Janne Hartikainen, customer relationship manager at Vantaa Energy Electricity Network describes how automatic remote electricity metering contributes to customers' energy awareness:

"When you receive an electricity bill based on your actual consumption instead of an estimate, you become aware and can start to think about actions to save energy and money. In our online service our customers can see their hourly energy consumption figures for the previous day and backwards. Moving from one-hour intervals to 15-minute intervals in electricity metering in the near future will further increase the possibilities to manage your own energy consumption."

Vantaa Energy Electricity Network is constantly looking for resource-wise choices also in their own operations. One example of gained resource efficiency is that the distance driven by installers have decreased from 20,000 to 5,000 km/year in the past six years. One contributor to this is use of smart technology. Using Aidon meters to remotely connect and disconnect electricity at houses and apartments has

eliminated the need for physical visits. In 2019, it translated to 27,000 saved installers' visits.

"Our cooperation with Aidon is close and comprehensive. We have found shared benefit in logistics, for example: instead of transporting meters from Aidon warehouse to our warehouse, our stock of devices is stored in Aidon's premises located a few kilometres from our office. From there, our installers pick the right amount and type of Aidon meters for new installations and at the same time leave scrap devices for recycling.

Our common target is to develop solutions which create mutual value for our operation and business, with a positive contribution to sustainability", Janne Hartikainen concludes.

Environmental Benefits in a nutshell:

- Providing customers with awareness of their energy consumption – Savings and control of energy usage.
- Automation and remote control of tasks requiring installer's visit - Savings in driven kilometres.
- Shared warehousing – Savings in transportation and material stock, efficient recycling of scrap material



Making water go around

“Clean water for everyone! Our vision is to be a leading provider of compact and energy efficient water and wastewater treatment solutions – ensuring that there is enough clean water in the world for everyone.”

Nordic Water develops and supplies efficient and cost effective water treatment solutions for municipal and industrial markets worldwide.

Our water treatment solutions provide several environmental benefits:

- improved water quality,
- reduced footprint (required area of land),
- lower energy use and the
- possibility to reuse waste products.



Contribution to the UN Sustainable Development Goals



Clean Water and Sanitation and Life Below Water with leading technology for water treatment and purification.

Nordic Water contributes to the solution of water related challenges by improving the access to clean water and by mitigating the threat of pollution to life below water.

With world renowned technologies for sedimentation, filtration and process solutions, the Nordic Water systems offer water treatment solutions for industries and communities.

The company’s filtration technology can for example clean water from particles, all the way down to a particle size of 0.006 mm, and from phosphorus to levels below 0.1 mg/l, with market leading reliability.

Every day, water treatment facilities with equipment from Nordic Water process and clean more than 30 million m³ of water, corresponding to 12 000 Olympic sized swimming pools.



Sustainable communities with compact water purification solutions.

Nordic Water’s water treatment solutions are very space efficient and can be operated in highly populated areas.

Large cities with Nordic Water equipment for water treatment include London, Mexico City, Ho Chi Minh City and Singapore.

In India, the Nordic Water DynaDisc filtration system is installed for water purification in several municipal waste water treatment plants, providing high performance with limited space requirements. The saved footprint by using Nordic Water DynaDisc instead of traditional sand filters in these plants is over 5 200 m². Every day, these installed Nordic Water systems treat 1,840,000 m³ of water and capture 23 tonnes of suspended solids, which would otherwise pollute the recipient lakes or streams.



Climate action through energy efficient solutions and reuse of waste products.

The efficiency of Nordic Water’s water treatment solutions contribute to reduced greenhouse gas emissions. Our technology also saves energy and reduces the need for maintenance.

In Hommelvik, Norway, the mitigation of negative climate impacts was one of the deciding factors when Nordic Water was chosen to provide a new system which could exceed new and stringent effluent requirements.

The system reduces emissions compared to alternative solutions through design – with stainless steel tank solutions instead of concrete basins, which have a much higher CO₂ and energy lifetime footprint. In operation, the Nordic Water Meva screens used have a very high capture rate (>80%) , but do not need any flush water and use 95% less energy than conventional perforated band screens. In addition, this technology requires less maintenance why the number of service vehicle trips is also reduced.

ENVIRONMENT

Nordic Water has set the target to become a carbon positive company. The company started to measure emissions in 2019, with total Scope 1-3 CO₂e at 827 tonnes. Scope 3 emissions included in this measure are freight and business travel. Scope 1 and 2 emissions amount to 338 tCO₂e, which translates into a carbon intensity in relation to sales of 0.61 tCO₂e per million SEK in revenues.

Initiatives that have already been taken to reduce emissions include LED lighting in the office, updated policies for travel and cars, a new travel provider that works actively to reduce carbon footprint and new equipment for video conferencing.

SOCIAL

The Nordic Water Way is a guide to the values, principles and policies that guide the organization in their daily operations and interactions.

Nordic Water acts according to the core values **W.E.T.**:

- **Winning spirit** – we go the extra mile
- **Engagement** – we do the right thing
- **Teamwork** – we work together for the best solution

The Nordic Water Way also includes a systematic approach for annual performance review and individual targets for all employees. During 2019, as a result of the performance reviews, employee training increased by 10% compared to 2018 due to a strategic effort in investing in building organisational competence.

All Swedish managers have participated in leadership training and this will continue globally during 2020. Employee surveys were conducted in 2019 to understand employee attitude, motivation and satisfaction and identifying future focus areas for improvement. Focus areas and plans are made and followed up on a subsidiary and team level.

GOVERNANCE

In November 2019, Nordic Water Group in Sweden was certified according to ISO 9001. A web-based management system was implemented aligned with the company's business strategies to give a complete picture of the company processes, which will support important sustainability related processes and governance. Nordic Water Group in Germany has been ISO 9001 certified since 2008.

The Nordic Water Code of Conduct and Anti-Bribery and Corruption Policy has been implemented through information and acceptance by all employees. It is included in distributor agreements and has been rolled out in supplier agreements. No incidents were reported in 2019.

During 2020, Nordic Water will implement a new digital HR system called Winningtemp. This system enables continuous monitoring of critical organisational measures such as eNPS, work environment, leadership and commitment, supporting our managers in their ongoing work of developing teams and individuals.

A new digital system was implemented in 2019 to promote health and safety, new routines and policy awareness and adherence. The system handles all deviations relating to working environment topics. In 2019, three health- and safety related incidents were reported and investigated through this system.

Employee wellbeing is promoted through healthy and ergonomic working conditions and annual contributions to preventive health care. Sick leave was 3.5% in 2019 for the whole group (N/A 2018). In Sweden, sick leave including long term leave was down to 2.1% 2019 from 3.3% 2018.

The supplier Code of Conduct was implemented into supplier agreements in 2019 and signed by all 3 suppliers in countries with high risk risk for human rights violations and poor working conditions. Continued work will be done in 2020, implementing a process to validate suppliers and ensure that they adhere to the Code.

KEY DATA	2019	2018
Sales (Reported mSEK)	557	573
EBITDA (Reported mSEK)	35	26
Management systems NWP AB NORDIC WATER GmbH*	ISO 9001:2015 ISO 9001:2015	- ISO 9001:2015
Energy use MWh	466	N/A
Scope 1 Emissions, tCO ₂ e	262	N/A
Scope 2 Emissions, tCO ₂ e	76	N/A
Scope 3: focus emissions, tCO ₂ e - Freight - Business travel	305 184	N/A
Employees - Total - Of which female	200 42	195 42
- Management team total - Of which female	6 2	6 3
Sick leave Nordic Water Group Nordic Water Group Sweden	3.5% 2.1%	N/A 3.3%



Case: Eliminating wastewater micro-pollutants in Weißenburg

The elimination of micropollutants is a new and important challenge in wastewater treatment, as they are not eliminated with the conventional waste water treatment steps. These substances, including pharmaceuticals like antibiotics, anti-depressants and diclofenac, occur in very low concentrations and can have significant negative consequences on the environment, life in water and human health.

There are currently two process alternatives to eliminate micro-pollutants: ozonation and adsorption. However, some issues remain to be solved in these processes. Nordic Water participates in a research program at the wastewater treatment plant Weißenburg, Germany, where alternative solutions for

post treatment after ozonation have been examined, comparing different filtration methods. Nordic Water was chosen as a partner in this research project based on our position as a market leader for continuous filtration and our 20+ year experience from working with granulated activated carbon (GAC) filters, pioneering the use of GAC for the elimination of micropollutants.

92% micropollutant reduction

Initial results are promising, indicating that a solution with ozonation and granular activated carbon (GAC) filters can increase the reduction of micro-pollutants from 20% without the process, to a 92% reduction during undisturbed operation.



Case: Phosphorous removal in Clinton, Massachusetts

With increasing understanding of the environmental damage caused by phosphorous emitted to water, more stringent phosphorous-related regulations are imposed on wastewater treatment plants.

Facing new regulations to control the amount of phosphorous it releases to the Nashua River, the Clinton Wastewater Treatment Plant in Clinton, Massachusetts, decided to take a proactive approach.

The plant completed a series of pilot studies to determine the most efficient and cost-effective filtration solution. In response to the plant's call for study participants, Nordic Water provided a pilot-scale DynaDisc unit with 10 micron (µm) polyester cloth filter.

Based on the DynaDisc's outstanding pilot performance and cost, it was selected as the plant's permanent solution for upgrading its phosphorous removal system.

Cleaning 3 million m3/year to 0.1 mg/l

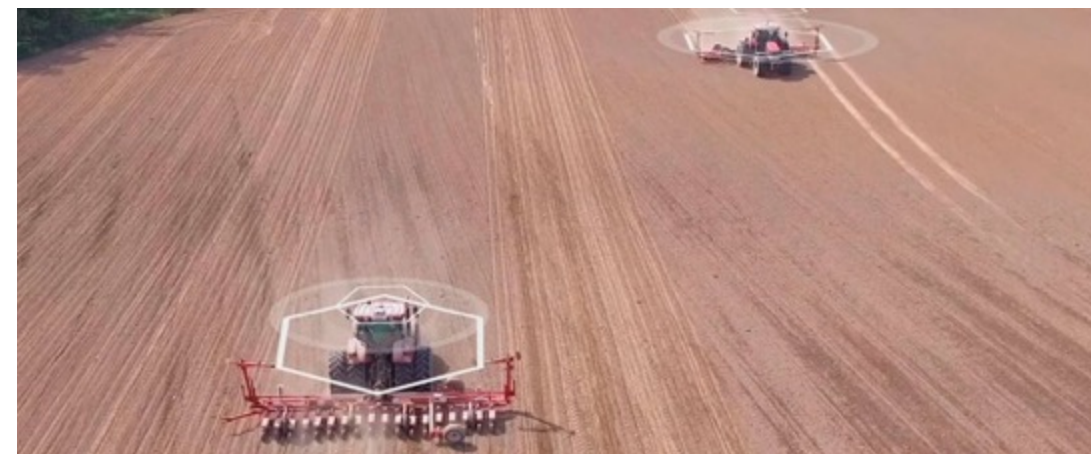
The plant's DynaDisc phosphorous treatment system meets the plant's wastewater delivery needs, providing backup capacity and the ability to operate without downtime during routine maintenance. The treatment system removes phosphorous from some 3 million m3 of water annually, with an average effluent of less than 0.1 mg of phosphorous per litre of water.



Mission-Critical Communications solutions

Satel is one of the world's leading experts and innovators in independent radio networking technology. The company develops and sells high quality private radio technology solutions that enable secure, mission-critical connections.

Satel offers reliable and secure connections, that are used in wide range of industrial applications all over the world, including electricity distribution, water works, weather stations and environmental monitoring, security systems and precision farming and irrigation systems.



Contribution to the UN Sustainable Development Goals



*Precision farming contributes to **Zero Hunger** and **Climate Action** through increased quantity, accuracy and quality of agriculture.*

Satel's Global Navigation Satellite System (GNSS) technology is used for precision farming. The equipment is used to measure variations in field conditions and to utilize this site-specific information for optimal seeding, watering and use of fertilizers and pesticides as well as for machine steering with the precision of an inch.

Precision farming can contribute to higher crop yields and reduced CO₂ emissions and mitigate soil erosion. The European Commission¹ anticipates that the use of GNSS technology can increase farm productivity by 10-20%.

A European Commission study² estimates that if precision farming is implemented fully within the EU, yearly emissions can be reduced by 8 652 Kilotonnes, or 1.5% of total emissions from entire Agriculture sector in the EU. Reduced use of nitrate fertilizers and machine guidance are the two key drivers to the anticipated reduction.



***Clean Energy** and **Clean Water** through improved reliability, quality and environmental impact of important utility systems.*

Real-time wireless monitoring and remote access to utility systems adds efficiency, cuts reaction time and minimises the negative environmental impact of utilities. It ensures reliable power and water distribution for society and environmentally critical systems.

SATEL's radio connectivity solution also provides a high level of cyber security. This is firstly due the fact that private networks are by default not connected to public networks.

SATEL radios are used by over 320 Utility companies with over 160 000 radios delivered, 50% of which are electricity- and 50% are water companies.

Reliable connectivity solutions, such as SATEL XPRS, brings 15-35% improvement to System outage figures for the Power Distribution network. In addition, supporting software to SATEL XPRS provides up to 80% savings in deployment costs.



*Satel technologies enable intelligent transport systems, contributing to **Sustainable Cities** and **Climate Action**.*

Intelligent Transportation Systems are improving transportation everywhere. Remote-controlled traffic signs, traffic light priority, passenger information, automatic vehicle location and real-time weather updates improve road safety and reduce traffic jams.

The goal of ITS is to process and share important information that can be used to improve safety by preventing crashes, keep the traffic moving more fluently, and to reduce the negative environmental impacts of traffic. By automating traffic, we are able to cut down CO₂ emissions. Operations become more efficient, vehicles spend less time waiting at red lights, and because there are less vehicles and less idling, less fuel is consumed.

Satel has delivered more than 25000 modems for ITS systems. The largest single market is the Netherlands with more than 15000 modems in use. Other big ITS markets are Finland, UK and France.

1. Mid-term review of the European satellite navigation programmes as reported to the European Parliament and Council (ref. COM(2011)5)
2. European Commission, The contribution of precision agriculture technologies to farm productivity and the mitigation of greenhouse gas emissions in the EU, 2019

ENVIRONMENT

At Satel, environmental awareness is a part of the company's culture. Its products are made to last - clients often use the products for tens of years. Satel has been ISO 14001 certified since 2008 and was re-certified in 2019.

Energy use in 2019, at 392 MWh, remained close to the 2018 level. Efforts to reduce energy use include changing of lights to LED and an evaluation of solar panels as an alternative source of energy. Satel's total emissions from Scope 1, 2 and business travel in scope 3 amounted to 237 tCO₂e in 2019, which was the first year of measurement.

In 2019, Satel has evaluated the environmental impact of its packaging solutions, moving to more sustainable choices including "greener" packaging material, tapes and eliminating the need for strapping. All packaging materials are recycled whenever possible.

SOCIAL

A fair and safe working environment is ensured for all employees. Employee satisfaction is measured annually and followed up in a structured process. In 2019, employee satisfaction was 3,7 on a scale from 1-5.

Competence building is ensured through individual development plans and all employees attended targeted training every year, with a total of 305 hours of training conducted in 2019. Sick leave is measured and followed up in a health care plan.

The company has developed an equality plan with follow-up on both gender and age distribution.

GOVERNANCE

The internal Code of Conduct is included in on-boarding for all new employees, describing the most important principles and policies for Satel and its employees, including anti-corruption. The whistle-blowing process was reviewed and updated in 2019 and the updated process will be communicated to all employees in the beginning of 2020.

No incidents or breaches of the Code of Conduct have been reported in 2019.

In order to ensure fair working conditions and adherence to human rights in the supply chain, Satel has in 2019 continued the implementation of its Supplier code of conduct, with a response rate of 100% for A-suppliers and 91% for B-suppliers, an increase from 20% in 2018.

Compliance to the Code of Conduct is followed up through self-assessments. The supplier evaluation process and documentation was updated in 2019 to include sustainability components.

KEY DATA	2019	2018
Sales (Reported m€)	13.6	14.5
EBITDA (Reported m€)	1.7	1.7
Management systems	ISO 9001 & ISO 14001	
Scope 1 Emissions, tCO ₂ e	38	N/A
Scope 2 Emissions, tCO ₂ e	101	90
Scope 3: Focus emissions: Business travel, tCO ₂ e	98	N/A
Energy use, MWh	392	385
Water used m ³	428	N/A
% Waste recycled (100% of recyclable waste)	38%	38%
Employees	75	71
Of which female	18	17
Employee Satisfaction (1-4)	3.7	3.6
Sick leave %	3.2	3.7
Customer Satisfaction	3.4	3.4
Supplier Code of Conduct		
A supplier response rate	100%	100%
B supplier response rate	91%	20%



Case: Securing gas distribution to cleaner ferry with real-time data

Viking Grace is the world's first LNG (liquefied natural gas) powered passenger vessel that uses radio modems for data transferring. Strict time schedules in the passenger vessel transportation give zero tolerance for errors. Data transfer based on a private network ensures the functionality, high precision and provides stability that is required.

Viking Grace uses liquefied natural gas (LNG) as fuel. Compared to present-day fuels, nitrogen and particulate emissions are thereby reduced by 85% and greenhouse gases by 15%. Bunkering LNG to the ship is a complex process, which is conducted from a bunkering vessel, the AGA Seagas. The tanks of Seagas have a capacity of up to 70 tonnes that can be transferred in just 60 minutes. This is also the turnaround time of Viking Grace while it is in port, as the vessel makes the 11-

hour crossing between Turku and Stockholm. SATEL radio modems are used to transfer the data between Grace and the bunkering vessel AGA Seagas. The data communication between the two ships works independently in delivering real-time information about the refuelling process. The SATEL radio modems transmit information about the gas flow, pressure and level measurements and provide the shutdown information in case of an emergency.

Radio modem based data transfer is extremely reliable and cost-effective. They operate in their own licensed frequencies and the network works independently from any operator network. The redundancy of the system provides maximum security to the data transfer.



Case: Making the earth move

Novatron is a Finnish technology company focused on earthmoving automation. Their systems improve productivity, worksite safety, sustainability and the quality of work in infrastructure construction. As a result, there is also less rework and less fuel consumption. SATEL has been Novatron's technology partner for 20 years.

Novatron offers machine control and machine guidance systems for heavy machinery and construction site management tools. The aim is to digitize and automate infrastructure construction. Digitalization of earthmoving machinery is all about managing information in an intelligent way.

– Our products include measuring and positioning systems for excavators and also software and services that support the use of machine control systems, says Team Leader Sami Lindgren from Novatron.

The company has over 25 years of experience in its field. The clients include earthmoving contractors and construction equipment manufacturers globally.

– We use SATEL to transfer the RTK correction signal from GNSS base station to the machine's GNSS receiver, which enables a measuring point positioning at a centimetre accuracy. This accuracy is needed more and more in infrastructure construction, which uses data model as a basis in design and execution. The correction signal can also be transferred via mobile network. In some cases, mobile networks are too unreliable, which highlights the need for SATEL's technology in transferring the signal.

Lindgren praises SATEL's technology.

– SATEL is reliable and the technology works even in areas where the availability of mobile networks is low and also in urban areas where the network is overloaded. Using SATEL's technology also enables independence from third parties.



For future installations and generations

Umia is an integrated supplier of technical installation and service solutions within the fields of ventilation, piping, electricity, sprinkler, energy and security.

Through its integrated approach – the Umia Model – Umia can optimise complex projects and find innovative solutions, consistently achieving energy- and resource efficiency improvements and exceeding customer expectations.

Contribution to the UN Sustainable Development Goals



The integrated Umia approach for optimized solutions contribute to savings in resources, energy and emissions.

The planning and management of large installation projects have a significant impact on resource use – both building materials and appliances – and on the long-term energy efficiency of the finished building.

Large installation projects require technical expertise covering a wide range of fields. Through a unique, integrated approach, involving all of the expertise required for a project, Umia creates resource and energy efficient installation solutions.

Environmental aspects for the project itself, and the long term environmental impacts for the customer, are always analysed and included in the project plan.

Umia creates long-term positive impact by optimising energy use and sources of energy for its customers. Identifying incremental energy savings opportunities and possibilities to use renewable energy sources are important and recurrent aspects of

Umia's solutions. Customer energy savings projects are tracked after completion to ensure that the calculated energy savings are realized.

In addition, the Umia Model is designed to identify improvements and savings opportunities in installation projects. On average, the Umia solution saves 16% of materials, appliances and installations compared to the original customer-defined project.

The 2019 materials savings in projects managed with the Umia model was 13%, based on representative projects in six different subsidiaries. This translates into 15 tonnes of materials saved in each project, mainly metals and plastics, corresponding to reduced emissions of 43 tCO₂e including the climate impact of materials and transport. We estimate that saved materials contribute to an annual emissions reduction of 970 tCO₂e for Umia in 2019.

ENVIRONMENT

At Umia, there is always a focus on optimising the use of resources and energy efficiency. All employees are expected to strive to minimise the negative impact on the environment, as outlined in the Umia environmental policy.

Umia' Scope1 emissions from the company's car fleet increased to 1,373 tCO₂e in 2019, mainly due to higher sales and an increasing number of employees. Scope 2 emissions, at 43 tCO₂e was measured for the first time in 2019. The company's offices used a total of 956 MWh of energy during the year, 82% of which was bought from 100% renewable sources. Going forward, Umia strives for climate neutrality in its operations, through an increased positive impact from materials savings (estimated at 970 tCO₂e 2019 as described on p.23) and actions to reduce own emissions.

SOCIAL

Umia is a fast-growing company that has gone from 97 employees to 809 in the past six years. Recruiting, developing and retaining talented employees is key to the company's success.

Annual employee satisfaction surveys also measure the strength of Umia's core values and supporting targets. Development plans are based on this input, including employee training and development, onboarding and management skills development.

Employee satisfaction is high, at 8.1 on a scale from 0-10, well above the target that was initially set at 6. Employee health and wellbeing is continuously followed up. The target is to reduce sick leave to 2%, which is an ambitious goal in Umia's line of business. In 2019, sick leave was 5.5%.

GOVERNANCE

In Umia's line of business there is a risk of corruption, mainly within customer relations. Umia's Code of Conduct prescribes important ethical policies and principles, including a policy for anti-corruption. All employees commit to adhere to the Code of Conduct at the time of employment.

Umia's manual for whistleblowing is included in the Code of Conduct.

There were no reported incidents or breaches of the Code of Conduct in 2019.

Processes are in place to ensure a safe and healthy working environment and minimise and work-related injuries. Preventive measures are also in place, including subsidies for active health care.

During 2019, employees in all subsidiaries participated in internal training related to sustainability. There has also been a focus in 2019 on specific training for the installation team leaders, to ensure that the Umia model is fully implemented into all subsidiaries, including focus on resource efficiency, quality, working conditions and optimal work processes.

KEY DATA	2019	2018
Sales (Reported mSEK, Umia Sweden's share)	926	750
EBITDA (Reported mSEK, Umia Sweden's share)	36	36
Scope 1 Emissions, tCO ₂ e	1,373	1,090
Scope 2 Emissions, tCO ₂ e	43	N/A
Energy use, MWh	956	N/A
% renewable energy	82%	N/A
Employees	809	730
Of which female	48	41
Employee Satisfaction (1-10)	8.1	8.3
Employee sick leave	5.5%	4.6%



Case: Umia achieves 30% materials savings in Tuvanverken's new drinking water laboratory

In 2019, Umia Skellefteå was contracted to perform the technical installations in a new drinking water laboratory at the biogas plant at Tuvan. The project included the construction of a new laboratory within Tuvan's biogas plant. The project started in 2019 and is currently in the final phase of construction.

Umia Skellefteå received the project as a complete and well documented plan, defined in detail, but took the initiative to propose a number of improvements. Using the Umia model, the original plan was examined from the point of view of installation professionals from all relevant fields of expertise. Alternative options and solutions were evaluated and improvement opportunities were identified.

The energy solution in the original plan was found to be already optimised, but Umia could identify significant opportunities in resource efficiency, primarily through material savings.

With resource efficiency in focus, Umia Skellefteå delivered a cost-effective solution for the customer, with fewer hours of installation work and a more

flexible technical solution, reducing the need for component maintenance.

In total, the new solution is estimated to have made direct material savings by 30%. From a life cycle perspective, this solution has contributed to reducing production emissions through resource efficiency, fewer transports, and minimising the need for maintenance.

Contributing to the sustainable development of the region is a natural part of our business. As always, Umia Skellefteå uses local workers with collective agreements for working conditions and compensation that comply with all industry standards. Employees' health and safety is prioritised and all employees have a personal development plan. As a company, we build trust by acting responsibly with strong business ethics. A value-creating and sustainable approach is natural for us.



World leader in acid management

“Based in our vision – Advancing the circular economy, making industries sustainable – our mission is Closing the loops.”

Scanacon is a world leading provider of acid management systems, used in the production of special metals. The company's solutions enable safe, efficient, high quality treatment of metal products at the lowest cost, recycling of acid waste, minimizing hazardous emissions and waste and reducing the use of scarce resources.

Scanacon is committed to continuing to be the cleantech frontrunner in its industry, and to continue advancing the circular economy with its products and services in existing and new areas for years to come.



Contribution to the UN Sustainable Development Goals



*Scanacon's systems minimise acid effluents from the metal production process, contributing to **clean water, responsible production, climate action and life below water.***

Scanacon's systems minimise pollutants and waste volumes resulting from the finishing processes used in the production and fabrication of Stainless Steels, Titanium, Zirconium and other specialty alloys. Pickling and milling result in the production of environmental pollutants in the form of solids, liquids and gases, all of which require appropriate treatment prior to disposal or discharge.

The Scanacon technology has demonstrated significant environmental benefits, through analysis and recycling of the acids used in the process. Through Scanacon's acid handling system, approximately 85% of acids in the system can be reused, reducing the amount of dangerous acids that need to be manufactured, transported, managed and deposited.

In addition to the acid recovery, Scanacon has developed systems for recycling of metals, capturing high value metals from normally inaccessible wastewater streams. These can be returned to the plant upstream, or be included in the production flow, or even sold as a separate product.

Scanacon's systems reduce the primary by-products of pickling and milling – metal oxide sludge, waste liquor, acid gases and acidic waste water from rinses:

- The quantity of hydroxide sludge waste from the process is reduced by 40% or more.
- Reduced need for Calcium Oxide (quicklime) used to neutralize the acids, which leads to large reductions in process CO₂e emissions. In one single production line of one customer in China, the installation of Scanacon's system

has resulted in a decreased use of 9 000 tonnes of calcium oxide per year. Since the production of one tonne of calcium oxide in China generates CO₂e emissions of approximately 1.5 tonnes, this translates into reduced emissions of some 14,500 tCO₂e per year from only this production line. Based on Scanacon's global installed based an estimated 400,000 tCO₂e per year is reduced.

- In addition, there are considerable environmental and climate effects of the reduction in the management of heavy and dangerous waste, including transport and landfill.
- Drastically reduced dangerous emissions into water from the processing process. Scanacon's currently installed equipment contribute to a saving of 270,000 tonnes of nitric acid annually. Each kilogram of nitric acid recycled means nearly one kilogram of nitrate eliminated from the environment and considerable water resources preserved as well as saving some 340,000 tonnes of technical grade calcium hydroxide that would have been needed for neutralization of the acids.
- With the metal recovery system, no sludge or heavy metals to landfill, no heavy metal contamination of water from the production line.

Scanacon's system also means a safer workplace for the staff of the steel mills that handle dangerous acids. With the closed system, high degree of automation and reduced amounts of dangerous acids to handle, the risk of injury and serious workplace accidents decreases.

ENVIRONMENT

Scanacon continuously seeks to minimise the environmental impact of its operations. Energy use was reduced in 2019 from 100 MWh to 84 MWh. The company's CO₂e emissions, including Scope 1, 2 and business travel scope 3 emissions, total 300 tCO₂e in 2019, the first year of tracking. Scanacon seeks to minimise emissions through lower energy use, electric/hybrid cars in the car fleet and only making relevant business trips.

Waste is sorted into seven recycling fractions and new routines have been implemented to increase recycling.

In 2019, an inspection was conducted of the inventory of spent pickling acids in company facilities, which was subsequently reduced by about 60%.

SOCIAL

Scanacon's organization is small but global, with offices in Sweden, the US and China. With focus on a strong company culture and values, Scanacon builds team spirit across these distances.

Health and safety for employees is an important area due to handling of high risk chemicals and acids. After a work related health incident (in April 2019), mitigating actions have been taken to minimise the risk of incidents going forward. The company has received approval from authorities for its in-house safety work with regards to laboratory work hazards.

All personnel have received documented training to improve work safety both in-house and on-site in how to treat and react to hydrofluoric acid exposure as well as truck driving and safety education for relevant personnel.

GOVERNANCE

A materiality assessment has been conducted, including input from employees and customers, and conclusions will be included into business plans for 2020 and forward. Key conclusions points to the value and importance of the positive environmental impact from Scanacon's installations on the customers environmental footprint.

Scanacon is certified to ISO 9001.

The Scanacon Code of Conduct is communicated to all employees and includes an anti-corruption policy and a process for whistle blowing. No incidents were reported in 2019.

A Customer survey is planned for 2020.

In 2019 BaoSteel - one of the world's leading stainless steel manufacturers - named Scanacon as their best supplier of the year and also placed a second large order. Early 2020, Scanacon was mentioned in their internal newspaper and received a personal Thank-You-Letter from their GM after donating face masks to combat the Corona virus.

Scanacon does not have any direct suppliers in countries with high social risk relating to human rights or poor working conditions.

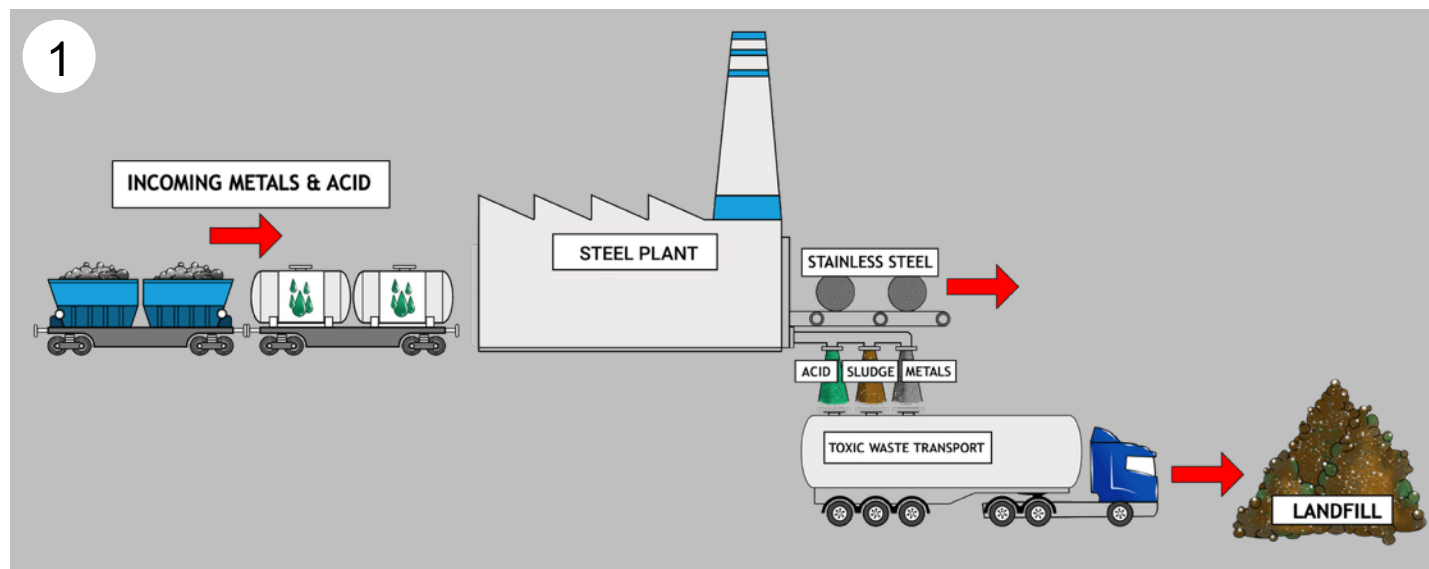
KEY DATA	2019	2018
Sales (Reported mSEK)	156	146
EBITDA (Reported mSEK)	36	29
Management systems	ISO 9001	
Scope 1 Emissions, tCO ₂ e	23	N/A
Scope 2 Emissions, tCO ₂ e	21	25
Scope 3: focus emissions, tCO ₂ e - Business travel	256	N/A
Energy use, MWh	84	100
Water used m ³	255	N/A
Employees	40	39
Of which female	11	9
Sick leave %	2.8%	1.6%



The Scanacon systems – how they work

1. Plants with no acid or metal recycling

The waste produced from pickling and chemical milling operations in these plants goes to neutralization plants where it is treated with large amounts of neutralization agents. The result is large volumes of hazardous waste containing heavy metals, which end up on expansive, environmentally unfriendly landfill sites – a non-sustainable and costly situation.

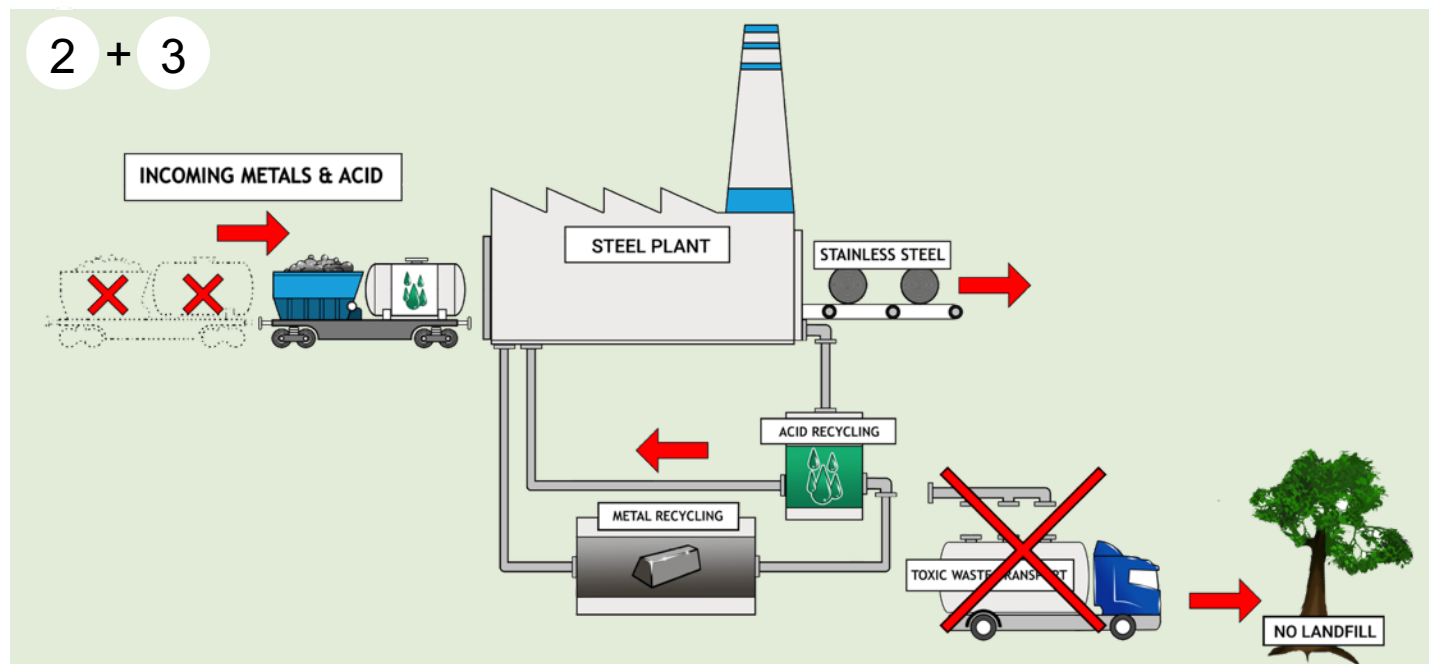


2. Scanacon Acid Recycling system

This separates metals and recycles acid. The system has strict process control and automation for correct function, quality and capacity, and reduces cost and environmental impact by recirculating the acids. The result is lower acid purchases and a waste stream that consists of lower acidity, resulting in much less sludge to be sent to landfill and nitrate emissions into water. In addition, there are substantial reductions in the use of calcium oxide and calcium hydroxide, which is otherwise used to neutralize the acids and the toxic sludge and the mining and processing of which cause large CO₂ emissions.

3. Scanacon Metal Recycling system

The Scanacon Metal Recycling system treats the by-product of the acid recycling phase and will eliminate waste altogether. No sludge or heavy metals to landfill, no transport or handling of the toxic waste, no nitrate emissions to water and no need to neutralize with calcium oxide or hydroxide. Fully automatic, the system offers the capture of high value metals from normally inaccessible wastewater streams. These can be returned to the plant upstream, or be included in the production flow, or even sold as a separate product.



Case: Customer case BDSS

BDSS is a part of BaoSteel (recently merged to Baowu), the world's second largest steel producer and a market leader in stainless steel. BDSS has a fully integrated stainless steel plant in Fujian Province, China.

In stainless steel production, pickling is a treatment that is used to remove impurities, rust, and scale from the surface of the steel. In pickling stainless steel, a mixture of high concentration nitric acid and hydrofluoric acid is normally used.

Since 2016, China's Central and Provincial Governments have closed down hundreds of steel companies that do not meet ever tougher environmental requirements. Meeting these more stringent requirements was made even harder for BDSS, as their plant is built on reclaimed land in an area known for seafood production. BDSS' main challenge was to lower their high consumption of acid (especially nitric acid) and minimizing waste for landfill while simultaneously reducing water consumption and improving productivity, quality and price competitiveness. In addition, BDSS did not want to increase their carbon footprint further reducing their options for choice of supplier.

Scanacon supplied its first complete acid management system to BDSS in 2009; including Acid Recovery, Acid Filtration and Acid Analyzer. In 2017, Scanacon supplied a very large system with a capacity of treating 10,000 L/h of pickling acid to BDSS' new Hot Annealing and Pickling Line. This means that 240 m3 of highly concentrated acid is being re-used, as opposed to thrown away, every day. Included was also a newly developed system for drying oxide scale to be re-used in their melting process instead of dumped to landfill.

After completing installation, start-up, training and final acceptance in early 2019, BDSS was so impressed with the result that they later the same year ordered an almost identical system for their second Hot Annealing and Pickling Line, to be delivered in April 2020.

After proving all environmental, economical and other benefits with Scanacon Acid Management for mixed acid, discussions have now started regarding a similar system for sulphuric acid and regarding Scanacon's latest development; Scanacon Metal Recycling System.

Finally, reducing acid consumption and landfill handling also results in reduced environmental impact and hazardous work for the BDSS employees.





Appendix

Investing for a Future within the Planetary Boundaries

The Planetary Boundaries is a concept developed and published by the Stockholm Resilience Centre in 2009¹. Research undertaken by the Department of Applied Environmental Science (now ACES) at the Stockholm University was of direct relevance for many of the challenges described in this framework. This research, and the potential to develop successful companies that can provide environmental benefits within the Planetary Boundaries, was a driver to the founding of Alder by previous Head of ACES Dag Broman and four other founding partners from other relevant backgrounds.

The Planetary Boundaries framework defines precautionary boundaries for nine critical processes of human-driven environmental change. The science shows that these nine processes and systems regulate the stability and resilience of the Earth System – the interactions of land, ocean, atmosphere and life that together provide conditions upon which our societies depend:

1. Climate change
2. Change in biosphere integrity (biodiversity loss and species extinction)
3. Stratospheric ozone depletion
4. Ocean acidification
5. Biogeochemical flows (phosphorus and nitrogen cycles)
6. Land-system change (for example deforestation)
7. Freshwater use
8. Atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms)
9. Introduction of novel entities (e.g. heavy metals, organic pollutants, radioactive materials, nanomaterials, and micro-plastics).

Beyond the boundaries defined for each of these priorities, we all face the possibility of abrupt, large-scale changes in Earth system functioning and significant risks to societies

and economies worldwide. Together, the Planetary Boundaries quantify a safe operating space at the global level, providing a dashboard for global sustainability. The framework is based on over 50 years of international scientific effort to understand physical climate, geochemical and ecological processes and their driving forces.

In a 2015 update of the original study, (published in the Science journal), an international team of 18 scientists say that four of the nine planetary boundaries have now been crossed as a result of human activity. The four are: climate change, loss of biosphere integrity, land-system change, altered biogeochemical cycles (phosphorus and nitrogen). Two of these, climate change and biosphere integrity, are what the scientists call "core boundaries". Significantly altering either of these "core boundaries" would "drive the Earth System into a new state".

In October 2018, a report from the Intergovernmental Panel on Climate Change (IPCC) was published², reiterating the message that "limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society".

Although the message from these research reports may seem pessimistic, there is also an opportunity side – the awareness of the challenges can help us to find new and better solutions, reduce risks and to move in the right direction. The Planetary Boundaries framework has been influential in global policy and led the way to the development of the worldwide United Nations Sustainable Development Goals (SDG:s). Four boundary processes (climate change, land use, biodiversity loss, water use) relate directly to goals. The remaining planetary boundaries are addressed in targets and indicators of the other SDGs.

At Alder, we have invested for the future since founded in 2008, contributing to the growth of ten companies that are part of the solution to our planet's challenges. From 2018, we have adopted the SDG:s as a framework against which we assess the contributions of our portfolio companies to these challenges.

The Planetary Boundaries, 2015¹



1. Stockholm Resilience Centre, <https://www.stockholmresilience.org>

2. Global Warming of 1.5°C, Report published October 2018, IPCC

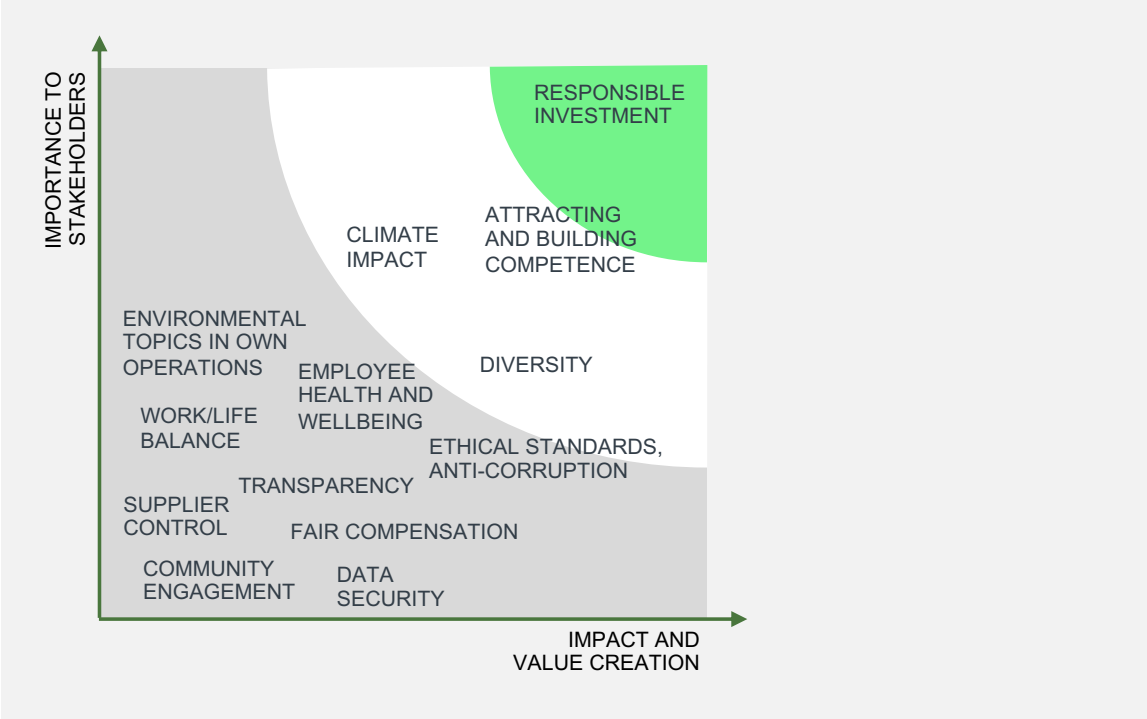
Material sustainability topics

As a basis for setting priorities in our sustainability efforts, and to ensure that we meet the expectations from our stakeholders, we have conducted a materiality analysis for Alder, with input through interviews or surveys from three important stakeholder groups – employees, investors and portfolio companies.

Our conclusion is that responsible investment, and supporting our portfolio companies in their sustainability efforts, is by far the most important topic to all stakeholder groups. It is also the topic which we find to have the largest impact on our ability to create long term value.

Internally, the key environmental topic identified is to mitigate our climate impact. The level of climate awareness is high among our stakeholders and, given the emphasis on this issue through our investments it is also important that we practice what we preach in our own operations.

Two social topics are highlighted - attracting and building competence and diversity, both of which are integral to building a successful team.



Climate-Related risk assessment and scenario analysis

In the following pages, we outline key takeaways from an analysis of climate-related risks and opportunities. For each identified risk or opportunity, we have assessed the likelihood of its occurrence in two scenarios, as well as the financial impact on Alder and strategies to mitigate risks and capture opportunities.

We have considered two scenarios, outlined below. The scenarios have been discussed with the Alder team and in a workshop with all portfolio company CEO:s and chairmen of the boards.

The tables in the following pages, adapted from TCFD:s formats, summarise some of the conclusions.

Low-Carbon Future Paris Agreement (1.5°C)

Scenario Assumptions:

- Rapid transition to a low-carbon economy
 - Global emissions are reduced by half every 10 years from 2020.
 - Significant Political action - Policies and Regulations
 - Rapid technological progress
- *Less destabilizing to the planet*
- *More disruptive for the markets in the near term since industries must adjust quickly.*

Possible Game Changers:

- New policies and regulations,
 - GHG tax (\$60-100/tCO₂)
 - Reporting requirements
- Stranded assets, geopolitical changes
- Significant price increases for materials and transports
- Markets impacted by transition to new technology, investments into new infrastructure
- Circular and Sharing business models

Limited mitigation Global Warming (3-4°C)

Scenario Assumptions:

- Little or no mitigation action is taken and climate change continues on its current projected path
 - Global emissions continue rising at current rates
- *Policy and regulation do not adequately address greenhouse gas emissions*
- *Earth's temperatures warm significantly more than 1.5°C, with severe consequences*

Possible Game Changers:

- Extreme weather events occur more frequently and at a more damaging scale and with high costs of remediation
- Rising sea levels displace coastal areas and populations
- Changes in precipitation patterns
- Water and food scarcity in climate-stressed regions
- Land, materials and other resource constraints
- Migration, climate refugees

*Illustration: Show your stripes by Ed Hawkins, www.showyourstripes.info
Each stripe shows the global temperature difference compared to the average temperature in 1971-2000. Years from 1850 (top) to 2018 (bottom).
Colours blue – colder than average – to red – hotter than average*

Climate related risk and scenario analysis - Transition risks

(adapted from TCFD:s table 1A)

Climate-related risk	Potential financial impact	Scenario probability		Alder analysis of risks and scenarios
		1.5°C	3-4°C	
Policy & Legal <ul style="list-style-type: none"> Increased pricing of GHG emissions Enhanced emissions-reporting obligations Mandates on and regulation of existing products and services Exposure to litigation 	<ul style="list-style-type: none"> Increased operating costs Write-offs, asset impairment due to policy Increased costs and/or reduced demand for products 	High	Low	<p>Policy and regulation, including higher cost of CO₂ emissions, would be positive for the Alder portfolio, since this would drive demand for portfolio company products, relevant for all companies in Alder's portfolio.</p> <p>Alder's strategy is to stay abreast of policy development, understand impact on customers from new regulations and how to provide solutions that enable customers to meet required levels.</p>
Technology <ul style="list-style-type: none"> Substitution of existing products and services with lower emissions options Unsuccessful investment in new technologies Costs to transition to lower emissions technology 	<ul style="list-style-type: none"> Write-offs and early retirement of assets Reduced demand for products and services Research and development (R&D) expenditures in new and alternative technologies Capital investments in technology development Costs to adopt/deploy new practices and processes 	High	Low	<p>Alder's portfolio companies are exposed to technologies that lower emissions. Technology transition would be more opportunity than risk for Alder's portfolio. Alder continues to invest into new technology for portfolio to stay in the product development forefront and to increase the positive environmental impact of their products. Some of these R&D investments may prove unsuccessful, but Alder only invests into companies with proven products and technologies so these would normally be product extensions of further development and not "make or break" technology bets. Alder's strategy is to continue investing wisely into new technology, with on average 10% of sales invested into R&D.</p>
Market <ul style="list-style-type: none"> Changing customer behaviour Uncertainty in market signals Increased cost of raw materials 	<ul style="list-style-type: none"> Reduced demand for goods and services due to shift in consumer preferences Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment) Abrupt and unexpected shifts in energy costs Change in revenue mix and sources, resulting in decreased revenues Re-pricing of assets (e.g., fossil fuel reserves) 	High	High	<p>If customer behaviour implies that customers are willing to pay a premium for a more sustainable product or service, Alder's portfolio companies are well positioned to leverage from this. However, it is possible that ingoing costs increase by more than customers are willing to pay, which would lead to a pressure on margins. An important strategy will be to effectively communicate sustainability strengths of the product offering, and to also translate these into customer cost savings.</p>
Reputation <ul style="list-style-type: none"> Shifts in consumer preferences Stigmatization of sector Increased stakeholder concern or negative stakeholder feedback 	<ul style="list-style-type: none"> Reduced revenue from decreased demand for goods/services – Reduced revenue from decreased production capacity (e.g. delayed planning approvals, supply chain interruptions) Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention) Reduction in capital availability 	High	High	<p>As a current leader in corporate sustainability, Alder's reputational risk under a low-carbon scenario is minimal. We believe that transparency and clarity of communication will be important to earn the trust of customers and investors.</p>

Climate related risk and scenario analysis - Physical Risks

(adapted from TCFD:s table 1B)

Climate-related risk	Potential financial impact	Scenario probability		Alder analysis of risks and scenarios
		1.5°C	3-4°C	
<p><u>Acute</u></p> <ul style="list-style-type: none"> Increased severity of extreme weather events such as cyclones and floods 	<ul style="list-style-type: none"> Reduced revenue from decreased production capacity (e.g. transport difficulties, supply chain interruptions) Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism) 	Medium	High	<p>Physical risks may impact the Alder portfolio, although none of the operations have own locations that are deemed to be in areas primarily at risk.</p> <p>Weather events and climate changes such as rising temperatures and changes in precipitation patterns may impact value chains in the short and long term, for example due to work force health issues, suppliers or transport solutions impacted by such risks. It is likely that, especially in a 3-4°C scenario, value chain disruptions become more frequent in coming years.</p> <p>Such events may put pressure on short term cash flow. Alder considers the vulnerability to unexpected events in liquidity planning and sensitivity analysis of value chains and customer base.</p>
<p><u>Chronic</u></p> <ul style="list-style-type: none"> Changes in precipitation patterns and extreme variability in weather patterns Rising mean temperatures Rising sea levels 	<ul style="list-style-type: none"> Write-offs and early retirement of existing assets (e.g., damage to property and assets in “high-risk” locations) Increased operating costs (e.g., inadequate water supply) Increased capital costs (e.g., damage to facilities) Reduced revenues from lower sales/output Increased insurance premiums and potential for reduced availability of insurance on assets in “high-risk” locations 			

Climate related risk and scenario analysis – Opportunities

(adapted from TCFD:s table 2)

Climate-related opportunity	Potential financial impact	Scenario probability		Alder analysis of risks and scenarios
		1.5°C	3-4°C	
<u>Resource Efficiency & Energy Source</u> <ul style="list-style-type: none"> • Use of more efficient modes of transport • Use of more efficient production and distribution • Use of recycling • Move to more efficient buildings • Reduced water usage and consumption • Use of lower-emission sources of energy • Use of supportive policy incentives • Use of new technologies • Participation in carbon market • Shift toward decentralized energy generation 	<ul style="list-style-type: none"> • Reduced operating costs (efficiency gains) • Increased production capacity, increased revenues • Increased value of fixed assets (e.g. energy- efficient) • Benefits to workforce management and • Reduced exposure to future fossil fuel price increases • Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon • Returns on investment in low-emission technology • Increased capital availability • Reputational benefits resulting in increased demand for goods/services 	High	Medium	Resource efficiency and energy source transition are opportunities that Alder's portfolio companies strive to accelerate. Alder needs to keep focus on emerging opportunities to leverage the strength of current portfolio companies and to find exposure to key technologies and solutions through future investments.
<u>Products and Services</u> <ul style="list-style-type: none"> • Development and/or expansion of low emission goods and services • Development of climate adaptation and insurance risk solutions • Development of new products or services through R&D and innovation • Ability to diversify business activities • Shift in consumer preferences 	<ul style="list-style-type: none"> • Increased revenue through demand for lower emissions products and services • Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services) • Better competitive position to reflect shifting consumer preferences, resulting in increased revenues 	High	Medium	Continue development of products and services to meet customer demand for new and improved solutions. Focus on customer needs and expectations and on communication of sustainability related product benefits.
<u>Markets</u> <ul style="list-style-type: none"> • Access to new markets • Use of public-sector incentives 	<ul style="list-style-type: none"> • Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks) • Increased diversification of financial assets (e.g., green bonds and infrastructure) 	Medium	Low	Possible long term opportunities for portfolio companies, including financing opportunities with expanding access to "green" capital.
<u>Resilience</u> <ul style="list-style-type: none"> • Participation in renewable energy programs and adoption of energy- efficiency measures • Resource substitutes/diversification 	<ul style="list-style-type: none"> • Increased market valuation through resilience planning (e.g., infrastructure, land, buildings) • Increased reliability of supply chain and ability to operate under various conditions • Increased revenue through new products and services related to ensuring resiliency 	Medium	High	Understand how products in all portfolio companies support increased need for resilience, relevant for most portfolio companies and an opportunity for e.g. Satel with secure communications solutions and Aidon, mitigating electric grid failures.

About this Report

This is the second sustainability report from Alder Funds, covering the legal entities Alder Fund I AB with organization number 556807-9916, and Alder II AB, 559130-3986. The reporting cycle is annual and follows the calendar year. This sustainability report covers our sustainability performance for the financial and calendar year 2019.

This report has not been externally audited. The report is available at Alder's website, www.alder.se.

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Alder.