

The Next Step

A Roadmap for the Future of Business



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The Next Step - A Roadmap for the Business Community of the Future
The Confederation of Norwegian Enterprise (NHO) 2020

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Our next step

2020 is a new decade, one which will see Norwegian companies taking part in an important global championship - one involving change, technology development and job creation.

The starting gun on this contest had already been fired when the world was engulfed in the COVID-19 pandemic. Its impact on the global economy has been immense, and it has spread unrest, insecurity and fear; fear of infection, unemployment and uncertainty for the future. The impact of the pandemic will see repercussions that will affect Norway and the rest of the world for years to come.

We must combine recovery, transition and value creation. In this decade, our next steps should ensure a good transition between those areas where we are currently strong today and those where we seek to be strong tomorrow.

However, the pandemic has not removed global competition. In fact, it has increased demand for job and value creation.

It is important that we do not forget the goals we had set before the pandemic arrived. Our next step will be to ensure economic sustainability for the entire business community, to achieve the UN's sustainability goals and to cut greenhouse gas emissions. We must maintain quality of working lives with strong tripartite cooperation and high levels of trust, and we must sustain our trade with the outside world. We must encourage growth in small, medium and large companies, and we must ensure that more people find work.

Essentials for this decade:

We must combine recovery, transition and value creation. In this decade, our next steps should ensure a good transition between those areas where we are strong today and those where we seek to be strong tomorrow.

We will best manage this transition by making the most of our advantages: our natural resources and our highly skilled and adaptable companies. We must continue to both develop existing companies and create new ones to allow the business community of the future to stand on their shoulders.

Essentials for this decade:

We must preserve current profitable jobs in the private sector and create new ones, and we must strengthen private ownership of businesses throughout the country. We must believe in the market economy and make it work for us. The most important factor in achieving our goals is to get people back to work in the private sector. Employment is the best protection against exclusion and increasing inequality, and high employment levels in the private sector are crucial to the Norwegian economy and the Norwegian transition.

No other industrialised country has a larger proportion of public employees than Norway. This should not be increased; instead, the private sector must expand in the years ahead. This will demand new solutions, new products, new technology and new market opportunities, driven by private, competitive production.

Projections show that central government expenditure will be greater, while revenues will be lower. We must improve the division of labour between public and private sectors to ensure a sustainable welfare state. The private sector must, therefore, play a greater role in the future.

At the same time, the overall wage development must help improve the competitiveness of Norwegian companies.

Essentials for this decade:

In collaboration with the EU, CO2 emissions must be reduced by 50 percent from 1990 levels. Norwegian companies are in the process of developing and exporting the required climate change solutions. They will need access to skills, capital and natural resources as well as a long-term, predictable policy for delivering climate change solutions in the future.

Essentials for this decade:

Job creation must permeate all policies. Our tax system, and the level of taxes and duties, must help make our companies more competitive.

The future will require considerable investment - in technology, in skills, in equipment and in market development. There must be policies that ensure that value and job creation in the private sector are addressed as a priority.

Essentials for this decade:

Many of the challenges we face are global; we need to cooperate more with the countries around us. Companies are competing in a global, not a Norwegian, arena. Trade and international cooperation are vital for creating jobs, de-

veloping new export industries and implementing climate change solutions. That is why we must support the EEA agreement, enter into further international agreements and support important international institutions, such as the WTO and the EU.

‘The Next Step’ shows the NHO’s (the Confederation of Norwegian Enterprise) route out of the crisis and into a digital, global and greener future with competitive companies and secure jobs throughout the country.

This report presents a series of analyses of the opportunities available for new jobs and value creation in the business community of the future, and sets out the measures required to realise these opportunities.

The business community has faith in the future. We can and must set ourselves high ambitions for the coming decade. This report presents 10 concrete ambitions for where Norway should be in 2030.

The future of the business community is the future of Norway, and we must start to build the bridge to that future now.



Arvid Moss,
President of the Confederation of Norwegian Enterprise



Ole Erik Almlid,
CEO of the Confederation of Norwegian Enterprise

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1

From crisis to a
sustainable future



Even before the coronavirus crisis, there were many indications that Norway's "golden age" had passed. An ageing population and lower growth means that we need more value creation and more jobs to maintain future welfare levels. The crisis has added an unparalleled economic shock and has reinforced these needs. This report sets out how the business community can contribute to creating the profitable jobs Norway needs.

This year, Norwegian value creation appears to have fallen by an estimated 5–6 percent. Uncertain estimates suggest that it could be nearly three years before economic activity returns to pre-crisis levels. It will probably be even longer before the Norwegian economy again achieves its assumed potential.

It is beyond any doubt that the crisis has made Norway a less prosperous country. Our future consumption opportunities have been reduced. This loss will grow the longer the crisis continues. Companies with costs higher than income will eventually succumb. The greater the number of companies that go under, the fewer people that will have a job to return to when the crisis is over. Furlough will lead to redundancies, and in turn to people being completely pushed out of the workforce.

History shows us that crises cast long shadows. When Norway's 'yuppie' period ended at the end of 1987, mainland GDP dropped by a total of 4 percent over two years. In addition, unemployment rose for six years to its highest level in the post-war period. At an individual level, empirical evidence suggests that those encountering difficulties re-entering the labour market continue to struggle for a long time afterwards; in the form of lower income and/or premature exit from the labour force.

Norway's consumption opportunities are determined by the resources we have at our disposal - natural and man-made, finance and the labour force. Whether this 'wealth' is in the bank (Government Pension Fund) or with the people when the crisis is over is of secondary importance, as long as our total national wealth is as large as possible. This is the main reason why the 3 percent fiscal rule has been suspended.

The fiscal rule was established to ensure a stable, predictable and long-term method for conveying oil money into the Norwegian economy. At the same time, the guidelines are designed in such a way that the Government Pension Fund of Norway reflects genuine savings on the part of the State. However, the savings in the Pension Fund become illusory if the basis for the State's other income - value creation in

the mainland economy - simultaneously declines.

However, because we are now using far more than the normal 3 percent the fiscal rule allows, and are draining the fund to maintain activity, it is particularly important to ensure that the funds are used sensibly.

In the current situation, economic policy faces a triple task: First, people and companies must be kept afloat through the acute phase. Second, the economy must be gradually stimulated so that it returns to a near normal situation as quickly as possible. Third, the economy must be structured for the future as best as possible.

These are formidable tasks. Decisions must be made under circumstances of huge unpredictability, for the actual pandemic process as well as the behaviour of people and companies at home and abroad. Past crises can provide some insight and guidance, but no two crises are identical. This is also, by all markers, the most serious crisis in the post-war period. Time is against us; businesses can no longer be kept artificially viable with state cash injections. Workers who do not work will, over time, see their ability to work reduced. The decisions needed must be made quickly. But acting with haste also risks creating costs. As much as possible, therefore, individual measures should be viewed holistically. Otherwise, in five years' time we will look back and discover that the losses were greater than they should have been.

Such an overall assessment is not just about finding the best path back to normality; it is also about defining what will be the 'new normal'.

The long-term challenges, such as climate and demographic change, will remain. There is also an even greater need to ensure long-term sustainability in public finances. However, what the world is currently experiencing is so fundamental in nature that the 'new normal' will undoubtedly be different.

Infection control measures have increased the use of digital solutions, as have investments in developing and implementing such solutions. The technological shift has accelerated; much of this will persist once the pandemic has subsided.

The coronavirus crisis has demonstrated the vulnerability of our highly integrated economies. This may lead to demands for increased preparedness in the

form of warehousing and in-house production, and for longer term restrictions on travel activity and migration. Therefore, the tendency towards deglobalisation may accelerate. With weaker realisation of trading gains, the potential for growth will be lower.

«The choices we make now, and the money we spend, should therefore build a bridge to the future».

The global economic shock will inevitably lead to a decline in growth and income, fewer jobs and greater unemployment. Depending on how the crisis is handled, this may lead to greater exclusion and larger income disparity, thus creating more societal mistrust and polarisation. For Norway, this reinforces the need for innovation, restructuring and job creation in the transition to a more sustainable society. The impact of the coronavirus crisis on climate challenges is less obvious. Lower economic growth means lower increases in energy consumption, CO₂ emissions and energy prices. Falling energy prices result in lower investments in energy production, including renewable sources. The crisis also weakens government finances and thus the room for investments with long-term horizons and uncertain returns. This also increases the need for new demand to stimulate activity. The crisis therefore presents the ideal opportunity to accelerate the green transition, but may also constitute a higher threshold for implementing it. The choices we make now, and the money we spend, should therefore build a bridge to the future.

A suitable overall goal for politics should be that, when we return to 'normal' in a few years' time, we should be able to say that we did the 'right' thing along the way to ensure that Norway remains a society that is good to live in. One with jobs to go to and to develop in, and one where we take care of our planet.

Put simply, it is about creating a society characterised by social, economic and environmental sustainability. Companies have a key role to play in realising this.



The companies have a key role in creating a sustainable future:

Economic sustainability:

Companies are the backbone of the Norway's welfare society. It is companies that ensure value creation throughout the country. They provide vibrant communities with private jobs, services and welfare for their inhabitants. In an increasingly unpredictable world, we must strengthen all of the business community so to provide a wide range of potential support. Companies must have access to international markets, in which Europe and the internal market must be central.

Environmental sustainability:

The climate and environmental challenge requires will large-scale effort, and the large commitments must be delivered in unison. The long-term plan for reconstruction following coronavirus should stimulate development and use of new technologies and the transition to a society with lower emissions, higher resource efficiency and more circular value chains. If we succeed, then companies can take the lead in creating the solutions that we need. Only a viable business community will be able to find the solutions needed for a sustainable future.

Our international obligations, including the UN Sustainability Goals and the Paris Agreement, have set clear preconditions for how the business community should be developed. Norway is the first country in the world to report to the UN that it will cut greenhouse gas emissions by 50 percent by 2030, in cooperation with the EU.

Social sustainability:

There will be a pressing need for restructuring in the years ahead. This must go hand-in-hand with a robust labour market, strong tripartite cooperation, high levels of trust and more people gaining employment. The Basic Agreement (Hovedavtalen), with associated agreements, must still be the framework that regulates this. We need wise minds who will give us the necessary innovation and change. Skills are a prerequisite for a safe and rewarding worklife, and at the same time it promotes inclusion. Skills, research and innovation will ensure the capability to adapt and opportunities to drive new growth.



2

Ten ambitions for a sustainable society

To measure our progress, the vision of a sustainable future must be translated into concrete ambitions to be achieved within a clear timeframe. We have chosen to set this at ten years, i.e. 2030.

This will not be without problems. Society is a complex ecosystem, and development is determined by the interplay between a number of factors, some of which can be coincidental. The connection between ambitions and measures is not always linear. This complexity is difficult to express on the basis of a few selected ambitions.

However, some of these ambitions are of greater significance, as they reflect the qualities of society more than others. This is why we have determined the following 10 ambitions, which we believe are particularly important to achieve by 2030:

How to realise these ambitions?

These ten ambitions for 2030 are demanding, but are defined in such a way that they can be realised. They will allow Norway to make the most of its existing advantages to create new jobs and greater value.

The report presents a number of analyses of the opportunities available to the companies of today and tomorrow. In order to succeed, companies and politicians are required to make decisions that facilitate job and value creation. The report sets out 10 steps, each with their own political measures, to facilitate this.

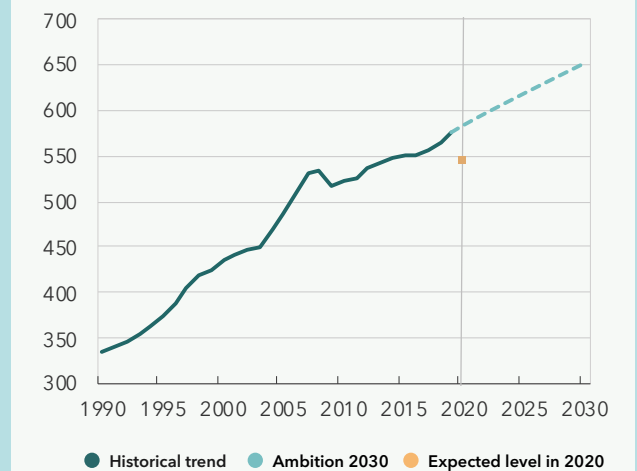


1. Higher value creation

Ambition for 2030:
GDP per capita increases from NOK 575,000 to NOK 650,000 per capita.

GDP is a measure of what a country produces in goods and services in one year. Thus it gives the best expression of the nation's ongoing consumption and welfare opportunities. Countries can lean toward higher consumption, but not for too long. Assuming that mainland Norway's GDP falls by 5 percent this year, GDP must grow by 2.3 percent annually from 2020 to 2030 to reach the target.

Mainland Norway: GDP per capita
In thousands 2020 NOK



Source: Statistics Norway/NHO

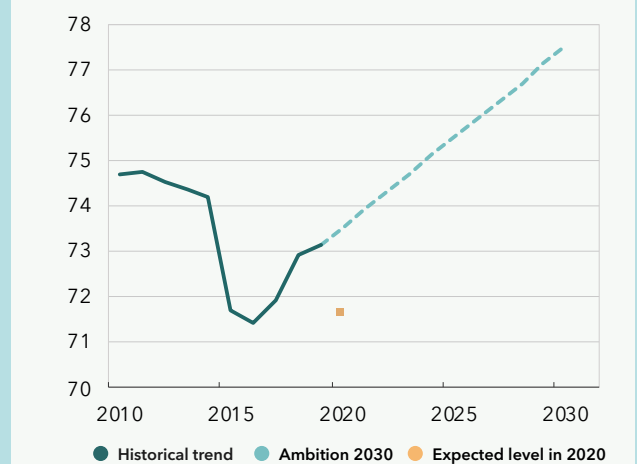


2. Higher labour force participation rate

Ambition for 2030:
Increase the employment rate for those aged 20-70 from 73.1 percent to 77.5 percent.

The workforce makes up approximately 80 percent of our national wealth. High value creation therefore requires many people to work. In addition, high levels of employment also support an inclusive society and an equitable distribution of income while affording legitimacy to welfare schemes. For the individual, it secures income, contributes to better health and improves quality of life. To achieve this ambition, the proportion of jobs in each age group must increase annually by 0.6 percentage points until 2030.

Norway: Employment 20-70 years
In percent of population.



Source: Statistics Norway/NHO



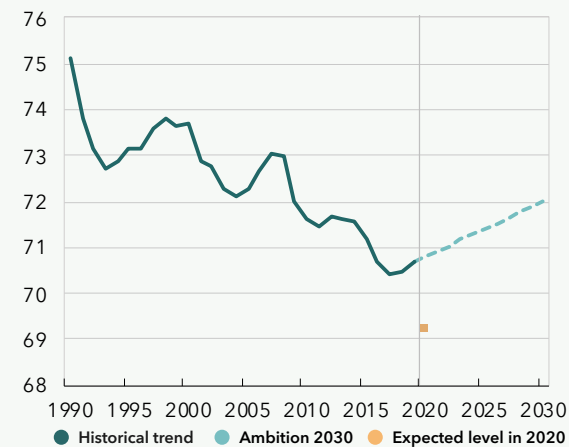
3. A larger private sector

Ambition for 2030:
Increase the proportion of hours worked in the private sector from 70 to 72 percent.

An sensible division of labour between the public and private sectors has contributed to our high level of prosperity. However, 30 percent of total work hours are in public administration; no industrialised country has a greater proportion. The share of hours worked in the private sector should be greater. Private production is exposed to competition, which acts as a stimulus and drives the development of new solutions and products, new technologies and new market opportunities. This ambition is more ambitious than it may seem; an ageing population means that both demand and production will lean towards the public sector, as the current main supplier of such services.

Norway: Private sector employment

Worked hours excluding public sector as percentage of total



Source: Statistics Norway/NHO



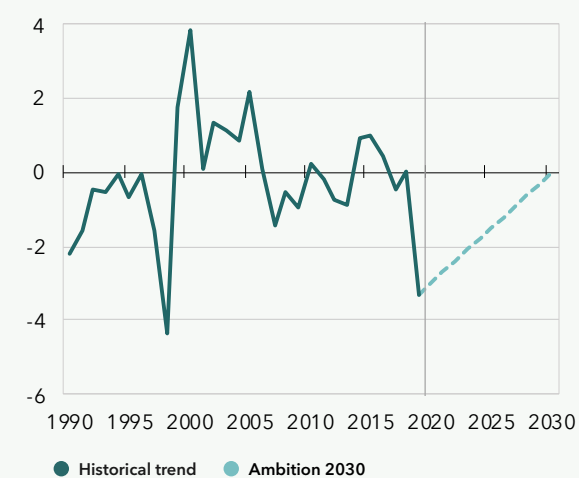
4. A balanced foreign economy

Ambition for 2030:
Operating balance, minus the state's oil revenues, around zero.

Over time, a country needs to balance its foreign trade. Deficits require loans, which can create vulnerability. Conversely, permanent profits may not be economically desirable as long as the purpose of economic activity is increased consumption, not savings. As export revenues from oil and gas become smaller, we will have to close the resulting gap to avoid creating an imbalance. This can be done by (i) increasing export income from other industries, (ii) higher net income on interest and transfer balances, or (iii) lower imports. The latter leads to lower prosperity, and is not attractive. The solution may therefore be found in options (i) and (ii), which emphasise the need to - among other things - encourage new Norwegian export industries. 2019 saw a deficit of NOK 112 billion. The state's share of oil revenues is exchanged for oil assets, and should not be included in the total.

Operating balance

Excl. state oil revenues. In percent of GDP



Source: Statistics Norway/NHO



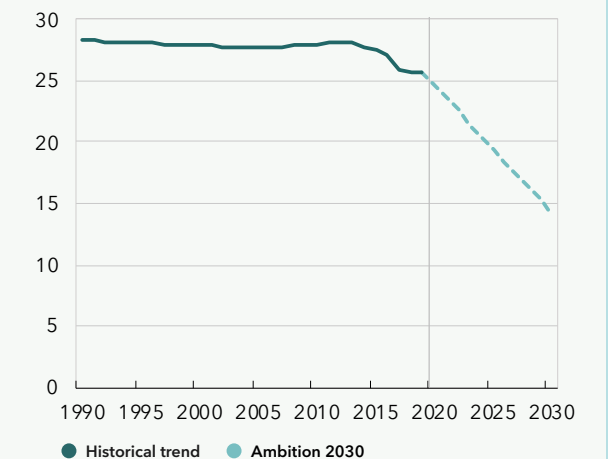
5. Reduce greenhouse gas emissions

Ambition for 2030:
Reduce CO2 emissions by 50 percent from 1990 levels, in collaboration with the EU.

This ambition is in line with the government's augmented goal reported to the UN in February 2020. This is ambitious and will require strong measures, but the business community stands ready to contribute. Cooperation with the EU will provide some flexibility; however a large proportion of the Norwegian cuts will have to be achieved in Norway, through the phasing out of fossil fuel use, increased electrification and the use of bio-based solutions. The indicator we use is a 50 percent emission cut in the non-quota sector (transport, construction and agriculture) by 2030. Other emission cuts shall be made by participating in the EU's quota system and in line with the industry's roadmap.

Norway: Greenhouse gas emissions

Non-quota sector emissions. Mill.tonn CO2e



Source: Statistics Norway/NHO



6. Increase the ability to innovate and adapt

Ambition for 2030:
Norway will be among the innovation leaders in Europe (20 percent above the EU average).

In order to create profitable jobs and growth, Norway's ability to innovate and adapt is an important prerequisite. Measuring the ability to innovate is demanding. We have chosen to use the EU's Innovation Scoreboard, which uses 27 indicators. In the most recent survey, Norway was ranked as a strong innovator, scoring 17 percent higher than the EU average.

«In order to create profitable jobs and growth, Norway's ability to innovate and adapt is an important prerequisite.»



7. Close the skills gap

Ambition for 2030:
Halve the proportion of NHO companies with unmet skills needs.

In the face of demographic change, new technologies and the transition to a low-emission society, we must focus on developing skills to create working lives that allow people and companies to succeed. Before the coronavirus crisis, the NHO Skills Barometer showed that six out of ten NHO companies lacked relevant skills. One consequence is that companies have reduced their activity and lost customers or market share as a result. This skills gap must be closed and the proportion of NHO companies reporting unmet skills needs should be at least halved by 2030.

«we must focus on developing skills to create working lives that allow people and companies to succeed.»

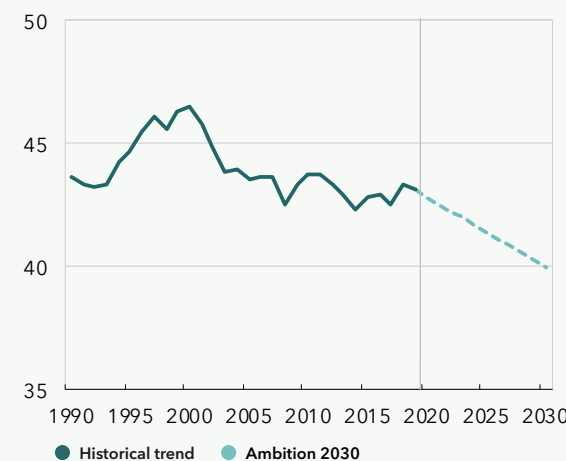


8. A competitive tax burden

Ambition for 2030:
Ensure that the tax level for the mainland economy does not exceed 40 percent of value creation.

Compared with other countries, Norway has a high tax burden. Most taxes and duties result in a loss of efficiency. The higher the tax level, the greater the loss. The total tax revenues (excluding petroleum taxes) should not, therefore, exceed 40 percent of the GDP of mainland Norway. Currently, this stands at 43 percent. To ensure sustainable state finances, budget expenditure must be adjusted to revenues.

Norway: Tax level
In percentage of GDP mainland Norway. Excl. Petroleum taxes



Source: Statistics Norway/NHO



9. A high level of trust

Ambition for 2030:
Ensure societal confidence of at least the current level.

Norway has a high level of trust, both in each other and in the authorities. This trust has economic value; it facilitates financial interaction, reduces the need for control and supervision as well as for rigid and detailed agreements and it supports the longterm economic policy.

Maintaining trust at the current level requires that we continue to pursue an inclusive and open society by, among other things, ensuring media diversity that provides informed citizens and robust public debate. A survey by Statistics Norway on living conditions measures confidence in a single question: "To what extent can you trust most other people on a scale from 0 to 10?". In the previous survey, in 2017, the average was 7.2. Our ambition is for level of trust to remain or exceed this level by 2030.

«Maintaining trust at the current level requires that we continue to pursue an inclusive and open society.»

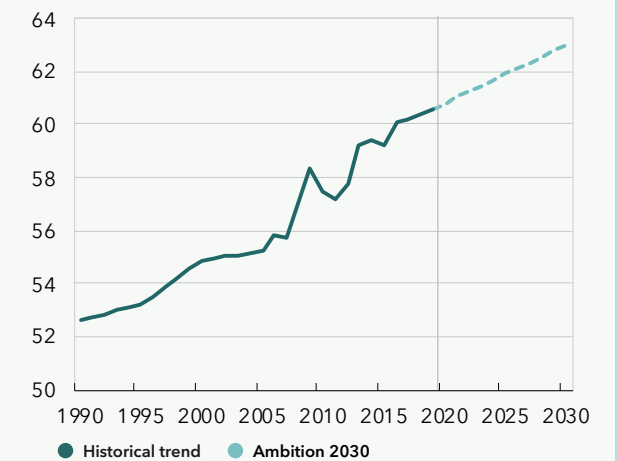


10. Increased union membership

Ambition for 2030:
Increase employees' and employers' union density from 60 to 63 percent.

The tripartite cooperation has served Norway well. Wage formation has delivered high levels of employment, low levels of conflict and strong adaptability. The collaboration derives its legitimacy from a high proportion of organised labour; 49 percent of all wage earners are currently members of a trade union. In the private sector, 71 percent of workers are employed in companies that are union members. The average indicates a union density of 60 percent.

Norway: Union density rate
Employees and employers. Percentage of employed persons*



Source: Statistics Norway/NHO. *Average union density rate amongst employees and employers.



3

The future of business
will be based on our
competitive advantages

Three-quarters of value creation is delivered by private companies. Therefore the way in which the business community develops is crucial for a sustainable future, and whether the ambitions can be achieved.

Despite the inevitable uncertainty about the future, it is clear that the business community of the future will be built upon the achievements of the current companies and advantages we enjoy. Thus it is essential that we both develop the existing business community and create new enterprises.

Over time, we have built up a vibrant, diverse and productive business community. We have connected resources with knowledge, technology and skills across industries. This has provided the work and value creation used to build a better society. Few countries enjoy greater productivity than Norway.

«We have connected resources with knowledge, technology and skills across industries. This has provided the work and value creation used to build a better society.»

Private ownership is key to the growth potential of the Norwegian business community. Over 85 percent of Norwegian companies are majority privately owned¹, contributing long-term and venture capital. The business community will rely on this in the future.

Norway has approximately 200,000 companies, if we exclude companies without employees.² The largest of these deliver a large share of job and value creation, but the vast majority of companies in Norway are small and medium-si-

zed enterprises (SMEs), with less than 100 employees each. SMEs are an vital component of the Norwegian economy, and are essential subcontractors and partners for larger companies and public enterprises. The interaction between different companies will be central for future value creation.

On average, approximately 300,000 new jobs are created each year.³ This means that almost one in ten positions is new each year; almost as many are laid off in the same period. Some of the dynamics are due to new companies but the foremost reason, is the existing business community adapting, by expanding or reducing the number of employees. If we look at business development over the last 30 years, it is characterised by both continuity and change; cf. figures on the development of value creation, employment and exports. Norway is a vast country, with strong value creation in the various regions. This is related to the fact that a significant proportion of the Norwegian business community, e.g. the oil and gas industry and other energy industries, land and sea-based food production, tourism and the processing industry, is based on natural resources. In total, natural resource-based industries account for around a quarter of value creation, with the petroleum industry playing a particularly prominent role.

We also have large industries that mainly supply the domestic market. Both the construction and food industries provide value creation and employment throughout the country, and both will be central to the development of the business community of the future. Although these sectors primarily supply the domestic market, they are increasingly exposed to international competition and will therefore depend on a framework of strong, stable conditions for further growth.

At the same time, there has been a gradual shift in Norway from manufacturing to service industries. As shown above, manufacturing has fallen from 12 percent of mainland GDP in 1990 to 7 percent in 2019. There has been a similar trend in all industrialised countries. This reflects technological progress and associated specialisation, where industries have carved out tasks that are not core activities. In addition, higher living standards have helped to increase household demand for a number of services.

Nevertheless, human capital - the value of all our future

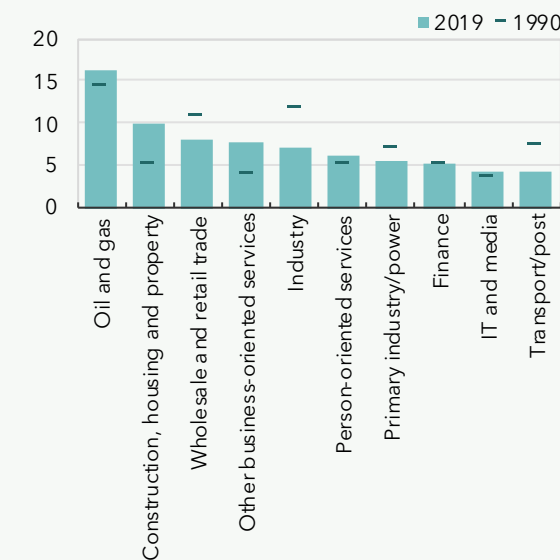
work - is paramount. How we manage this resource will govern much of our future development. Many of the industries based on our natural advantages have strengthened our human capital and delivered fresh skills and innovation in technology. This will open opportunities in new areas, independent of our existing natural advantages.

Much Norwegian business success has been exportoriented. In 2019, the country exported goods and services worth NOK 1,300 billion, equivalent to just over a third of total value creation.⁴ If Norway is to continue to reap the benefits of trade, we must support our existing export industries, and at the same time intensify our efforts to develop new ones.

Global market changes and other drivers will be of particular importance to Norway as a small, open economy. Our prosperity is built on economic relations with other countries. In the future, many of the most important factors for our development will be decided abroad, which will have an impact on our prosperity.

Norway's journey to prosperity has been possible thanks to a dynamic labour market and business community. If we are to continue to make the most of our advantages in the future, we must be at the forefront of development and continue restructuring. Although it is important for the country's future to have strong and stable international development, the Norwegian market will remain be the most important for most indigenous companies. That will require solid and predictable national framework conditions that encourage growth and employment.

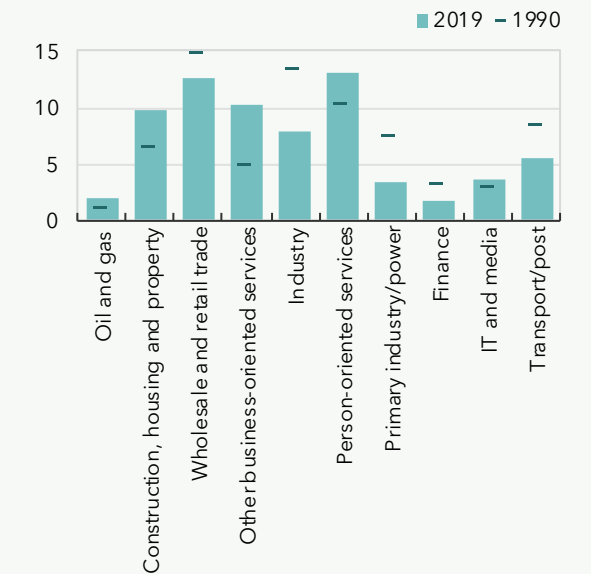
Value creation in various industries
Percentage of GDP



Source: Statistics Norway/NHO* Public administration and housing services excluded

Employment in various industries

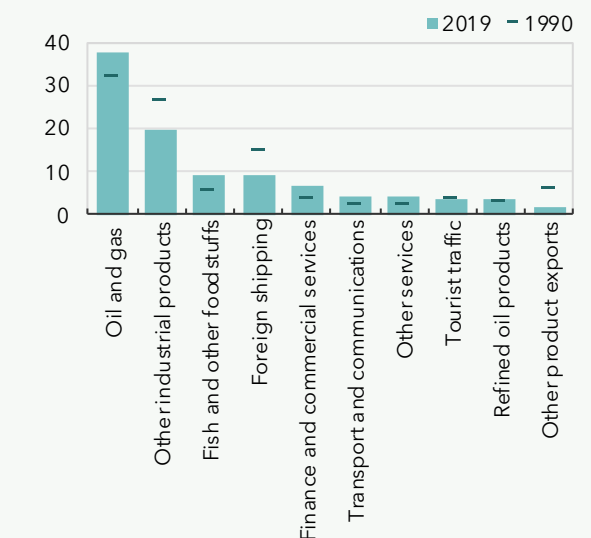
Percentage of total employment



Source: Statistics Norway/NHO* Public administration excluded

Exports

Percentage of total exports



Source: Statistics Norway/NHO

¹ Menon Economics (2020), Private ownership in Norway

² Statistics Norway (2020), Companies. Downloaded June 15th from <https://www.ssb.no/virksomheter-foretak-og-regnskap/statistikker/bedrifter>

³ Statistics Norway (2020), Number of working conditions and wages. Downloaded June 15th from

<https://www.ssb.no/arbeid-og-lonn/statistikker/arblonn>

⁴ Statistics Norway (2020), National Accounts. Downloaded June 15th from <https://www.ssb.no/nasjonalregnskap-og-konjunkturer/statistikker/knr>

Our competitive advantages



Advantages relating to our natural resources:

- A rich resource base: fossil, renewable and bio-based resources as well as minerals.
- A long coastline, and a sea area five times larger than the land area. Norway has developed a strong position in offshore industries.
- Geography and topography suitable for developing renewable hydro and wind power. The magnificent nature in Norway also makes it an attractive tourist destination.
- Our world-leading nature-based expertise clusters: Oil and gas companies and the supplier industry, and the renewable energy, processing and maritime industries.



Advantages related to trust and governance:

- Trust-based culture: Norway is characterised by a high degree of trust between the people and the authorities, and a well-functioning cooperation between the political parties.
- A stable and well-functioning democracy with predictable management regimes and low political risk.
- Safe social conditions: Norway enjoys low crime rates, positive family policies, excellent social mobility and a well-developed social safety net. This helps attract companies and a competent workforce.
- A welfare model where the public sector plays a major role can act a basis for coordinated efforts in stimulating suppliers to the public sector (e.g. health and welfare). A population with good purchasing power can support this.
- The EEA Agreement, which ensures Norwegian companies access to a significantly larger market than the domestic one.

Advantages related to other social conditions:

- A highly educated, technologically mature population with generally good digital skills. This allows new solutions to be implemented quickly and offers more efficient and productive approaches in many areas.
- Well-developed infrastructure that provides secure access to clean water and clean energy, digital capability throughout the country, and a comprehensive piping network connecting Norway's energy resources to Europe.
- Unique public databases, which can be of great value in a data-driven innovation economy.
- A strong financial position, with historically high revenues from the oil and gas business, a Government Pension Fund of more than NOK 10,000 billion and low government debt.



Private ownership in Norway

Private owners are an important part of the Norwegian business community, accounting for majority ownership in over 85 percent of Norwegian companies in 2018. Norwegian private owners' share of value creation in the Norwegian business community was 39 percent in 2018, responsible for as much as 61 percent of all employment. There are large differences in the level of private ownership shares in different industries. They are often strongly represented in domestically focused and labour-intensive industries such as construction and trade, but less so in productive, capital-intensive industries such as oil and gas.

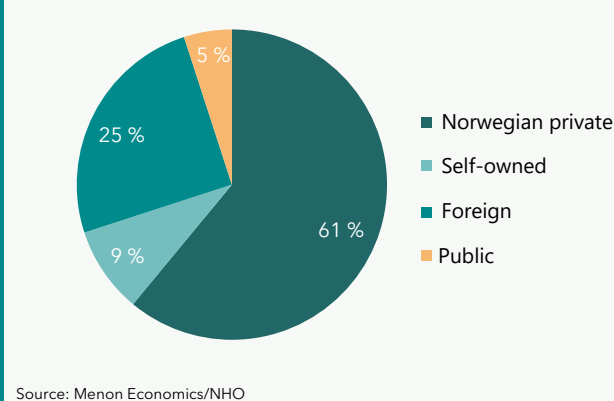
Grafen til høyre viser sysslesetting i norsk næringsliv (ekskl. helseforetak og finanssektoren) fordelt på eiertyper i 2018.

1. Private ownership includes all Norwegian individuals and families
2. Public ownership includes the combined ownership of the state, counties and municipalities
3. Foreign ownership includes all types of foreign owners, regardless of whether they are individuals, public enterprises or foundations/member companies
4. Self-ownership includes foundations, cooperative ownership, housing associations, unions, pension funds, etc.

Norway has a rather varied ownership composition, with a mix of Norwegian, foreign and public owners. This is in part due to political decisions and in part due to Norway's close links with international capital markets. Among listed companies, a relatively small proportion are privately Norwegian owned compared with other European countries. This reflects the high level of public ownership in Norway. However, among unlisted companies, private ownership plays a more important role.

It may appear irrelevant who owns a company. As long as the companies were well-managed and operated efficiently, capital will find its way to the most profitable projects.

Employment in Norwegian business and industry by type of owner in 2018
Percentage of total employment (excluding healthcare companies and the financial sector)



However, it is not quite so straightforward, for a number of reasons. The most important reason is probably the fact that different owners may hold different information on the profitability of a business or individual investment. Investment may, therefore, depend on the most well-informed owner making capital available. Some owners also have specific expertise or access to a valuable network that may influence the companies' development and growth opportunities. If competent owners are not actively involved, growth and profitability will decline. Private owners also have strong incentives to safeguard their own interests.

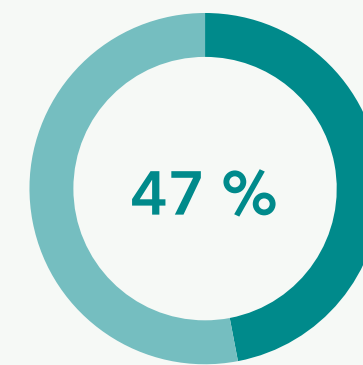
In many contexts, it is crucial that Norwegian private owners make capital available. This is particularly true for small businesses in the start-up phase, as they can often face difficulties in raising capital externally. They are also viewed as high risk, making loan financing difficult. If we are to succeed in encouraging the creation of more new companies, we are reliant on private Norwegian owners finding it worthwhile to invest.

Source: Menon Economics (2020), *Private ownership in Norway*

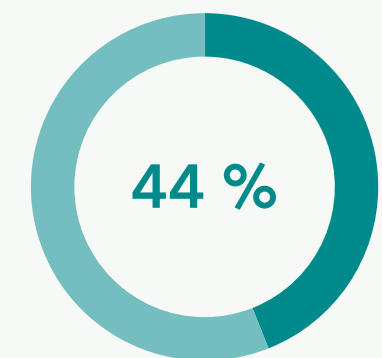
Small and medium-sized enterprises in Norway

In Norway, it is common to define small and medium-sized enterprises (SMEs) as those with less than 100 employees. SMEs make up 99 percent of all companies in Norway. Nearly half of the employees in the commercial sector are employed in SMEs, which account for almost half of the value creation in the sector. SMEs are vital for the Norwegian economy, for flexi-

bility and for their role in the local community. This is because even where a company has few employees, it can generate larger ripples. These companies buy from subcontractors, buy services, rent premises and pay taxes. This creates a knock-on effect in the form of income for other companies, the municipalities and the State, which in turn creates its own knock-on effects.



47 % of employees in the private sector work in SMEs



44 % of value creation from companies come from SMEs

Source: NHO (2018) *The SME-promise*



4

Four opportunities for growth and new jobs in the business world of the future

In order to succeed in creating a sustainable society and realise our ambitions by 2030, we must realise our growth potential. With this report, the NHO has undertaken and reviewed a number of analyses and feasibility studies in collaboration with research organisations and member companies. The NHO has also conducted several member meetings and surveys. This is to map areas where the business community has particular potential for success in the future. The purpose was not been to 'pick winners', but rather to identify areas that the business community as a whole identifies as offering promising potential for job creation and growth in both new and existing businesses. Some of the perspectives and results from these analyses are reproduced here. We emphasise that the figures must be considered in isolation and not aggregated. This is partly due to the fact that there may be overlapping areas in the various analyses.

In summary, the roadmap identifies four potential cross-industry areas: a greener economy, a more digital economy, a more service-based economy and a more international economy.

These are areas that - before the coronavirus crisis - were driving change in many sectors of the economy. Once the acute phase of the crisis is over, it seems likely that that this process of change will continue and even accelerate. This

will have an impact on future market opportunities for the entire business community. New value chains and business models will emerge, growing from established industries and current businesses and contributing to their further development. At the same time, other new business can be created in the interfaces between them.

For large sections of the business community, it is also a question of identifying the opportunities that the green transition and digitalisation will offer, without necessarily seeing significant changes in market demand. As before, we will continue to depend on the local service industry for builders, cleaners, plumbers and electricians, kindergartens and hairdressers, food production and so on. The socially critical infrastructure that surrounds this will continue to be built and maintained. For many companies, the greatest changes will in how goods and services are produced and distributed. Shifting patterns here will also lead to new value creation and new business opportunities.

Although efforts to create more and new growth areas should be increased, the main basis for job and value creation will primarily lie in established industries. These will succeed if they meet these changes a willingness and capacity to adapt.

A greener economy

Climate change is necessary to keep the world within the two-degree goal, and represents great opportunities for business and industry. The EU has presented its growth strategy "The European Green Deal" - an ambitious and comprehensive plan for all policy development. This will provide guidelines for market development, both in the EU and at home. Norway is the first country in the world to have announced a target for reducing greenhouse gas by at least 50 percent by 2030, in cooperation with the EU.

The transition to a greener and more sustainable economy will alter production processes and consumption patterns and change the market conditions for many companies. This shift involves three important trends:

- More renewable/emission-free energy, as we transition to a low-emission society
- The emergence of circular and bio-based value chains as we move to a circular economy
- Opportunities and challenges as we adapt to a warmer, wetter and wilder climate

The energy transition will cut emissions and creates jobs

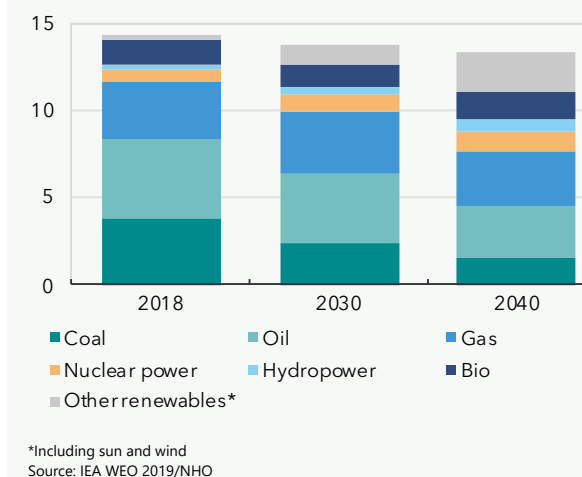
The transition to more renewable and emission-free energy sources is central to reducing emissions and limiting global warming. The majority of the world's greenhouse gas emissions arise from energy consumption in various forms. The coronavirus crisis has demonstrated that shutting down activity in society is neither a sustainable nor a long-term approach to solving the challenge of climate change. We need to develop new technologies and roll out large-scale solutions that both cut emissions and create jobs, activity, growth and welfare.

As an energy-producing nation, Norway has interests in the outcome of the energy transition, and also has considerable opportunities to influence it. We already have world-leading business clusters in the oil and gas industry, the supply and processing industries and the power sector. We also have a strong research sector. A successful energy and climate change adjustment depends on, among other things, our ability to mobilise and develop these skills and experience in Norway.

The role of the oil and gas industry in this energy transition, and in a future low-emission society, is a topic that enjoys considerable attention in Norway and the rest of the world. Most analyses and scenarios indicate that oil and gas will remain a significant part of the energy mix, even in a world that achieves the two-degree goal.

Global: Energy demand by source

IEA Sustainable Development. Primary energy. Billion tonnes of oil equivalents



The speed and scope of the energy transition in various sectors is also a topic of some controversy.⁵ The coronavirus crisis has not reduced the uncertainty surrounding the issue. Some believe that low oil prices will persist post-crisis, while others predict a rapid recovery and long-term higher oil prices as a consequence of the reduced investments and thus lower production.

Gas currently accounts for 21 percent of the EU's energy consumption, with coal a further 15 percent.⁶ Norway accounts for some 20 percent of the EU's gas imports,⁷ and will most likely remain the EU's preferred supplier of gas for the foreseeable future. With the EU's climate ambitions, there is a pressing need to reduce coal use and replace it with gas or renewable energy solutions.

In the longer term, the climate footprint of gas will also need to be reduced, as the EU that aims to seek to achieve an energy mix with net-zero greenhouse gas emissions. There

are many indications that hydrogen, as an energy carrier, be increasingly important in the European energy system, both as a storage medium and as a balancing power for non-flexible wind and solar power, and as an energy carrier for transport, industry, heating and cooking. There is a large market seeking access to both green and blue hydrogen.⁸ Hydrogen production from natural gas with CCS (CO₂ capture and storage) - so-called 'blue' hydrogen - could prove a significant source of emission-free energy to Europe, using the existing gas pipeline system.

Norway is well placed to develop solutions for CO₂ capture, as well as to increase its market share in the entire value chain from capture technology to transport, use and storage solutions. The world will not achieve its two-degree goal without such technology and, according to calculations by SINTEF (one of Europe's largest independent research organisations), taking a leadership role in CCS could create many new jobs.

Norway has almost 100 percent clean electricity based on hydropower.⁹ In the long term, we appear to be heading for a significant power surplus. The surplus of renewable energy gives Norway a unique opportunity to continue its electrification and to phase out fossil energy use in new areas. Statnett has calculated that the comprehensive electrification of current industry, transport and construction could increase electricity consumption by 30-50 TWh by 2040.¹⁰ This will reduce Norway's greenhouse gas emissions by 25 million tonnes of CO₂ equivalents; halving current levels. At the same time, there is potential for further increasing electricity production by modernising existing hydropower plants. Norway also has one of Europe's greatest wind resources, both on land and offshore. We can take positions in the growing market for offshore wind power, developing parks, producing equipment and delivering system integration, as well as providing maritime activities throughout the value chain. In a well-functioning power market, with a significant power surplus, the solution must be to link offshore wind power investment more directly to Europe, thus addressing the need for more renewable power. There are also opportunities for long-term development of profitable onshore wind power in Norway. We must as soon

⁵ Chatham House (2020) *Expert Perspectives on Norway's Energy Future*. Downloaded July 30th from <https://www.nho.no/contentassets/cfd630b084f547229be17c46fd44eac/2020-06-29-expert-perspectives-norway-oil-froggatt-et-al.pdf>

⁶ Eurostat (2020) Shedding light on energy in the EU. Downloaded June 16th from <https://ec.europa.eu/eurostat/cache/infographs/energy/>

⁷ Ibid.

⁸ There are three ways to make hydrogen. One involves producing hydrogen from renewable energy - green hydrogen. The other two methods involve

converting natural gas to hydrogen gas. When CO₂ is stored, hydrogen will be virtually emission-free - blue hydrogen. The usual and current way of producing hydrogen is from gas without CO₂ storage - grey hydrogen.

⁹ Statistics Norway (2019) Electricity. Downloaded June 16th from <https://www.ssb.no/energi-og-industri/statistikker/elektrisitet/aar>

¹⁰ Statnett (2019) How Norway can become an electric society. Downloaded June 16th from <https://www.statnett.no/om-statnett/nyheter-og-pressemeldinger/nyhetsarkiv-2019/slik-kan-norge-bli-et-elektrisk-samfunn/>

Expert perspectives on Norway's future as an energy nation

The world is undergoing an energy transition, but its speed and scope is unclear. This is clear from an analysis by Chatham House, which interviewed leading energy experts about the energy markets of the future.

Norway is a large energy-producing nation, one that could make a significant external contribution to a net-zero emission world. However, the expert interviews highlight that Norway has much to do to promote its expertise, technologies and perspectives internationally. If we are to shape a future where Norwegian companies can deliver solutions into an international market, we must step up our outward-looking activity in many sectors. Excerpts from some of the interviews:

Dr. Fatih Birol, executive director of the IEA

Norway is among the leaders in both CCUS and clean hydrogen production – these are key components of the longer-term options for decarbonization in several energy-intensive sectors. Moreover, it is currently developing a full-scale CCS project, including two

capture facilities (Fortum waste-to-energy and Norcem cement) and a CO₂ transport and storage hub (the Northern Lights project). Therefore, it could play an important leading role during the decarbonization transition.

Michael Liebreich, founder of Bloomberg New Energy Finance

Norway is a leader in rolling out EVs and related infrastructure but it has a modesty about saying ‘we are world-class’ [...] The country is also world-class in eliminating gas flaring and could export that as a package of services including finance, government access and engineering services to solve flaring in other countries [...] Norway could play a catalytic role in helping the world deal with climate change. It should aim for decarbonization by 2050 and in the meantime its oil and gas industry and heavy industry need to be ethical suppliers of their products.

Source: Chatham House (2020) *Expert Perspectives on Norway's Energy Future*.

as possible put in place an updated licencing process that incorporates a conflict-mitigating and streamlining effect, where the municipalities can benefit from wind power development. Our current position as a producer of renewable resources, with access to clean and regulated hydropower, gives us the opportunity to further develop the supply of power to our European neighbours via new, profitable cable connections. At the same time, relatively low power prices offer incentives for new power-intensive industrial investments in Norway. The balanced development of foreign cables will not inhibit this. The oil and gas industry's climate strategy, with a target of 40 percent emission cuts by 2030,¹¹ will require considerable new power to be able to electrify installations on the continental shelf. Aggressive

investment in emission-free and renewable energy can act as Norway's contribution to the European climate initiative, while creating jobs and value in Norway. For the Norwegian manufacturing industry, clean power has always offered a competitive advantage. The industry is also working hard on developing more resource-efficient solutions and other climate solutions, such as CCS.

The market potential in solar and wind power, batteries and hydrogen is also significant. These put pressure on Norway's advantages, but also create potential for new opportunities. Norway is well positioned to encourage new industrial investments in, for example, large-scale battery production, offshore wind power and hydrogen. This will

¹¹ Konkraft (2020) The energy industry of the future on the Norwegian shelf. Downloaded June 16th from <https://www.norskoljeoggass.no/contentassets/992dcd6ed1414f5fa6eeca763b6da25/framtidens-energinaring-paa-norsk-sokkel-konkraftrapport-2020-1-6.pdf>

help establish global leaders in renewables. (See examples of new value chains under “Opportunities in a more international economy”).

There are also excellent opportunities for the Norwegian business community in the maritime industries, from ferries to the deep-sea sector, where there is a sizeable global market. With Norway's comprehensive maritime cluster, consisting of world-leaders in shipping, shipyards, equipment and services, Norway already holds a strong international position. The cluster also plays a leading role in - among other things - developing offshore wind power,

sustainable aquaculture and green shipping, including low and zero-emission technologies.

The transport sector is our largest emissions sector, and commercial transport accounts for two thirds of these.¹² In other words, commercial transport - vans, lorries, construction machinery, buses, ships and aircraft - faces significant energy consumption restructuring. These emissions will be halved in the coming decade. This means embracing the widespread introduction of trucks, buses, ships and boats, tractors and construction machinery and aircraft powered by biofuels, batteries or hydrogen.

Energy and industry potential

SINTEF categorised the potential value chains in energy and industry by potential turnover into, 0 - 10, 10 - 100 and over NOK 100 billion in 2050, based on available reports and its own research. A prerequisite for the analysis was that the low-emission society is realised.

The ‘over NOK 100 billion’ category includes:

- the processing industry
- carbon capturing and storage
- hydrogen
- offshore wind power
- electrification of transport
- digitised supplier and consumer goods industries.

The ‘NOK 10-100 billion’ category contains:

- minerals and mining
- battery production
- renewable energy
- photovoltaics
- electrical transmission networks.

There are also other exciting ideas, which are not so easily valued, including:

- bioenergy and biochar
- emission-free extraction of oil and gas.

For carbon capture and storage (CCS), options include:

- ensuring the competitiveness of the proces-

sing industry in a climate-positive framework

- increasing Norway's attractiveness as a host nation for international industry, and creating the basis for establishing new industries
- using CCS to contribute to hydrogen production from natural gas
- expand the market for CO₂ management in Europe, thus providing opportunities for Norwegian-developed capture technologies
- establishing centralised storage for CO₂ in the North Sea
- increasing demand for CO₂ transport of on ships, creating ripple effects for Norwegian shipyards, shipping companies and other service activities.

SINTEF has estimated the potential for job and value creation for CO₂ management in Europe based on high, moderate and low scenarios A moderate investment in CCS in Europe could provide a market volume of NOK 150 billion by 2030 and NOK 300 billion by 2050. Norway already has 40 percent of the CO₂ storage capacity in northern Europe. Further investment will allow us to take a significant share of the market. In a moderate scenario, future employment in the European CCS industry is estimated at 30,000 jobs, of which 11,500 could be in Norway (with additional ripple effects).

Kilde: SINTEF (2019) *Energi og Industri*.

¹² Statistics Norway (2020) Emissions to air. Downloaded June 16th from <https://www.ssb.no/natur-og-miljo/statistikker/klimagassn>

Future opportunities in maritime industries

Norway's comprehensive maritime cluster provides a strong global position. We have the fifth-most valuable fleet in the world. We particularly excel in maritime finance and law, as well as maritime technology. However, the industry is mainly composed of companies that design, develop, build, deliver, maintain, modify, own, operate and sell ships, equipment and specialised services for all types of ships and floating vessels.

In 2018, the maritime industry contributed NOK 142 billion in value creation, corresponding to 8 percent of GDP (excluding oil operators). In 2018 the sector employed 85,000 people, and the equivalent of NOK 217 billion was exported.

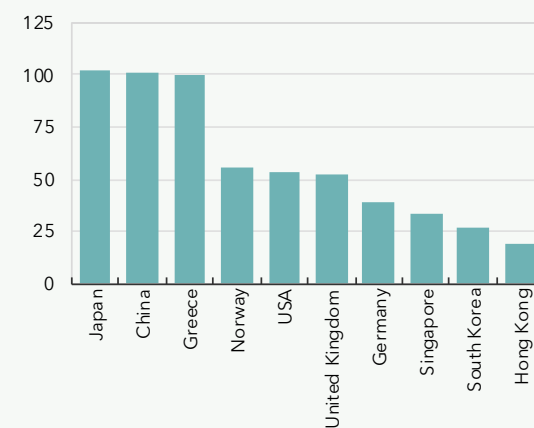
SINTEF estimates that by 2050, value creation can be multiplied, and employment significantly increased, over 2018 levels. These opportunities will arise from technology areas such as environmentally friendly shipping, autonomy and digitalisation. There will also be significant opportunities in new and emerging industries, such as aquaculture, offshore wind power, CCS, offshore mineral extraction. Examples include

- developing hybrid energy systems and electrification of smaller vessels.
- developing technology and services related to the transportation and distribution of maritime fuel (e.g. ammonia, LNG and advanced

biodiesel).

- energy-saving technologies, including vessel design, solutions for optimising route choices and more efficient energy systems
- designing and constructing autonomous ships, and developing solutions that provide optimised ship management and improved transport and logistics systems.
- new business models and system integration, such as service delivery in operations, monitoring and control

The world's ten largest shipping nations
Ranked by fleet value. In billions USD



Source: Norwegian Shipowners' Association/NHO

Source: SINTEF Ocean (2019), *Future opportunities in maritime industries*

New business concepts and business opportunities will emerge in the interplay between these new energy sources, the development of new energy infrastructure and service-based operation and the required management solutions. The opportunities are closely linked to increasing digitalisation and data access, which in turn provides the basis for developing smart, sustainable cities and communities.

This also demands urban planning, site development and the creation of effective and efficient transport solutions. The continuing demand for housing, schools, commercial buildings, roads and other infrastructure creates the need for new technologies, new construction methods and more

sustainable materials. A competitive and competent construction industry will therefore be essential for growth and development in the transition to a low-emission society.

Hydropower means that the energy supplied to buildings and infrastructure is renewably sourced. There is, however, the potential to develop further energy-efficient solutions. This will provide growth in the construction industry and, at the same time, release electrical power that can be used for other purposes. Norwegian building material manufacturers are world leaders in documenting the environmental properties of their products through the use of environmental declarations (EPD), which provide a comprehensive overview of their environmental performance.

Circular and bio-based value chains can provide new jobs and value creation in Norway

The world's economic activities are increasingly taking over land areas and expending scarce natural resources. We must therefore adopt more sustainable consumption patterns, keeping the resources in the cycle as long as possible, while at the same time ensuring new value creation. Norway has natural advantages and strong existing skills in investing in areas such as farming, harvesting and producing food in the sea.

This shift towards a more circular economy will alleviate the pressure on scarce natural resources and vulnerable ecosystems, and slow down the loss of biodiversity. Only 9 percent of the world's minerals, fossil energy resources, metals and biomass are currently recycled (Circular Gap Report).¹³ The remainder becomes waste, used as an energy source or is still in use today. The EU aims to reduce resource consumption and double the use of circular materials in the coming decade. This is important to Norway because of the EEA agreement. New product requirements and regula-

Bio-based value chains

Norway has renewable biological resources, both on land and at sea. The sea area is some six times larger than the size of the land. Our greatest opportunity lies in developing Norway as a global supplier of food produced from the sea. SINTEF foresees an increase in both value creation and exports. To succeed, a greater proportion of landbased biomass must be converted to feed.

There are huge opportunities to be found in more holistic value chains and cross-disciplinary collaboration. SINTEF highlights, inter alia, five areas of opportunity:

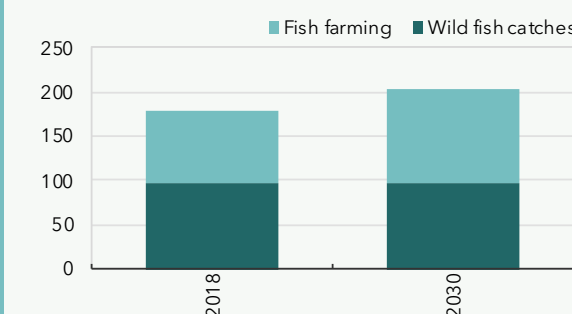
1. increasing production and harvesting of food from the sea
2. increasing the extraction of wood and GROT (forestry waste)
3. harvesting and cultivating algae, seaweed and kelp
4. increasing production of biodegradable plastics
5. developing industrial production of biotech medicines

4. increasing production of biodegradable plastics
5. developing industrial production of biotech medicines

SINTEF also shows that Norway has unique growth opportunities through industrial protein production. Norwegian agriculture and forestry - the green sector - can, together with the blue sector, help deliver better and more sustainable feed for fish and livestock. This will allow us to achieve our climate goals and maximise our resource and expertise use, while at the same time growing employment and export revenues. By increasing our expertise and developing synergies between value chains, we will also see increased profitability, sustainability and security of supply.

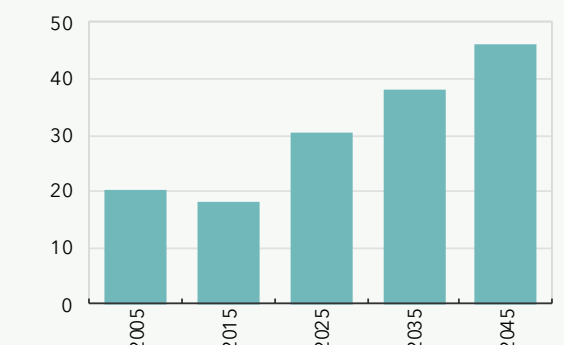
Source: SINTEF (2019), *Bio-based value chains*

Livestock production must grow to meet the world's need for fish for human consumption
Projection up to 2030. In millions of tons.



Source: FAO/NHO

Value creation in the forestry and timber industry
Projection up to 2045. In billions NOK.



Source: Skog22/SINTEF/NHO

¹³ PACE (2020) *Circular Gap Report*. Downloaded July 30th from https://assets.website-files.com/5e185aa4d27bcf348400ed82/5e26ead616b6d1d157ff4293_20200120%20-%20CGR%20Global%20-%20Report%20web%20single%20page%20-%2020210x297mm%20-%20compressed.pdf

Bio-based value creation - future perspectives

Using renewable biological resources to produce new food, the raw materials for feed and biofuels is an important method of creating value in the Norwegian economy. It increases our level of self-sufficiency and minimises the environmental impact. Technological developments, innovation in plant and livestock breeding (including fish) and effective management of genetic resources will help streamline and improve existing value chains and create new opportunities. It will also make agriculture and livestock healthier, more robust, productive and climate-smart. Overall, it will encourage more sustainable food production and raises the quality of the end product.

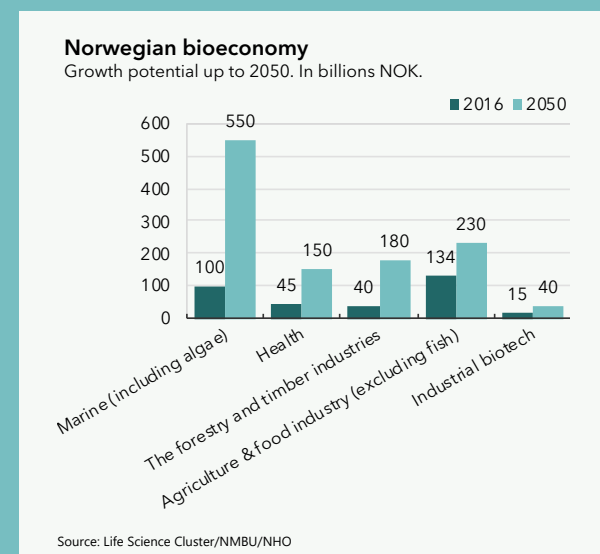
The NMBU (Norwegian University of Life Sciences NMBU) has identified four value chains with business potential in land-based bio-industries.

1. converting forest-based biomass to biofuels
2. bio-refining biological resources for microbial food and feed
3. precision breeding based on genetic research
4. developing robot-based production technologies

Estimates suggest that these four value chains can increase gross value creation by NOK 40 billion in the relevant industries by 2050.

At the same time, the NMBU points out that the growth potential for the Norwegian bioeconomy is significantly greater. Based on earlier estimates, the turnover of the bioeconomy could triple by 2050. Success will require a comprehensive policy and predictable regulatory systems. It will also require investment in the industry that targets the entire value chain, from innovation to end product. There must be access to venture capital and infrastructure in order to upscale processes. Increased expertise in innovation and business development will also be needed.

Kilde: NMBU (2019) *Biobasert verdiskaping - fremtidsperspektiver*.



tions will create new markets and value chains, and make it more attractive to create durable, sustainable products.

Norway was an early adopter, and remains at the forefront of return and deposit schemes for various types of waste, with environmental agreements and recycling companies, landfill bans, sorting at source and waste incineration. A 100 percent circular economy - the EU has set this as a goal for 2050 - will require new solutions for collecting, sorting, reuse and recycling of a range of materials and fractions. There is no reason why we should surrender our leading position in the circular and bio-economies to the EU. Inste-

ad, we should use our position to develop the technologies and solutions the world needs.

Biological resources are part of nature's own carbon cycle and are thus inherently circular. CO2 emitted through the combustion and decomposition of biological material is absorbed by other growing organisms. When we capture CO2, we gain concentrated access to nature's own building blocks; these can be converted into foods, materials and fuels. The circular and bio-economies are thus closely interlinked. Norway has already taken a leading role in the sustainable industrial production of materials, seafood and

products for a global market. Renewable energy will allow us to further exploit our large fossil and biological carbon resources to increase production and exports.

Norway exports seafood generate some NOK 100 billion per year¹⁴, and we have a huge opportunity to further increase sea-based food production. By increasing the production of salmon and other species, as well as harvesting and cultivating organisms at lower levels in the food chain in the sea, we can achieve sustainable growth and strengthen Norway's position as a global food supplier.

The link between agriculture and aquaculture must be strengthened, to allow biomass from forests and soil to be converted to fish feed, while sludge and waste from aquaculture can be converted to biofuels. This provides opportunities to look at the green and blue bio-economies working in unison. Modern technology for harvesting and growing micro- and macro-algae presents a major value creation opportunity, without overly stressing sea areas. Increased processing of seafood and land-based products in Norway will deliver more jobs, increased value creation and reduce the need for transport.

Norwegian food production is climate-smart with a relatively low climate footprint. The industry is actively seeking to improve diet and health, including through extensive collaboration with health authorities. The cooperation between the industry and government to achieve healthier diets is probably the world's most comprehensive agreement between the authorities and the business community in public health policy, and is driven by the objective of increased competitiveness. The Norwegian food industry has strong brands, and low levels of antibiotic and pesticide use. When consumers increasingly demand healthy products with lower climate and environmental impact, this increases the potential for Norwegian-produced food and drink for both the domestic market and for exports.

Within a sustainable forestry approach, there is considerable potential to increase extraction of wood and forestry waste. Biomass from forests should preferably be used for long-life and high-value products, while pulpwood, residues, waste and side streams should be used in other industries and for energy. At the same time, the demand for sustainable biofuels in the transport sector is providing opportunities to develop production in Norway; indeed, several initiatives are already underway.

Warmer, wetter and wilder weather provides opportunities and challenges for the business community

Climate adaptation requires understanding the consequences of climate change, and implementing measures to either prevent and limit damage or to take advantage of the opportunities that the changes may entail.

In Norway, the consequences will primarily be warmer, wetter and wilder weather. The snow season will be shorter, the risk of summer drought will increase, while greater and heavier precipitation will increase the risk of flooding. The degree of vulnerability is also about the ability to adapt inherent in institutional conditions (political, economic and cultural). Norway is a country of considerable adaptability and high political, economic and social resilience. Although the effects of wilder, wetter and warmer weather types will also be felt here, we will probably be one of the countries least exposed to the impact of climate change. This will still require us to adapt and make more thorough assessments, e.g. where infrastructure and companies are sited and business activities are undertaken.

The conditions for farming, forestry, fishing and aquaculture will probably alter in the long run as the climate changes. This may provide a better basis for bio-based industries and local supplies to the food industry. However, it can also pose challenges, such as more frequent flooding or prolonged periods of drought. It may also create challenges for areas that are currently climatically favourable.

Climate change will also create challenges for some industries and opportunities for others. Water damage in houses and commercial buildings, impaired roads and infrastructure and buildings washed away by floods and landslides will all need to be repaired and/or rebuilt. More flood and landslide prevention measures, surface water management, expanded water and sewage systems, and protection against storm surges and sea level rise will all be required in the future. This provides opportunities for contractors, consulting engineers and other private construction enterprises. There will also be new business areas for banks, insurance companies and financial institutions in offering solutions that take climate and nature risk into account.

Milder winters, and shorter and more varied snow seasons, mean that many tourist destinations will have to offer a wider range of experiences to reduce their vulnerability to climatic fluctuations. At the same time, increasing demand for services and solutions that either monitor, prevent, anticipate or overcome climate change will create a diversity of conceivable solutions over time.

¹⁴ The Norwegian Seafood Council (2020) Seafood exports of NOK 107.3 billion in 2019. Downloaded June 15th from <https://seafood.no/aktuelt/nyheter/sjomatek-sport-for-1073-milliarder-kroner-i-2019/>



A more digital economy

Digitalisation is changing all aspects of our society; the way we live, work and do business. In many areas, digitalisation has gained momentum from the coronavirus crisis. Video meetings, distance learning and online shopping with home delivery have grown exponentially, helping keep the wheels of commerce turning. The crisis may have advanced a development that normally may have taken many more years.

Digitalisation offers huge opportunities for business, the public sector and society. New technologies lead to improved productivity and new growth opportunities. New markets are opening up, industries are merging, and digital tools are changing work processes and how businesses interface. Those companies and industries that succeed in rapidly exploiting these technological opportunities can gain a competitive advantage. Many of the major gains of digitalisation have yet to be realised. The digital transformation also creates fertile ground for completely new business areas.

There are three particular aspects of digitalisation that will define the opportunities of the future:

- the value of data
- the automation of work tasks and autonomous solutions
- the new interfaces and disruptive business models.

The value of data will become increasingly important

Data is an important driver of productivity, jobs and innovation in the emerging digital economy. What is new is the volume of data being produced, as well as the technologies that give us the capacity to extract valuable information from it. Data use plays an important role in production in most industries today. As all work processes and activities in society undergo a digital transformation, the opportunities to create value from data will increase. At the same time, digitalisation will be integrated into all activities, and will become a normal part of business. We can thus expect

the data economy to become significantly more important in the coming years. One example of value creation through new uses of data is 'Digital bedrock',¹⁵ where oil industry companies have jointly invested NOK 300 million to facilitate new uses of data from old oil wells. This provides new insights into the Norwegian continental shelf, and new opportunities for value creation. Society's gains from data are threefold¹⁶:

1. The data processing industry, the business sector that uses data as the main resource in value creation, and society's income from this value creation.
2. Productivity growth, which the use of resource data provides to the rest of the public and private sectors, and the economic value that this generates in the form of increased GDP.
3. The improved welfare that the use of resource data

provides in the form of better public services (or reduced public expenditure), better healthcare, fewer accidents, reduced queues, lower climate and environmental problems and many other socioeconomic effects. The coronavirus crisis has already demonstrated the socioeconomic gains from scientific knowledge based on reliable real-time data.

Data can be, in many ways, considered a renewable resource, and one that does not necessarily lose value even when we share it. In fact, sharing data can often increase its value, creating new solutions across sectors, industries and businesses. If natural resources are important input factors in a resource-based economy, then data is the input factor in a knowledge-driven data economy.

Future value creation in the data economy

Data now provides an increasing part of value creation in most industries. Menon Economics has estimated that the Norwegian data economy creates an annual value of around NOK 150 billion, and employs the equivalent to 100,000 people in 2020.

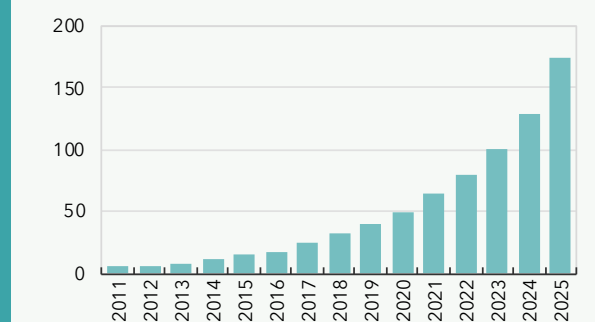
It is important to distinguish between data and digitalisation. We are solely considering the value of data as an input factor for digital processes. It is also important that we do not confuse data with the technologies that extract value from data. This report mainly focuses on data as a raw material, while the enabling technologies, such as artificial intelligence (AI) and the digital infrastructure surrounding data are resources essential to realising its value.

The enabling technologies, such as big data analysis and AI, indicate that we are entering a new data-driven era. In the years leading up to 2030, Norway will be able to realise substantial financial value from resource data. Menon estimates that value creation could double by 2030 to NOK 300 billion in 2030, or approximately 7 percent of GDP. These estimates include value creation within the data industry and the assumed productivity

growth, but not the increases in welfare created by data use. In order to create internationally competitive jobs based on resource data, Menon Economics points to three types of advantages that must be developed:

1. data quality and availability
2. infrastructure that makes it possible to realise the value of data
3. world-class industrial expertise.

Volume of data created, captured and copied
Zettabyte



Source: IDC/Menon Economics/NHO

Source: Menon Economics (2019), *Is value creation through data something Norway can live off?* Downloaded July 30th from https://www.nho.no/contentassets/dece97a9ac14c918039d2d7c6f69879/verdiskaping-med-data-menon_231219_endelig.pdf

¹⁵ Norwegian Oil & Gas (2019) A new "big data" project will enable more oil and gas discoveries. Downloaded June 15th from <https://www.norskoljeog-gass.no/om-oss/nyheter/2019/10/digitalt-grunnfjell/>

¹⁶ Menon Economics (2019), *Is value creation through data something Norway can live off?* Downloaded July 30th from https://www.nho.no/contentassets/dece97a9ac14c918039d2d7c6f69879/verdiskaping-med-data-menon_231219_endelig.pdf

Automation provides new growth opportunities

The transition to more automated and more cost-effective work processes is already affecting all companies. Such technologies make it possible for companies to keep production facilities in Norway, potentially bring production home, and to invest in new capacity and efficient production facilities in Norway. It creates new jobs for Norwegian companies.

On the other hand, digitalisation will lead to a change in the nature of work at the same time as new jobs are created. The digital transformation is largely to streamline work processes and free up resources that can be better used for more value-creating activities. The OECD estimates that only 6 percent of jobs in Norway are at high risk of becoming automated.¹⁷ Nevertheless, digitalisation will necessarily entail restructuring, and the content and skills requirements of many jobs will change as a result of automation and new technology.

Digital solutions can be scaled for global markets much more easily than physical products, and digitalisation can

thus provide new opportunities for the Norwegian business community. It is normal to view the development of world-leading software as a basis for Norwegian value creation and jobs, as illustrated by the companies such as Opera Software and Fast Search & Transfer. Digital solutions also provide opportunities to develop services and concepts where value creation does not just lie solely the software itself. Enabling technologies, such as AI, virtual/augmented reality, big data and the Internet of Things pave the way for solutions such as autonomous systems (e.g. 'self-navigating' ships) and the use of so-called 'digital twins' where physical infrastructure can be monitored and controlled using a digital copy. One example of the use of AI is the company, Boost AI, which develops chatbots (computer programmes that people can talk, either orally or in writing). These have been used in the public sector and in the banking and finance industry. The technology behind the chatbots uses artificial intelligence and advanced machine learning.

In particular, autonomous systems and the use of digital twin technology are an interesting opportunity for the Norwegian businesses. Simply put, Norway can take up a position as 'the world's control room'. International markets

Enabling technologies

"The New Digital Norway", prepared by the Norwegian Academy of Science and Technology, highlights additive production, artificial intelligence, sensor technology and digital twins as the technological advances that will be of particular importance to Norwegian manufacturing companies.

Additive production makes it possible to create stronger, lighter and more complex shapes more simply than through traditional machining techniques. Although the method has been known for a long time, it is only now that we have the technical and digital capacity to fully explore its potential.

Artificial intelligence and machine learning: The combination of technological advances and the exponential growth in data production has led to the use of AI and machine learning in an increasing

number of areas. AI is now found in everything from customer service centres and self-driving cars to optimising exploration activities on the continental shelf. We have, however, only scratched the surface. Many IT companies are now building up their own AI units, and both the private and public sectors are investing in new applications.

Digital twins are complete digital copies of physical components, systems or entire physical systems and processes of which it is a part and or it executes. Digital twins make it possible for companies to make considerable savings on product development and testing, as design, testing and adaptation can be simulated on the digital twin rather than the physical entity. It also opens up the options of a whole new level of remote control and automation, thus increasing safety, efficiency and profitability.

are growing rapidly, and the prerequisites for success are particularly good where strong Norwegian technology companies combined with excellent industry skills. We find these factors in the marine and maritime industries ('marine environment'), including the oil and gas and offshore energy sectors.

Norway was also quick to open up the power sector to competition, with an increased focus on innovation. In recent years, many new solutions have been developed for more efficient monitoring of the power grid. Many new business opportunities will arise in smart energy systems, where digitalisation is an important component.

National social security, contingency and defence are other areas of opportunity. Increasing digitalisation potentially increases our vulnerability to cybercrime. Norway is a politically stable and secure country. This is a consideration when international actors are considering bringing activities such as data centres to Norway. We also have defence technology businesses who are world leaders in areas where control and surveillance technology are pivotal.

Another area that has seen global development of new digital 'control room solutions' is the health and care sector. There are several relevant R&D projects in Norway within this sector, and we can look at the opportunities to monitor and manage various work processes in the health and care sector using digital solutions developed in other sectors. In addition to the business opportunities this offers, it will be vital in meeting the needs of an ageing population, in Norway and in the rest of the world.

Digitalisation opens up new business models

Digitalisation brings new actors and new business models. Traditional and incumbent businesses need to compete with companies that are digitally native. The digital transformation is challenging business models and value chains in industry after industry.

The most obvious example is the emergence of digital platforms that make data and frameworks available, so that other companies can use them to realise new services. Google, Facebook and Alibaba have gained large market shares in their areas through a combination of good services, network effects, value chain control, data and acquisitions.

The platform economy has turned several major industries upside down. Large markets, such as transport and the tourism industry, are the bestknown examples; however, every

sector - from professional knowledge services to Norwegian agriculture and the entire ecosystem of companies in the oil and gas industry - are developing and implementing digital platform solutions. Alliances with other industries increase the platforms' range and data access. An example is the Telenor Connexion, which is an Internet of Things (IoT) for companies such as Volvo, Scania and Verisure.

The reason behind the success and growth of these companies is that they have prospered in markets characterised by large network gains. When digitalisation also removes geographic market boundaries and makes markets global, it gives rise to 'superstar companies' such as Facebook and Google. However, this also poses new challenges, which requires authorities and regulations to remain abreast of developments. Norway already holds a leading global position for the digitalisation of financial infrastructure and service production. Financial technology is increasingly sliding into the platform economy, and we must accept that the market is becoming increasingly globalised. Norwegian businesses have developed services and infrastructure that should be able to reach an international market.

Blockchain/cryptocurrencies can also cause major changes to the way we think about financial flows. These represent challenges to both the financial industry and the government, but also provides potential opportunities for Norway, which is at the forefront of digitalisation. This is currently a largely unregulated area, which limits the opportunities to experiment and explore the range of possibilities. Norwegian businesses must react and quickly put themselves in the driver's seat if they are to avoid losing their competitive advantages and market share, as digital platforms emerge in increasing numbers of industries. The key to success may lie in closer collaboration. An example of this is Vipps, where Norwegian banks have joined forces to create a strong national company in the payment solution market capable of competing with giants such as Apple and Google.

We currently have several examples of Norwegian companies that seem to be well positioned in the race for global pre-eminence in their respective industries with proprietary platforms. DNV-GL's Veracity platform and Kongsberg Digital with Kognify are two such examples. Another is REV Ocean's 'The Ocean Data Platform', which is being built in collaboration with the Norwegian data sharing company Cognite. Cognite has quickly gained a strong position in the digitalisation of the oil and gas sector.

¹⁷ OECD (2019) *Employment Outlook 2019*. Downloaded July 30th from <https://www.oecd-ilibrary.org/sites/9ee00155-en/index.html?itemId=/content/publication/9ee00155-en>

A more service-based economy

Norwegian service companies deliver a variety of services in both consumer and corporate markets, for customers in both Norway and internationally. The service sector is the country's largest employer, with 78 percent of all employees in Norway. In the last 30 years, the total value creation of the services industry has quadrupled, while in comparison the value creation of manufacturing has doubled. Service industry exports have also grown during the period, reaching NOK 265 billion in 2019.¹⁸

This strong growth has been attributed to several factors: First, activities that companies had previously undertaken internally have been spun out as specialised service deliveries, with increased productivity. Examples of services that many companies now purchase rather than perform in house include IT, property management, transportation, accounting and canteen services, but also communication, legal advice, consulting services and project management. There a lot of room here for the public sector to do the same. This will ensure growth in the private sector and more efficient use of resources.

Second, globalisation has grown prosperity and freed up labour for work in the service sector. We import goods such as clothes and household items cheaply and remove the increased purchasing power from services that are not as easy to import, such as health services, transport and catering. Third, technological developments have seen the liberation of labour and an increase in prosperity. This is increasingly being spent on services, as the need for goods is saturated. There has been a lot of growth in the knowledge, health and support services (i.e. those services that relieve companies and households of time-consuming activities such as nursing/care, cleaning and security).

A fourth reason for this growth is that many manufacturing companies that previously sold their goods have redefi-

¹⁸ Menon Economics (2019), The service industries in Norway towards 2050 (the figures for service exports have been updated) Downloaded July 30th from <https://www.menon.no/wp-content/uploads/2019-84-Tjenes-ten%C3%A6ringene-mot-2050-1.pdf>

The service industries in Norway up to 2050

The service sector in Norway is large and varied. Menon Economics has categorised all services into six groups, based on the way they create value for customers. The first three do so through dissemination:

- **Digital dissemination** is platforms and all digital services provided on the platforms, such as telecommunications, media and banking.
- **Physical dissemination** is the transportation of persons and goods, e.g. by plane, bus, train or ship, and all the associated logistics services.
- **Retail** covers all sales of goods in stores and online.

Services can also create value in the following ways:

- **Problem solving**, i.e. companies that diagnose and find solutions to customers' problems, such as research institutes, lawyers, doctors and consultancies.
- **Auxiliary services**, which relieve companies and households of time-consuming activities, such as nursing/care, cleaning and security.
- **Experiences**, which offer meaningful, memorable and emotional experiences, such as nature-based activities and hotel and restaurant visits.

The trend towards digitalisation is one that will shape the service industry in particular, and will thus be an important driver of innovation, efficiency and the

development of new business models. Increasing numbers of services are becoming mobile - banking services have long since moved away from physical branches to online. Whether they are companies or consumers, customers are increasingly demanding and want products, solutions and experiences tailored to their needs.

Demographic and social trends suggest we will see growing demand for health and care services in particular. Meanwhile, the green transformation contributes to the development of more new and smart service solutions for reducing and controlling the climate footprint of corporations and the population. The interfaces between the public and private sectors - who produces and who finances goods and services - will also shape the scope of opportunities for service industries in the future.

Menon Economics estimates that, in 2050, the service industries will employ 320,000 more people than it does currently. The largest growth is expected to be in auxiliary services (nursing and care), while the number of employees in digital dissemination and trade as a result of technological development and digitalisation are expected to fall. The greatest value creation growth will, however, lie in digital dissemination.

Source: Menon Economics (2019), *The service industries in Norway towards 2050*

ned their own business model to the rental and delivery of services.

The coming years will see continued growth in the service industries, as a result of further increases in prosperity, demographic change and increased specialisation. The growth in private service companies will also depend on how the division of labour between public and private service production evolves. This is a political issue, but will also be influenced by people's preferences and technological advances.

There are considerable opportunities to increase job and value creation based on services up to 2030 and 2050. This

applies to traditional service industries, such as health, IT and financial services but also in new areas. These could include transitioning from goods to service deliveries or expanding with new services on top of existing value chains. The opportunities for Norwegian service companies will be linked to four particular factors.

- growth in labour-intensive services
- digital transformation of services
- further services that can be provided to people's homes
- increased demand for experience-based services.

Labour-intensive services will continue to grow

Large parts of the service economy are shielded from international competition because the services they provide are local and consumed where they are produced. Location-based services, such as hairdressers, stores and gyms, are local by definition. This means that the markets are small, and competition is limited to community-based actors. Hairdressing services, shopping, cleaning and gyms are examples of on-site services.

Large parts of the service economy are shielded from international competition because the services they provide are local and consumed where they are produced.

As a result of demographic change, many of the labour-intensive services will see strong growth going forward. As the population ages, demand for nursing homes, care and other care-based services will increase. For private companies, the growth in demand also provides an opportunity to offer their services and skills in new areas, even though many of these are currently provided under public auspices. Kindergartens are an excellent example of how both private and public service providers can develop and jointly operate a service.

At the same time, it is vitally important that the most labour-intensive services also deploy new technology that either increases customer value or reduces the need for labour. Robots, for example, will increasingly be used to help the elderly with practical tasks and for social stimulation. Other examples are sensors and monitoring systems that support safety and security services.

Digital transformation enables new service offerings

The digital transformation of services will also present new

opportunities in the coming years, not least in how services are delivered. Several tasks will be carried out in an interaction between consumer and machine. In particular, resource-intensive data acquisition and analysis will be replaced by search algorithms and AI. It seems feasible that technical advice, medical diagnoses, legal services and other problem-solving services will increasingly be automated.

This decouples consumption from the production site, with services become mobile and available everywhere. Retail is moving from stores to online, while news, music and books will be available worldwide immediately from the time they are launched. In the coming years, ever more services will become mobile, which means that Norwegian companies will be exposed to global competition. At the same time, global market opportunities will open up to Norwegian companies; the scaling potential for services will be enormous.

The retail industry is undergoing a major restructuring, driven by digitalisation and changing consumer behaviour. Digitalisation has seen a previously wellsheltered industry become increasingly vulnerable to competition, as consumers now have greater access to goods from all over the world. The industry is characterised by fierce competition. In addition, increased use of technology throughout the value chain, including logistics and warehousing, is required to compete. The incumbents are also seeing growing competition from abroad. Another example of the change resulting from digitalisation is that producers increasing seek to sell directly to consumers. The advances in technology also open up new opportunities in retail; local businesses have the advantage of being able to design and offer customer experiences that combine the best of the digital and the physical.

Digitalisation can also change the demand for services. A well-recognised example is the way in which accessible streaming services have increased the consumption of on-demand film, music and TV. This provides an opportunity for service providers to disrupt the market. Technological advances also open up new services, , for example, allowing electricity suppliers to offer new smart energy management services to customers.

Technological development, specialisation and shifts in demand have also contributed to a shift from the purchasing of goods to the purchasing of services in the corporate marketplace. Rather than focusing on product sales, more businesses are seeking to offer more comprehensive service delivery. The development of new services for ma-

nufacturing industries represents opportunity for Norwegian businesses.

There are several excellent examples of how technology has opened up new services based on products. One example is Kongsberg Maritime, which has moved from selling technical equipment to ports and ships to delivering integrated control systems with simulation tools and remote-controlled monitoring.

Another area is the possibilities available in smart buildings. New technologies will open up fresh business opportunities that will allow product suppliers the opportunity to provides services in addition to their existing core business. For example, air quality, temperature, cleaning, parking, maintenance, lighting, administration, etc. can be connected in a smart, wireless network. This way, the building will adapt to the users and provide a better workflow at a lower cost. At the same time, using the right materials will both extend the service life and increase the quality of the building.

Such services also have export potential. Norway's strength lies in domains such as energy and the sea, where we can create new services on top of existing product exports. Digitalisation lowers physical boundaries to the exportation of services.

More services can be provided in the home

When new technologies are phased in and make services less local, it also allows more people to consume services in their own homes. The combination of an ageing population and capacity pressure in hospitals and nursing homes could lead to more people wanting to – indeed having to - stay at home for longer. This will create increased demand for adapted services where people live. Sensors, data, AI and robots will make it possible to protect, monitor and diagnose people in their own homes. This will increase the quality of care and free up time for treating patients at home. An example of this is Dignio, which provides a solution that allows users to easily control their own health using a tablet and simple, medical measuring instruments in their domestic setting. The services are monitored by specially trained nurses who communicate digitally with the users and provide a rapid follow-up and help.

It will also increase the demand for safety and security solutions as well as cooking and wellness services delivered to homes. Demand for domestic services, such as cleaning, interior design, gardeners, personal trainers and other well-

ness services is expected to continue to increase in the future as a result of growing prosperity.

Increased demand for experience-based services

Experience-based services and content open up new opportunities in the business world. People are increasingly looking for experiences when they buy services. Art and culture are the most obvious examples, but this also applies to activity-based services, both physical and digital. This applies to food and drink experiences and tourism. There are opportunities to build upon local advantages and initiatives that may also prove attractive to international markets.

The most important aspect of the experience trend, however, is that many service industries will build experiences into their products. In future, experiences will become an increasingly important part of service sales, retail and tourism, and will become a way for companies to differentiate themselves in the consumer market. One element of this is that services and distribution will increasingly become part of the retail market.

Retail companies will attract customers into their physical stores by combining, for example, their core function with adjacent services. One example of this is Clas Ohlson, who adapts his physical stores to be able to offer repairs, service and upgrades in-store.

A more international economy

The green transition, digitalisation and the growth of the service sector will lay the foundations for strengthening both established and new profitable value chains in the Norwegian business community. Some companies will also enjoy the opportunity to succeed in international markets under specific conditions.

Norway will continue to reap major gains from international trade

Exports from Norwegian companies provide the foundation for more than 600,000 jobs in Norway.¹⁹ Some 30 percent of this is related to exports by SMEs.²⁰

Exports are important because they provide income to finance other goods and services that the population demands. The Norwegian market is often too small, so export companies seek growth in existing markets. Success in the export market is a good indicator of a company's international competitiveness. Such companies also help build up skills and experience that spreads to other industries and regions. This increases productivity and the ability to innovate throughout the business community.

Norway is a small country with an open economy, and is dependent on economic interaction, division of labour and trade with the outside world. Several Norwegian companies and industries already make their mark outside the country's borders, where they export goods and services that are in demand in international markets. Norwegian companies account for around one quarter of the EU's gas consumption and are Europe's largest producer of primary aluminium.²¹ It is the world's largest salmon producer, accounting for over 50 percent of global Atlantic salmon production.²² We also have strong positions in, among other things, the offshore supply industry and the maritime industries as well as in certain areas of the design and finished goods industry.

¹⁹ NHO (2019) Trade lays the foundation for thousands of jobs across the country. Downloaded June 15th from <https://www.nho.no/arskonferansen-2019/artikkelarkiv/handel-legger-grunnlag-for-tusenvis-av-arbeidsplasser-landet-over/>

²⁰ Statistics Norway (2017) It is not only exporters that are dependent on export markets. Downloaded June 15th from <https://www.ssb.no/utenriksokonomi/artikler-og-publikasjoner/flere-enn-eksportorene-avhengige-av-eksportmarkedene>

There were already signs that globalisation was slowing before the crisis, with a net increase in the numbers of trade barriers and less international cooperation. Two-thirds of world trade now takes place in global value chains, where goods and services are shipped across borders, often using just-in-time production, which enables companies to hold smaller inventories. The coronavirus crisis has shown that the international trading system is complex and vulnerable to individual events. The economic consequences of disturbances in the value chains and stoppages in the trading system were substantial and spread rapidly.

The coronavirus crisis may lead to a major shift in how global value chains develop in the future. This may lead to them becoming increasingly differentiated, with fewer links, or being drawn closer to the domestic market.

The extent of such a 'withdrawal' of global value chains is uncertain. In any event, Norway's route forward will depend to a great extent on how things proceed in Europe, which is, and will continue to be, Norway's most important market. So far, there is no indication that EU cooperation is weakening - quite the contrary. An important way out of the

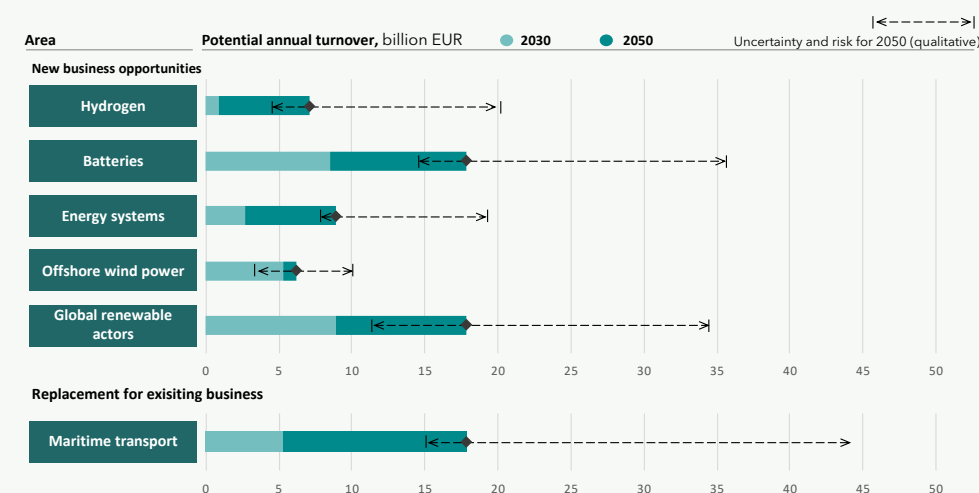
Green electric value chains

Norway has become a 'laboratory' for the electrification of new sectors, particularly in transport. Nevertheless, we have not sufficiently followed up on the experiment by developing new business opportunities and value chains, new technologies or a new export-based supplier industry.

In order to highlight the possibilities of electrification and to help develop supply chains that will also provide a basis for exports, NHO has established the "Green electrical value chains" initiative. This has worked in parallel with the roadmap and connects the key actors in business, research and relevant public enterprises.

The project reviewed 150 business models within 25 different value chains. The conclusion is that the following six value chains are particularly attractive and export-oriented for Norway: offshore wind power, batteries, hydrogen, maritime transport, energy systems and global renewable actors. The analyses show clear synergies between the value chains, significant potential for Norwegian businesses and that there is an urgency to position ourselves. There is a separate, independent report on this work.

Source: Steering committee for green electric value chains (2020), *Norwegian business opportunities in Green Electric Value Chains*



Source: McKinsey analysis, estimates done by the project steering committee and working groups. Illustration of potential turnover in light of uncertainty discussed in detailed analysis for each value chain.

²¹ Norwegian Petroleum (2020) Exports of oil and gas. Downloaded June 15th from <https://www.norskipetroleum.no/produksjon-og-eksport/eksport-av-olje-og-gass/> and Norwegian Industry (2020) About the aluminium industry. Downloaded June 19th from <https://www.norskindustri.no/bransjer/aluminium/om-aluminiumsbransjen/>

²² SINTEF (2019), Bio-based value chains Downloaded July 30th from <https://www.nho.no/contentassets/27e903f6b404474d96c5a66bf-11bafb1/biobaserte-verdikjeder-versjon-04.11.2019-enderlig-002.pdf>

²³ FN (2019) *World Population Prospects*. Downloaded July 30th from https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf

crisis for the EU will be its growth strategy, which involves investing in knowledge, research, innovation and climate (known as ‘The European Green Deal’). The path the EU chooses for the next few years will be of great importance for the framework conditions and the future market opportunities for our export-oriented businesses

There is also a basis for strengthening Nordic co-operation. The Nordic countries, with their open and export-oriented economies - when combined represent world's tenth-largest economy - enjoy a special position in the green transition. We are good neighbours with great natural resources and common emission-free power sources. We are at the forefront of the development of low and emission-free technology that can provide the EU and the wider world with solutions for managing climate change. Meanwhile, we can also increase our collaboration in other areas where we are relatively equivalent, such as technology and digitalisation.

The UN estimates that the global population will increase from the current 7.8 billion to almost 10 billion by 2050.²³ Demand for energy and other basic goods, such as food, water and materials, will inevitably increase. If the world is to meet its climate and sustainability goals, this challenge must be solved through international trade and cooperation. A wellfunctioning and responsible business community is the key to creating the jobs and economic growth, that will help achieve these goals and lift more people out of poverty.

A more complex risk picture

Norwegian companies with operations abroad and global value chains may face situations that require efforts to avoid risk to people, the environment and society. Norwegian companies are well advanced in acting responsibly. Increasing numbers of companies are applying the OECD guidelines for responsible business and the UN's guiding principles for human rights related to business, as well as the standards on environmental, social and corporate governance (ESG).

In a more interlinked, complex and modern society, it is vital to understand uncertainty and risk to create value successfully. A new, more complex risk picture is also emerging for digitalisation, globalisation and climate change. For 15 years, the World Economic Forum has been preparing the Global Risk Report as a basis for assessing the short- and long-term threats. In this, various risks are divided into economic, geopolitical, environmental, social and technological factors. While other economic aspects were

prominent in the past, in 2020 climate challenges will be dominant for the first time.

In future, investors and owners will be expected to increasingly demand that companies' profitability strategies are benchmarked against a two-degree scenario. For example, the EU is working on a framework for Financial Taxonomy. This means that companies must, to a greater extent, consider how climate issues and the transition to a low-emission society will affect the market's willingness to pay for their products and solutions.

At the same time, the COVID-19 pandemic shows that the consequences of unforeseen events can be enormous, and that one must protect oneself in an interdependent global economy.

Many Norwegian companies have investments or subsidiaries in emerging economies. African countries, for example, welcome foreign investment and jobs. From a long-term perspective, these countries offer great potential for growth. However, at the same time, they face uncertain framework conditions, weak legal systems and corruption, which makes investment more challenging. Increased polarisation and geopolitical tensions make the international picture further increases uncertain for potential investors. They have to consider potential sanctions, trade wars and political ambitions to exclude suppliers or disjointed value chains.

When more of the value creation and innovation of companies is linked to digital solutions and new technology, the risk and vulnerability to attacks such as hacking, business theft and data fraud are also higher. As more features and devices connect to networks (such as wireless speakers, conferencing equipment, sensors, printers, and other IoT devices), everyone becomes more vulnerable to cybercrime. The speed of innovation among hackers increases the need for greater expertise in cybersecurity.

This means that Norwegian companies must step up their international involvement at a time when the world is growing more uncertain. This will require innovation by both the companies and the authorities.

Strong potential for more export industries

Norway is losing shares in international export markets faster than any other OECD country.²⁴ Seafood and the

²⁴ OECD (2020), *Export Performance*

A European Green Deal - new conditions in our most important market

The EU's flagship project, the European Green Deal, consists of 50 concrete initiatives that will pave the way for Europe to become the world's first climate-neutral region by 2050. The goal for European industry and businesses is to become global leaders in climate-friendly industry and climate technology.

The Green Deal was presented by the Commission as a growth strategy for Europe. The goal is to reconcile climate goals with growth and value creation for Europe. This will be made possible by mobilising and extracting the potential from all those industries and areas of society that can help decarbonise the EU economy by 2050.

The 50 initiatives that combined make up the European Green Deal can be summarised as five key initiatives:

1. A climate-neutral Europe

A proposal for the EU's first Climate Act has been submitted. It is expected to contain a number of directives relating to renewable energy and energy efficiency, while the quota trading system will be revised to reflect the new objectives. For energy, the EU wants to combine the power, gas and heat markets together into a unified system through the ‘Energy System Integration’ strategy and legislation. Likewise, new initiatives are planned to accelerate development of Europe's offshore wind power.

2. A circular economy

The transition from a linear to a circular economy is a prestigious project for the EU. It will make Europe less dependent on imported raw materials and, at the same time, contribute large emission savings. Electronics, textiles, batteries, building materials, plastics and IT equipment will be prioritised when the EU introduces strict requirements for

repairability, recyclability and circularity in order to be able to sell products in these groups on the European market.

3. Energy-efficient buildings

The Renovation Wave initiative is intended to at least double or triple the renovation rate of Europe's building stock from the current level of 1 percent per year. While the measure will make a major contribution to reducing emissions from buildings, it will also significantly increase activity for the construction industry and suppliers of associated products, services and equipment.

4. Energy transition and climate technology

Expansion and development of new renewable energy sources and climate technology are high on the Commission's agenda. In the transport sector, electrification will increase and emission-free gases, such as hydrogen, will be used in areas that are difficult to electrify. Offshore wind power is a priority area, which can provide large amounts of renewable energy, while avoiding difficult land conflicts, which can follow land-based development in some cases.

5. Bio-based value chains on land and at sea

The Commission aims to achieve large emission savings and to create a basis for new economic growth by mobilising existing biobased value chains and upscaling new ones. The Farm-To-Fork strategy calls for efforts to increase the sustainability of European food production. In addition to agriculture investments, there is a clear desire to increase access to sustainable and carbon-efficient proteins from fisheries and aquaculture and encourage further investment in the opportunities within the bioeconomy.



design and finished goods industry are the only areas that have seen export growth in recent years. It is therefore key to increase export-oriented value creation from existing industry and to create completely new export-oriented industries.

The petroleum industry and the processing industry are currently the largest export industries, and will continue to provide significant export revenues in the coming decades. However, there is great uncertainty over the development of oil prices and petroleum investments in the coming years. Nevertheless, the life of existing fields and expected investments in new ones indicate that oil and gas will continue to see a high level of activity in the future. The technology and skills in these industries will be crucial in creating growth in new business areas already under development, such as CCS, offshore wind power, offshore aquaculture, hydrogen and ammonia.

In many ways, the most promising new export value chains originate in areas where Norway already has a strong position. There are locomotive companies, competitive supplier networks, research environments, competent investors, interaction arenas and start-up environments. The conditions for international success are better when one is part of an ecosystem of companies, knowledge actors and investors, which has improved competitiveness through interaction.

Exporting and refining resources such as oil, gas, fish, minerals and renewable energy will ensure domestic jobs and domestic value creation. Norwegian exports can also help to open up more markets for other industries, such as the supply sector, bioindustries, the design and finished goods sector, construction and other services.

Our work on the roadmap has identified some specific examples of value chains with significant export potential,

by assessing expected market growth and future Norwegian competitive advantages. The combination of these two factors determines the export chains' long-term export potential. In some areas, it is a case of developing existing value chains and already-established business areas. Others are currently less mature, and will be able to grow beyond the 2020s. Several are complex value chains that involve industrial production and extensive technology and service deliveries.

Norwegian companies can also conquer international markets through exports or through direct investments in the form of subsidiaries or other entities in foreign markets. Although direct investment does not generate direct export revenue, it is important for three reasons:

- Indirect exports through the companies (subsidiaries or project organisations) in other countries purchasing goods and services from Norwegian suppliers.
- Capital income from subsidiaries in foreign markets to the parent companies in Norway.
- Head office activity in Norway that buys highly productive knowledge services from banks, financial advisers, law firms and technology suppliers in Norway

Examples of Norwegian businesses in this category include Statkraft, Telenor, Scatec Solar, Equinor, Hydro and Yara. Several of these work with business concepts in renewable energy and already enjoy strong positions internationally, or aim to develop such positions within their business areas. When solar, wind power and other renewable solutions grow strongly internationally, the combination of good (power) market expertise and the role of renewable developers will likely prove an advantage for further expanding international business. Further growth of such global renewable actors can help cut global greenhouse gas emissions while stimulating value-creating activities in Norway.

at the same time and can solve various sustainability challenges. Another example is the collaboration between IT companies and pharmaceutical companies on genetics, big data and AI for developing technology and instruments for precise diagnoses and treatment of various cancers. The term 'value chain' refers to companies connected through the delivery of goods and services - in other words as customers and suppliers - or those that deliver complementary products in the same market.

Examples of value chains with significant export potential

Seafood/Aquaculture:

Norway has entire value chains in aquaculture and wild-caught fish. It is also a world leader in R&I and new concepts/solutions, with the potential for high export growth in both existing products and new, low trophic species such as algae, seaweed and kelp, as well as the raw materials for feed and other by-products. Norway has a strong supply industry, which can also increase its share of exports. This value chain has particular potential for feed raw materials, due to the large domestic market that extends to the land-based bioindustry.

Offshore wind power:

The market for offshore wind power, both fixed and floating, will increase sharply in the years up to 2050. Norway can gain positions in park development, equipment production and systems integration, as well as in maritime operations throughout the value chain.

Carbon capture and storage:

Norway has extensive experience and excellent conditions for taking leadership in developing solutions to capture and store CO₂ in Europe. CCS is essential to meet the climate goals of the Paris Agreement, and Norway is already well positioned to take market share in the entire value chain, from capture technology to transportation and storage solutions. The circular economy will use CO₂ as a raw material producing food, materials and energy.

Batteries:

Norway can invest in large-scale battery production. It can take niche positions in this fastgrowing market, particularly the production of components and cells, recycling and maritime applications.

Maritime:

With its complete maritime cluster of world-leading companies in shipping, shipyards, equipment and services, Norway already has a strong international position. This cluster plays a leading role in developing offshore wind power, sustainable aquaculture and green shipping, including low and zero-emission technologies.

Hydrogen:

The closer we get to a low-emission society, the more hydrogen we will need. Hydrogen can replace fossil energy carriers, and is emission-free during combustion. Norway has excellent conditions for large-scale hydrogen production, either from renewable energy through electrolysis or from natural gas from CO₂ capture and storage. Hydrogen and CO₂ can also be converted, through gas fermentation, into feed material, aviation fuel or degradable plastic. There are also industrial opportunities for producing equipment and hydrogen infrastructure.

Energy systems:

Energy systems are moving toward more unregulated renewable energy. The solutions must not only meet the need for general capacity increases, but also an growing need for flexibility. Norway is well positioned within web optimisation, the development of solutions for marketplaces and as a market facilitator. In smart charging along the way, Norway has been out early with solutions that are scalable for an international market.

Monitoring and control systems:

Industrial monitoring and control systems, particularly for autonomous systems and the use of digital twin technology, represent an interesting opportunity for Norwegian industry. Norway can take a position as the 'world's control room' and strengthen its position within specialised value chains.

Health:

Norway is a small player in a huge and diversified market, but with strong niche positions in diagnostics. It has the potential to take a significant share of cancer treatments - the world's largest pharmaceutical market.

Experience-based tourism:

Norway has a strong international reputation and is well positioned to expand in the international market for nature and activity-based experiences. This provides opportunities for Norway as a tourist destination.

We have chosen to focus on value chains rather than entire industries for export-oriented activities. First, there can be considerable variation within an industry, i.e. in terms of export intensity, market growth and Norway's competitive advantages. This means that export potential varies between industries. Second, value chains often span multiple established industries. For example, fish feed from the forest industry can replace marine fish feed and soy. Such combinations of value chains for the agricultural and marine industries create several new business opportunities



5

Ten steps for a sustainable future

There are great opportunities for new job and value creation in the business communities of the future. At the same time, the COVID-19 pandemic has caused unparalleled shock to these communities. The longer-term consequences are still unclear for many companies and industries. An extraordinary situation for Norwegian business has brought the future closer, and made short-term priorities more important.

Opportunities lie ahead, but they can only be fulfilled if we ensure private and diverse ownership in the business community that provides a basis for high job and value creation. We must therefore ensure that otherwise healthy companies do not go bankrupt as a result of the crisis, and that key skills clusters do not disappear. We must accelerate public demand and stimulate new demand in the private sector with targeted initiatives. We must also invest in human capital and build skills for the future. Policies must be based on a market-oriented, open and international economy, ones that ensure that Norway's interests are safeguarded in the EU's growth strategy, the European Green Deal, and other focus areas. That way, we are in a strong position to develop the framework for future markets.

In such an extraordinary situation, it is vital that public spending is temporarily increased in order to counteract the consequences of the coronavirus crisis, which is increasing the pressure on already hard-pressed public finances. If potential is to be realised, companies will not be able to afford an even higher level of expenditure. We should focus the use of oil money on strengthening our ability to adapt by through prioritising research, education, infrastructure and growth-promoting tax reforms. The goal must be for the

private sector to make up greater proportion of the Norwegian economy. A profitable private sector is a prerequisite for financing the welfare society.

The roadmap for the business community of the future will introduce 10 steps for Norway, with this as a starting point. Politics must ensure that we build the bridge between the current demanding situation and situation and the future. If these steps are realised, the business community will help ensure Norway remains a good society to live in the future, with jobs to go to and develop in, and that we will continue to take care of the planet we live on.

The 10 steps (in no particular priority) are:

1. Implementing climate measures that work quickly and increase competitiveness
2. Realising a digital Norway
3. Increasing international market access, strengthening the EEA and building better export industries
4. Growing private ownership
5. Accelerating the pace of innovation and transition
6. Closing the skills gap
7. Ensuring sustainable government finances
8. Streamlining the public sector and using procurement to develop the market and strengthen companies
9. Reinforcing work policies and ensuring competitive pay and working conditions
10. Building future-oriented infrastructure that stimulates business development throughout the country.

1. Implement climate measures that work rapidly and increase competitiveness

Norwegian companies need to be world leaders in developing and implementing climate change solutions as a prerequisite for meeting Norway's climate commitments. At minimum, Norway will halve its greenhouse gas emissions by 2030 and become a low-emission society by 2050. This commitment will be implemented in collaboration with the EU. Such a major restructuring will impact the business community, but our success will depend entirely on the contribution and efforts of the companies.

The climate collaboration will provide opportunities for more jobs and value creation, and we must seize these. All our industries have prepared their own roadmaps showing how green competitiveness can be developed during restructuring. Electrification is the most important measure to reduce greenhouse gas emissions, and here Norway has considerable advantages.

The goals must be followed up with powerful measures and investments. This is the only way to meet the climate goals for 2030. The measures must support existing businesses and provide incentives for restructuring, not liquidation. Strategic investment is required in those sectors where Norway holds advantages and solutions to the climate problem.

Early use of new technology will result in more rapid emission reductions, but will also pose commercial risks to immature markets. Major goals with a short time horizon require close cooperation with the business community, strong incentives and access to capital and expertise. Norway should prioritise globally important measures that provide more jobs, value creation and competitiveness, and that are manageable and cost-effective. "The polluter pays"-principle and taxes that price CO2 emissions provide appropriate incentives, but their design must be based on

predictability taking into account the risk of carbon and investment leakage.

In order to realise a low-emission society, we must also create circular value chains and strengthen the bioeconomy. The harvesting and processing of biological, renewable resources from land, forest and sea will have to increase significantly. Similarly, resources must be reused to a far greater extent into new economic activity and to ensure sustainable material use and energy-efficient solutions. Norway is rich in resources and have solutions that the world needs in order to achieve its climate goals. At the same time, policies must stimulate technology development and encourage its upscaling.

Access to resources will be crucial in realising these goals. For the oil and gas industry, this is about predictable and long-term framework conditions for exploration, development and production on the Norwegian continental shelf, within the framework of the climate goals that both society and industry have specified. The same applies to developing bio-based resources, further developing of renewable resources and adapting of mineral extraction in such a way to ensure that Norway is at the forefront of climate change prevention.

Close, active cooperation with the EU will be vital to the future development of Norway as an energy nation throughout the energy transition. Norway will realise its climate goals in cooperation with the EU. We participate in the EU quota market, we have joined the rest of the EU's climate framework, and now also collaborate on emission reductions in transport, construction, agriculture and waste. The EU is a large market for Norway, not least for energy and technology solutions.

The NHO proposals:

- Full-scale CO2 capture and storage (CCS) must be realised as quickly as possible with an investment decision in 2020, with the capture projects at Norcem Brevik and Fortum Klemetsrud, and the transport and storage project Northern Lights realised.
- The investment decision regarding CCS must be followed with targeted efforts to recruit customers for CO2 warehousing in the North Sea, covering both Norwe-

- gian and European capture facilities. Norway must also engage internationally to establish complementary support schemes for CCS across national borders.
- New industrial investments in green electrical value chains must be cultivated, such as offshore wind power, batteries, green shipping, energy systems and hydrogen, which can be produced from both natural gas and renewable electricity. This is about developing and commercialising technologies, setting clear goals, positioning Norwegian companies in rapidly growing international markets and prioritising support and incentive schemes that trigger new projects.
- "Norway and the European Green Transition" should be established as a new project at Prime Ministerial level, who will coordinate efforts to influence the European Green Deal and Norway's participation therein. The work must be based on close dialogue with the business community and deliver action-oriented strategies that promote Norwegian value chains in offshore wind power and other renewable technologies; CCS, batteries, hydrogen, green shipping, energy systems and increased harvesting and production of seafood and feed ingredients.
- To promote an export-oriented supply chain for offshore wind power will require further experience, gathered through several pre-commercial projects. Future framework conditions for offshore wind power must be clarified in dialogue with industry and other relevant businesses.
- Set a clear goal for creating and developing global renewable actors capable of further developing strong international positions in renewable technologies.
- Establish an environmental agreement between the business community and the Norwegian State, with an associated CO2 fund for commercial transportation (following the NOx fund model) to ensure mobilisation to achieve necessary emission reductions. Environmental agreements with CO2 intervention funds should also be considered for other areas, for example in offshore and land-based industries.
- Renew the NOx fund and the environmental agreement regarding NOx. A communication on this should be released soon.
- Establish a Green Land Transport programme based on the Green Shipping programme, to contribute to emissions reductions in this sector.
- Review the framework conditions for biofuels, with the aim of stimulating production of advanced sustainable biofuels in Norway, while simultaneously ensuring that commercial transportation has access to highly blen-

ded sustainable biofuels at competitive prices.

- Stipulate environmental requirements for public procurement to stimulate a green transition within the business community.
- Design environmental taxes and a system for CO2 pricing that is predictable and that takes account of, and is assessed on, the basis of the risk of carbon and investment leakage. It is important that restrictive measures reflect an agreed knowledge base and that the consequences for the business community are assessed.
- Develop a long-term and predictable regime with good land access, prompt case processing and close dialogue with the industries, which is crucial to the development of natural resources.
- The tax system for renewable hydropower must be adapted to encourage modernisation and further development.
- Implement stable and predictable tax rules that make it attractive to invest in Norway's natural resources. In parallel we must design smart regulations, requirements, standards and incentives that strengthen circular value chains.
- Further develop the bioindustries and create products, solutions and services based on quality, security and sustainability as their clear competitive advantages for both domestic and export markets.
- Stimulate establishment of new value chains for sustainable biofuels, increased food and feed production, circular and biobased processes and materials. This demands a holistic approach, with the focus on value chains that connect resources on land and at sea.
- Create a national plan for electrification and to meet the power needs of transport, oil and gas installations and other sectors, as well as powerintensive industries. Any plan must address power supply, energy efficiency and grid infrastructure, as well as energy exchange with foreign countries.
- Participate in establishing a European power market, including developing international connections with socioeconomic benefits such as NorthConnect.
- Establish a revised licensing process for wind power development.
- Implement socially beneficial energy efficiency in industry and existing buildings, thus releasing energy for use in other areas.

2. Realising a digital Norway

Digitalisation and the use of new technologies impacts both the business community and society. As a result of the coronavirus crisis, digitalisation has gained further momentum, and the potential for efficiencies in technological solutions has become apparent. Norway is one of the world's most digitalised countries, with a high level of digital skills among the population.

Norway has already reaped considerable gains by investing in niches in the global market. It is in these areas that we enjoy an skills and technological advantage. It is also where we will initially have the primary opportunity to further strengthen our competitive edge through innovation, new technologies and the increased use of data as a resource.

The greatest potential lies at the intersections between new and existing technologies. Engineering and ICT skills developed from existing industries must be used within the green transition. It is important that established and start-up companies as well as entrepreneurs are incentivised to participate in the digitalisation of the public sector and other business areas. Indeed, the public sector must become an engine of business development in the future, with public procurement promoting innovation in order to realise digital and technological projects, in turn encouraging private enterprises.

Data is also a new driver of productivity, jobs and innovation in this emerging digital economy. We must build a solid foundation to ensure its continued development. One prerequisite is to establish a digital infrastructure designed to meet the needs of the business community.

To understand digital infrastructure and its importance, we can draw parallels with value of roads, railways and airports as the 'physical' infrastructure in our society. Another necessary prerequisite is cybersecurity. Increasing digitalisation makes Norway and Norwegian companies more vulnerable to cyberattacks. It puts pressure on trust. The public and private sectors must work together on cybersecurity and privacy, creating a need for increased in-depth expertise in this field. Access to sufficient and appropriate skills is therefore a third prerequisite for enabling Norway to position itself internationally. A strong link between research, innovation and commercialisation is a fourth prerequisite for further expanding the digital economy.

The NHO proposals:

- Sustain the conditions for large investments in robust and secure digital infrastructure. The pace of development of 5G networks must be maintained, and public facilities must strengthen commercial development.
- Companies throughout Norway should have ensured access to robust, reliable broadband, and the broadband subsidy scheme for where commercial development is not taking place must be continued.
- Build up knowledge and skills in the disciplines dealing with data, digitalisation and technology and cybersecurity. This should be part of the educational process at all levels of education, both as interdisciplinary subjects and as cutting-edge skills. We must also develop better and more relevant continuing and further education in the field (there is a separate discussion of skills below).
- Create more study places for science and technology, including for ICT. It should also be straightforward to bring in specialists from abroad.
- Skills and inter-disciplinarity must go hand in hand. We must prioritise cutting-edge skills in four strategic areas: AI, big data, the Internet of Things (IoT) and autonomous systems. At the same time, this must take account of the need for legal and social science skills, as well as on privacy, ethics, ownership, etc.
- Increase research into digital technologies as well as intensifying research efforts on cybersecurity, etc.
- Establish research centres for business-oriented digitalisation (FNDs) that cover AI, big data, the Internet of Things and autonomous systems.
- Establish a close link between research and business to ensure usability, scalability and commercialisation. International research collaboration is crucial, and Norway must be part of the EU's Digital Europe programme. (there is a separate discussion of the research and innovation system below).
- Norway must be active in the EU's efforts to establish common European Data Spaces as well as a common framework for AI. Norway must also comply with international legislation and agreements in the field of data and security.
- Public data must be open and available in standardised formats to allow it to be used for business development and improving efficiency and services. Data sharing between industries and sectors should be encouraged.
- The legal framework for data ownership and sharing in the public and private sectors must not impede the potential for innovation and the competitiveness of businesses and society.
- Use regulatory sandboxes in more areas, so that legislation does not hinder or delay digital innovation.
- Trust is a cornerstone of Norwegian society, with a working and business community that includes everyone. Trust is based on a high degree of security and respect for privacy; this in turn requires cooperation between authorities and companies on threat assessments and security information.
- Minimise digital vulnerability and cyber threats through close interaction between public authorities and the business community.
- Adapt tools, operational rules and checklists to the specific needs of SMEs, so that they can carry out simple 'health checks' on their own digital security.
- Large public, digital projects must encourage innovation and business development by using the market, rather than pursuing inhouse development. This will allow the public sector to function as a driver of business.
- Consider proprietary, targeted measures in the SME segment to allow these companies to benefit from the data economy, e.g. through access to valuable data sets and data infrastructure.

3. Increase international market access, strengthen the EEA and build stronger export industries

Geopolitical tensions and trade wars in recent years, have increased uncertainty and made the business environment more unpredictable for companies. This acts as a brake on trade and investment. For Norway, greater protectionism and lower trade will mean lower growth and less income.

This makes the EU more important than ever. Most Norwegian exports go to Europe. Norway's path out of the coronavirus crisis will, therefore, depend on what happens in Europe. The EEA agreement means that Norway participates in the EU's internal market. However, without full EU membership, Norway is more vulnerable to pressure from others. The EU stands out as one of the most important defenders of democracy and rule-based and binding international cooperation, including trade cooperation. Given the current security policy situation and a new geopolitical environment, Norway would be even better placed as an EU member in 2030. The EEA agreement must be administered with a view to it being Norway's connection to the EU for the foreseeable future. It is particularly important to the Norwegian business community that the country's interests are safeguarded effectively in ongoing political processes in the EU, and that we ensure a rapid introduction of the EEA rules into Norwegian legislation.

Norway has reaped considerable benefits from international trade. Trade has made us richer and increased the value of our resources. Open markets have led to specialisation and stronger international competition, which in turn has benefited companies and consumers, i.e. the buyers of goods and services. This increased prosperity is reflected in increased demand and activity, and in those industries that do not trade with other countries themselves.

Oil and gas extraction have been the most important contributors to the increase in Norway's export revenues. The country has also developed a large number of other important export industries, including seafood and processing, shipping, financial services and tourism.

Exports from Norwegian companies are the basis for more than 600,000 jobs in Norway.²⁵ Some 30 percent of employment stemming from exports are in small and medium-sized enterprises.²⁶

Businesses are now facing increased unpredictability and growing protectionism, and the World Trade Organization (WTO) is in crisis. There is reason to fear that the coronavirus pandemic will intensify this development. This makes it ever more important to protect our existing agreements, while at the same time pursuing and securing new free trade agreements.

In order to ensure a balance in foreign trade over time, the expected decline in oil and gas exports will need to be gradually replaced with other export industries. Last year, after deducting the State's contribution to the Government Pension Fund, Norway had a current account deficit of NOK 112 billion. Closing this gap by 2030 will require stronger efforts to develop other export industries.

While our neighbouring countries are systematically investing in helping their companies in the wider world, Norway lags behind, with a fragmented policy regime that is not sufficiently export-oriented.

The NHO is calling for renewed investment in exports, with clearer priorities and the linking of Norwegian companies to foreign markets.

The largest new export opportunities are often found in areas where Norway already has a competitive advantage, and where we find world-leading companies, competitive supplier networks, research environments, competent investors, collaboration arenas and start-up environments. The opportunities for international success are better when one is part of an ecosystem of companies, knowledge holders and investors that have developed competitiveness through interaction.

²⁵ NHO (2019) Trade lays the foundation for thousands of jobs across the country.

²⁶ Statistics Norway (2017) It is not only exporters that are dependent on export markets.

Success will require better use of the European domestic market as well as seeking to gain market share in new environments. Renewed Norwegian export investment must help companies to improve their market orientation, commercialisation, ability to scale and export capacity.

Particular efforts will be required to build new export industries. At the same time, there must be arrangements for existing export industries, and those that have traditionally concentrated on the domestic market, to increase their exports of goods and services.

The NHO proposals:

- The EEA agreement must be reinforced, and Norway must be linked as closely as possible to the EU. The agreement must be used to influence EU policy more systematically, particularly for developing the internal market.
- The Norwegian authorities must seek to participate more actively in the EU's policymaking processes, and establish a more visible presence in Brussels and other European capitals, in close dialogue with the business community.
- Norway must ensure that the institutions of the EEA Agreement are ready to ensure that the agreement is further developed, and to demonstrate compliance with the decisions made by the EFTA Surveillance Authority and the EFTA Court, as the enforcers of the EEA regulations.
- Norway's participation in the European Green Deal must be coordinated in a new project, 'Norway and European Green Transition'.
- Norway's participation in international research and innovation cooperation must be strengthened, including in Horizon Europe, Digital Europe, Erasmus+, EU space programmes, COSME and the European Defence Research Fund.
- Increased Nordic co-operation, through targeted industrial initiatives in partnership with public and private actors. The NHO, together with Nordic sister organisations, should take the initiative in these.
- Norway should establish a task force for promoting open world trade. It should take a leading role in strengthening the WTO and re-establishing an effective trade dispute resolution mechanism.
- Negotiate trade and investment agreements with large and growing trading partners. These should include a comprehensive cooperation agreement with the United Kingdom and an agreement with China to increase market access for Norwegian companies.
- Norway should enter into agreements with countries where the EU has, or is negotiating, agreements. This will ensure that Norwegian companies enjoy the same market access as their European competitors.
- Establish a new, ambitious export strategy with specific goals and operational measures, with targeted allocations for development, based on a Swedish model.
- Strengthen the export-oriented policy instruments that can aid Norwegian companies with export potential in succeeding abroad.
- Establish an export centre in close collaboration with the business community. This will ensure that strategic export initiatives are developed in collaboration with the companies and efforts are coordinated by the authorities.
- There is a need for targeted programmes and schemes aimed at export-oriented industries that offer financial risk relief, market insight and specific export and profiling measures.
- The policy instruments must stimulate longterm foreign investment in Norway, thus bringing capital and knowledge.
- The export financing scheme must be expanded, both in terms of company size and business areas.
- Make trade, business development and the private sector a priority for development policy. The scheme for strategic partnerships with the business community must be reinforced.

4. Strengthen private ownership

Norway's high welfare levels are due to the efficient use of the available resources. Our high wage levels reflect efficient organisation, high levels of skills and technology content and relatively efficient real capital behind each worker. Last year, the estimated value of all real capital in Norway was NOK 11,734 billion;²⁷ in other words, slightly more than the value of the Norwegian Government Pension Fund.

Maintaining and developing real capital requires investment. Last year saw NOK 927 billion invested - equivalent to 26 percent of GDP - of which just over a third was in mainland companies. The rest was evenly distributed between oil, housing and the public sector.²⁸

Investments in turn require capital. A well-functioning capital market, with sufficient and correctly priced capital, is crucial for financing the future growth and transition of the Norwegian economy. In addition, it must be attractive to invest in Norway and in Norwegian companies. This requires solid and predictable framework conditions, including competitive and stable tax rules.

Compared to similar countries, the Norwegian capital market has a relatively large level of state and foreign ownership as well as greater elements of bank financing. The State element has historical reasons, but has since been politically confirmed. Norway is a net exporter of capital (through the Government Pension Fund), but the private sector is a net importer. This is not problematic in itself, and is indicative of the fact that foreigner investors find Norway an attractive prospect.

The Access to Capital Committee²⁹ concluded that the Norwegian capital market was "mainly" wellfunctioning, and that projects predicted to be profitable "largely receive enough, and the correct, financing". Nevertheless, the committee pointed to some challenges, such as limited access to "risk-bearing competent capital" and lack of access to equity for companies with needs of up to NOK 20 million – in other words, venture capital for smaller companies.

The Norwegian business community is dominated by SMEs. Stock exchange listing and/or bond financing is too expensive for these businesses, while bank loans require security. A start-up or restructuring phase, when new technology needs to be developed, tested and commercialised, requires equity and an appetite for risk.

The willingness to invest money in risky projects is largely driven by the desire to create something, and to turn an idea into a business and jobs. Yet it must also pay for investors to take chances. Many bets fail. The risk of investing money in an as yet untested idea is greater than putting money in the bank. Thus the potential for a return on investment must also be greater.

Investors are also becoming increasingly conscious of sustainable investments. In part, this is a purely consideration. The climate challenge entails both the physical risk due to climate change, and the transition risk arising from the shift to a low-emission society. Both will be able to change companies' operating bases and revenues, and as a result, their valuations. In addition to the financial implications, investors are increasingly scrutinising target companies for their environmental credentials, social conditions and good governance (ESG).

Access to sufficient risk capital is primarily a private responsibility. The primary task is, therefore, to ensure that the capital market functions well, and to ensure that the framework conditions make it attractive to invest in Norway. It is therefore vital that the financial industry has access to the framework conditions that will allow the entire business community's to adapt. In the event of various forms of market failure, society should also step in. This may include the provision of crowdfunding, seed capital for particularly risky projects where the path from idea to market is long, and competent capital that can help commercialisation and scaling.

²⁷ Statistics Norway (2020), National Accounts. Downloaded on June 16th from <https://www.ssb.no/knr>

²⁸ Statistics Norway (2020), National Accounts. Downloaded on June 16th from <https://www.ssb.no/knr>

²⁹ NOU 2018: 5 (2018) Downloaded July 30th from <https://www.regjeringen.no/contentassets/62f6dd4e0274432da6475e53f4b14d44/no/pdfs/nou201820180005000dddpdfs.pdf>

The NHO proposals:

- The wealth tax on business assets (shares and operating assets) reduces access to Norwegian equity and should be phased out. The remaining assets in the wealth tax should be valued equally. Increasing taxation on primary residences and holiday properties will redirect more savings towards companies and jobs.
- Government investment instruments intended to mobilise private capital should be used more than is currently the case. This may reduce the need for various forms of grants and may also prove particularly relevant for start-up companies. For example, Investinor can be used better for this purpose, through its investment tools, particularly in the pre-seed, seed and venture capital segments.
- State ownership should not be increased, and should be reduced in the long term.
- The regulations for banks, life insurance companies and pension funds serve a number of purposes. However, their design must take into account how they affect risk capital provision.
- The rules on crowdfunding must be reviewed.
- Climate risk reporting has become important to the triggering of capital. Here, EU regulations will affect the Norwegian business community. Norway must therefore work to ensure that the EU's taxonomy and reporting requirements differentiate appropriately between 'more than green'/'non-green' issues, that they consider the need for transitional solutions and ensure that requirements are seen in relation to a company's size and activities.

5. Accelerate the pace of innovation and transition

Research and innovation (R&I) is vital for future competitiveness and sustainable change. The business community must play a central role in advancing R&I. At the same time, policy instruments should stimulate R&I and relieve the business community of risk, so that companies can enter large and resource-intensive projects crucial to restructuring and job and value creation. The policy instruments also play a pivotal role in maintaining R&I activity during economic downturns. Norway's ability to innovate and adapt must be increased. The NHO goal is that by 2030, Norway will be classified as an innovation leader on the European Innovation Scoreboard.³⁰ This requires the score on the main indicator must be 20 percent higher than the EU average. In 2019, Norway was 17 percent higher than the average.

The R&I system must address major societal challenges and targeted societal missions, more than is currently the case. It must stimulate the desired business development, and the resources must prioritise those strategic areas where we have existing advantages and opportunities. Different schemes in the policy instruments must collectively support entire value chains, and the journey from research and start-up to commercialisation and export.

Many Norwegian companies compete on the international front, and their goal is that more companies shall join this global competition. Norway's participation in international research collaboration affords us unique access to equipment and facilities as well as expertise and competent partners. This contributes to knowledge sharing and dissemination, and we gain access to markets and other capital bases that would otherwise be closed to us.

There is a need for both basic and applied research to keep up with the international research front. For future R&I initiatives, however, the distinction between basic and applied research will be less relevant, as all research - including basic research - has a potential for application. And the curiosity-driven research often yields the most radical breakthroughs. This can provide completely new opportunities for applications, future value creation and societal change. We must create a system that provides short pathways from research breakthroughs to commercialisation. This will require close collaboration between research and business, a greater willingness to take risks and increased flexibility in allocations and programmes.

³⁰ European Commission (2019), *European Innovation Scoreboard*

The NHO proposals:

- Increase public investment in R&I to 1.3 percent of GDP by 2030.
- All research has a potential for application, including basic research, which often generates radical innovation. The distinction is therefore less relevant, and funds channelled via the policy instruments should be managed in a way that reflects this.
- Stimulate and reward cooperation between academia and business in the business-oriented policy apparatus. Collaboration in projects should be established as early as possible.
- Strengthen the Innovation Project for the Industrial Sector (IPN) programme and similar arenas. Long-term collaboration between business and academia is needed.
- Measure research institutions on their research collaboration with the business community.
- Ensure Norway participates in, at minimum, Horizon Europe, Erasmus+, Digital Europe, the EU's space programmes, COSME and the Preparatory Action for Defence Research (PADR). Such international R&I cooperation is crucial to our competitiveness.
- Ensure that grant schemes, loan and guarantee schemes, and advisory services work together in appropriately and without excess-bureaucracy. It is critically important to ensure sufficient risk capital at all levels.
- Make the R&I system simple, seamless and userfriendly to ensure it is efficient and prevent users wasting time and resources.
- Establish a single digital portal for accessing the policy instruments. This should provide access to an overview of the actors and individual schemes. Application and reporting procedures should be simplified and coordinated wherever possible.
- Simplify companies' access to schemes by having policy implementers join forces to manage 'packages' of schemes, as was done in the programme Pilot-E.
- Strengthen the basic allocations to the institute sector so that the institutes can become company R&I partners to an even greater extent.
- Substantially increase the allocation to research institutes in the wake of the coronavirus crisis, in order to sustain collaborative research projects between the academic and business communities.
- Award criteria for projects supported by the policy instruments must emphasise that the projects have a clear business plan from the outset. The funds should, to a greater extent than currently, be released according to specific milestones in the projects' progress plans, according to the Pilot-E model.
- Use regional funds allocated as part of the business-oriented policy instruments to support national initiatives and priorities. The entirety must be managed nationally, even if the funds are to be used in a regional context.

6. Close the skills gap

Human capital in society is the sum of our joint efforts; it makes up four-fifths of our national wealth. Therefore, effective management of the workforce is essential for ensuring sustainable working lives and value creation in the future. In the face of demographic change, new technologies and the transition to a low-emission society, we must focus on developing skills. This will create a labour force that allows people and companies to succeed.

Various projections show that the skills gap will increase in several areas of the labour force in future, such as in industries that rely on skilled workers.³¹ Competition for formal skills is also expected to intensify. Before the coronavirus crisis, the NHO Skills Barometer showed that six out of ten NHO companies lacked relevant skills.³² One consequence was that companies reduced their activity and lost customers or market share as a result. The skills gap must be closed urgently, and the proportion of NHO companies reporting unmet skills needs should be at least halved by 2030.

The labour market of the future will require a targeted commitment to lifelong learning. Making skills develop-

ment easier in the labour market will provide the flexibility we need to use the workforce more efficiently and to counteract exclusion. We must make professional mobility easier throughout people's careers. In practice, lifelong learning means considering the individual's educational progress and professional career holistically. Learning is something we should do throughout our lives, irrespective of whether we are studying or working.

In order to ensure the labour market has access to the skills needed, we must set requirements for a flexible continuing and further education offer (EVU), linked to the rest of the education system. Relevance and quality to the labour market must be a common thread from primary school, through higher education, to EVU.

Ensuring that we have the skills we need for future job and value creation is a complex challenge. It is about the interplay between the educational institutions' offerings, young people's educational and career choices, adults' opportunities to combine work and skills development the need for continuous access to updated skills throughout our working lives.

³¹ Cappelen et al. (2018), *Projections for the labour force and employment after education up to 2035*, Reports 2018/36, and Socio-economic analysis (2019), *Changes in expertise compositions in the labour market up to 2040*, Report 31-2019

³² NIFU (2019), *NHO Expertise Barometer 2019*

The NHO proposals:

- Include lifelong learning in the basic mission of the education sector. Colleges, vocational colleges and universities should adapt their existing offerings for EVU and establish new offerings.
- Make EVU offerings and available in short modules at all levels of education. These should have a thematic breadth, with an emphasis on digitalisation and the use of new technologies, innovation and value creation, change management, sustainability, data security and data analysis.
- Measure educational institutions against EVU activity. Consider incorporating EVU into the results and funding system.
- Use the tripartite collaboration to develop a relevant and flexible lifelong learning system.
- Continue and supplement existing industry programmes with new programmes as required.
- Benchmark universities and colleges against their collaboration with the labour market to a greater extent. This will ensure that course content in study programmes and subject areas is relevant and up-to-date.
- Establish a grant for companies that hire internees, and create 'internship offices' that allow for more internships in the companies.
- Place greater emphasis throughout the educational process on '21st Century Skills', such as innovation and entrepreneurship and collaboration and change skills.
- Give The Regional Vocational Training Boards genuine influence on upper secondary education -each county should map its own needs.
- Measure counties against the proportion that enter an apprenticeship after completing their school education.
- Increase the degree of completion of vocational education and training through early intervention, access to apprenticeships and by better communicating the schemes existing within vocational education and training.
- The equipment in upper secondary school must be strengthened through an escalation plan. A new donation augmentation scheme must be introduced for vocational subjects so that donations from companies can help boost investment in equipment.
- Ensure that apprenticeship subsidies to companies correspond to the costs of the training in school. The KOSTRA figures should form the basis for subsidy rates.
- • Legislate and finance career guidance outside the framework allocation to the county administrations; this will ensure an equal offering throughout the country. The offering should be quality assured through state management of the content.

7. Ensure sustainable government finances

Government finances must be sustainable, so that welfare goals can be maintained over time. This has both a political and economic aspect. The policy is to ensure that the distribution of benefits and burdens over the generations is equitable. The economic policy is to avoid large, abrupt and unpredictable shifts in the tax burden that may damage value creation and the welfare base.

Norway's public finances are not sustainable. Our estimates indicate that, in the years to come, the state budget faces a widening gap between expenditure and revenue. An ageing population will increase the cost of pensions, health and care. At the same time, lower oil revenues and lower mainland growth will slow down the growth in budget revenues. The coronavirus crisis has increased the need for coverage in the future. There are five potential responses: Tap the Government Pension Fund, increase taxes, cut public spending, streamline the public sector or increase value creation and thus the tax base.

The main theme of this roadmap is how to increase value creation. Streamlining the public sector is also necessary, as described below. Rejecting the rule to only use the real return from the Government Pension Fund, in favour of tapping the Fund, is not sustainable, as it will cause a greater net tax burden for coming generations. Rather, it can be argued that the fiscal rule should be redesigned in such a way that the withdrawal corresponds to a fixed share of value creation, and that the contribution from the fund

to the public welfare service remains the same over time. Norway already has a high tax burden compared to other countries. This is closely linked to our ambitions for the public welfare service. Most taxes and duties result in a loss of efficiency; the higher the tax level, the greater the loss. The tax base itself is also being challenged by globalisation and digitalisation. Further tax increases can, therefore, potentially reduce value creation. For this reason, the overall tax burden should be reduced; Norwegian tax levels must be internationally competitive.

It is important that the tax system designed to be as efficient as possible, so that taxation costs are minimised. In principle, taxes and duties should be imposed where they cause the least distortion, i.e. changes in behaviour and activity, with the exception of desired distortions, such as road pricing.

Budget expenditures must be adjusted to revenues. Streamlining will get more out of the same resources. Where this proves insufficient, expenditures need to be cut. The best way to achieve this is to get more people into the workforce. More people in work means higher value creation and lower social security costs. Measures with lower societal benefit should not be prioritised. In future, it must be

thoroughly assessed as to whether the community's goals for the scope of welfare schemes and benefit levels can meet the growing demand for coverage.

The NHO proposals:

- Make Government finances sustainable, in order to avoid large and abrupt changes to the budget's income or costs.
- Lower the tax burden. Measured as a share of mainland GDP, the sum of taxes and duties (excluding petroleum taxes) must not exceed 40 percent by 2030.
- Ensure tax bases are broad and that they reflect economic realities. The rates should be as low as possible. Fiscal taxes and duties should be as general as possible, with few exceptions. There should be no more differing tax assessments of assets.
- Make the tax system as simple, clear and as stable and predictable as possible.
- Provide lower emphasis for the most mobile and influential tax bases to reflect increasing globalisation and digitalisation.
- Adapt the goals for budget expenditures to match the revenues.
- Prioritise measures with high societal benefits.

8. Streamline the public sector and use procurement to develop the market and strengthen companies

The public sector provides services that companies need, while also acting as a regulator, an authority and a contact point. This affects companies' opportunities to create value and jobs.

The public sector is an important market for companies and suppliers. It is also a service provider and a competitor to the companies, both in the retail market and in the battle for production factors, including employees. The way the public sector handles these different roles will affect both the country's overall productivity and the business community's innovation capacity and competitiveness.

In 2020, Norway has one of the largest economic public footprints of all industrialised nations. Public demand - consumption and investment - has never been a larger contributor to value creation than it is now. The public sector also produces more, and purchases less, from the private sector than most other industrialised countries. Around one in three people in Norway are employed by the public sector. By the end of this crisis, this proportion may well have increased further.³³

The crisis frees up labour in the private sector, but not in the public sector. There is a danger that, following the crisis, the public sector will be even larger and more dominant. Public finances were already under pressure before the

coronavirus crisis, as a result of an ageing population and the prospect of falling oil revenues in the years ahead. This crisis further increases the pressure on public finances.

In these extraordinary circumstances, it is vital that public spending is increased temporarily in order to counteract the consequences of the crisis. However, this must not be maintained. Going forward it will be necessary to carefully consider which tasks society will be responsible for and how they will be executed. Public service production must be streamlined through, inter alia, the use of new technologies. The goal must be for the private sector to form a larger part of the Norwegian economy in future. NHO's goal is to increase the private sector's share of hours worked from 70 to 72 percent.

This goal is more ambitious than it may appear: an ageing population means that both demand and production will turn towards the public sector as the main supplier of these services.

A profitable private business sector is a prerequisite for financing the welfare society. The public sector has the opportunity to strengthen job and value creation in the private sector in several areas.

³³ NHO (2020), *Economic Overview 1/2020*, p. 27 and OECD (2019) *Government at a Glance 2019*.

The NHO proposals:

- Critically review all services and provisions that the public sector offers and finances on behalf of society, to ensure sustainable public finances.
- Prepare a concrete plan to raise productivity in public services, with the goal of streamlining the need for labour in the most labour-intensive service sectors.
- Encourage competitive bidding and other forms of collaboration between public service production and private sector providers to develop better and more efficient services. Technical projects and various support services should, as a general rule, be subject to competition. This will also drive innovation and service development within growing service areas, such as health and care.
- Implement reforms that ensure more efficient use of resources, such as using "Nye Veier" (New Roads) as a template for reforms in other areas, such as railroads.
- Implement a digitalisation reform of the public sector with clear benefits realisation.
- Complete the municipality reform and other structural reforms in the public sector with clear benefits realisation.
- Use public procurement as a tool for creating new activities in the private sector, while at the same time meeting the needs of society. The public sector is a large and important market, worth almost NOK 600 billion annually. Altogether, the public sector is the business community's most important customer.
- Innovation by and in the public sector is particularly important to the implementation of the green transition, streamlining the use of public resources and improving the quality of public services.
- Demanding procurers in public sector is raising the potential for innovation and business development. The National Program for Supplier Development must be strengthened to ensure more public procurers utilise this potential.
- Public procurers must prepare new strategies to strengthen the Norwegian business community and help safeguard companies with expertise throughout the country.
- The public sector must ensure expertise and transparency at all levels in public procurement. Also, ensure predictability to prepare the market for when contracts are announced.
- Public procurers must, to a larger degree, score quality in procurement processes. Currently, price is too often the determining factor in tender competitions.
- Ensure smaller companies access to the public market by introducing an obligation to announce procurements above NOK 100,000.
- Split larger contracts into lots - assuming it does not add costs or bureaucracy - to allow more companies participation in public sector tenders.
- Ensure contracting authorities engagement at an early stage in the business communities planning processes.
- Use a common procurement model to appraise the level of seriousness in all public contracts. The model should be composed by the parties and the authorities, to ensure that serious companies receive the contracts.
- Public sector should establish a helpdesk service to act as a support function for contracting authorities in their procurement processes.
- Public sector should use the market rather than develop competing businesses. Where public sector competes with companies, it must be on equal terms.
- Continue the ongoing simplification efforts, with each sector setting specific goals for the results it seeks to achieve. This will allow companies to invest time in creating value and jobs, reducing the time spent on meeting public information requirements. The consequences of any new requirements for the business community must be studied in detail, and case processing time must be shorter.
- Create a more integrated, coordinated and uniform supervisory approach to the business community.

9. Strengthen labour force participation and ensure competitive pay and working conditions

Norway's social and labour market model depends on high employment to remain financially sustainable. Even before the coronavirus crisis, there were too many people of working age outside the labour market. The increase in young people who are unemployed is particularly concerning. The coronavirus crisis will undermine employment and put welfare schemes under increased pressure.

Norway's labour market policies must be designed to increase employment. NHO's goal is to increase the proportion of people between 20-70 years of age in employment from 73.1 to 77.5 percent by 2030. To achieve this, the proportion must increase by 0.6 percent annually up to 2030.

Labour market policy must work to strengthen employment and help ensure that the coronavirus crisis does not result in lasting long-term unemployment. The loss of value creation for society is particularly high when young people end up in long-term passivity and exclusion. At the same time, there are also considerable benefits to be gained from having seniors work until later in life. For many in this group, any downsizing and bankruptcy can end in disability benefits or early retirement.

Welfare schemes and funding instruments must be designed to enable more people to work. A strong business policy and the Norwegian model for wage formation are crucial to creating more jobs in the private sector. Income security schemes must contribute to more people wanting to work. Ensuring that more people can work is about, in part, ensuring the right skills are available to meet the needs of the labour market and the restructuring the Norwegian business community.

Many of those currently unemployed must be helped to retrain for new jobs. We need, therefore, an education and training system that meets this need. Replenishing business-related skills will provide better prospects for re-entering the labour market. However, the relevance and quality of education and training assumes an effective dialogue between the business community education and training providers. (See above for an in-depth discussion of skills.)

Many unemployed people can also transfer to other work relatively quickly. At the same time, we know that many people currently outside the labour market face complex challenges, are often related to health and skills. There must be measures in place to prevent today's skills challenges from becoming tomorrow's health challenges.

The authorities must use the full range of tools across the sectors to avoid people finding themselves permanently outside the workforce. New instruments and solutions need to be considered in collaboration with the social partners and private actors.

The coronavirus crisis has also highlighted and reinforced existing challenges in other areas. The risk of work-related crime, irresponsibility and fraud is increasing. This applies both to the misuse of measures set up to help companies and employees, and other crimes that may go under the radar. Some industries are more vulnerable than others, but criminals are constantly finding new areas in which to operate. The public and private sectors must cooperate on preventing workplace crime and promoting positive attitudes in the labour market.

The COVID-19 pandemic will lead to a long-term economic downturn among Norway's most important trading partners. At the same time, high domestic public consumption may persist. Wage determination will play a crucial role in ensuring a sufficient scope of internationally competitive companies in Norway. This is needed for balanced economic development that ensures full employment and balance in foreign trade in the future.

In future, the service sector is expected to grow at the expense of those sectors that traditionally have had a high union membership rate. It is important that the unionised business community gains a proper foothold in these growing industries.

Income policy cooperation between the social partners in the labour market and the authorities, and a high degree of coordination in wage determination, must continue in Norway. The resulting value creation, low unemployment

and equal income distribution can thus provide a basis for genuine wage growth.

The Norwegian model, characterised by cooperation and trust, strong social partners and a high union membership rate, will make us better equipped than many other countries to tackle these challenges. However, it won't happen spontaneously. This collaboration must be enhanced, and we must commit to maintaining a high degree of unionisation.

At the same time, the collective agreements must be adapted to the changing types of work and the organisations' and companies' needs. This way, being bound by collective agreements will remain attractive in the future. The NHO's goal is to increase employees' and employers' union density. Around 49 percent of all wage earners are currently unionised. In the private sector, 71 percent of workers are employed in companies that are union members. The average indicates a union density of 60 percent. The NHO's goal is to increase employees' and employers' union density from 60 to 63 percent.

The NHO proposals:

- Review welfare schemes. These must be adapted to government finances and work to strengthen the labour force participation rate. The review requires a broad and deep debate, reviewing which services and provisions the community should be responsible for, and the level thereof. The review must be a part of an effective tripartite dialogue.
- Pursue a general rule of permanent employment in the Norwegian labour market. The regulations must nevertheless to account of the fact that the business community has variable labour needs.
- Reduce the employment risk for companies by, among other measures, strengthening the probationary period scheme. The upper age limit in the Working Environment Act should drop from 72 to 70 years, and the option for companies to set internal age limits should be removed.
- Monitor and follow-up the unemployed and prioritise linking them to companies in need of labour. NAV (The Norwegian Labour and Welfare Administration) must use private actors in this work to a greater extent, and consider innovative public procurement as one particular method. The current requirement in the regulations to be a real job seeker must be observed.
- Ensure NAV is forward-looking, close to the companies, and enables candidates to best meet the needs of the labour market. The skills and health authorities and NAV must cooperate better in all areas to avoid people dropping out and to bring more people into the labour market.
- Maintain the strong efforts by the authorities against work-related crime. Better coordination and information sharing between agencies is crucial to the prevention and early detection of work-related crime.
- Apply a list of responsibility provisions to all public procurements. These must be based on solutions that the social partners and the authorities jointly find both effective and practical.
- Ensure wage determination, with the expose sector (frontfaget), plays a crucial role in ensuring the competitiveness of the future business community. Everyone, including employees in the public sector, must support the primary discipline model.
- Wage growth must be adapted to what competitive companies can live with over time and be normative for the rest of the economy.
- Cooperation and collaboration between the various policy areas - including fiscal and monetary policy - is crucial to ensure stable development in the Norwegian economy. This requires a strict future fiscal policy; wage determination alone cannot be responsible for ensuring a competitive sector of sufficient size.

10.

Build future-oriented infrastructure that stimulates business development throughout the country

A successful restructuring requires stimulating growth and job creation throughout the country. People live where work can be found, and companies play an important role in developing the regions and local communities. A well-functioning society depends on good mobility, which creates attractive housing and labour market regions and effective connections with foreign countries. People must commute to and from work, while goods and services must enter the market quickly, safely and efficiently. The development of modern infrastructure is crucial for value-creating regions throughout the country and to ensuring a proper flow of goods, services and travellers crossing borders.

In the future, digitalisation and the development of ever-improving digital infrastructure will further reduce disadvantages of distance, and connect people, companies and regions more closely. That said, many unresolved needs remain in creating predictable and efficient transport corridors between parts of the country, and in resolving congestion in the cities. New technology will not fix all of these issues.

New infrastructure (energy, charging, 5G, etc.) is also a prerequisite for implementing the green transition and for the phasing in of new technologies in the transport sector.

Long-term infrastructure needs could be shaped by these influences; the way we travel and the transport services we demand will surely change. In the future, all goods and passenger transportation must move towards zero or low emissions. However, it is uncertain how these influences will affect the volumes of freight and passenger travel. These are conditions that can pull in either direction.

The operation and maintenance of infrastructure is important to public safety and contingency readiness. In addition to general maintenance, municipalities and county administrations must have the capacity to handle unforeseen events such as landslides, floods and other extreme developments.

Good land use and infrastructure development also help guide urban and local development, business development, residential construction and transport patterns. It is also important to maximise regional advantages to create the basis for local growth. It is crucial that the state and municipalities emphasise value and job creation in their decision-making processes, and have an understanding that pace is crucial.

The NHO proposals:

- Ensure that the next national transport plan (NTP) also includes a plan for land use and business development, and that this is followed up with specific measures in the annual budgets. Infrastructure investments, spatial planning, and housing and business development must be coordinated.
- Increase efforts to build the new infrastructure which is crucial to the phasing in of new digital and zero-emission solutions. Where there is no commercial basis for digital infrastructure or charging and hydrogen infrastructure, the NTP must address these needs.
- Continue the goals for efficient and seamless mobility, at least those that apply to the current NTP, while striving for lower-cost implementation.
- Ensure that the experiences from Nye Veier AS, which indicate that there is room for 15–20 percent savings, are established as principles for operating both the Norwegian Public Roads Administration and Bane Nor [Norwegian railway]. Make socioeconomic profitability (cost/benefit) the basis for priorities to as great an extent as possible. Investments should be made to develop methods of capturing all types of benefits and costs as precisely as possible. New methods, such as net ripple effects, should be used. Include a stress test when assessing the effects of new technology on new, large transport investments.
- Reduce by half the planning time for major infrastructure projects, to accelerate progress and ensure it doesn't stop.
- Reduce maintenance backlogs through stimulus measures and forced initiatives for roads, railways and public buildings. Ensure functionbased requirements in operation and maintenance contracts in order to ensure the most effective maintenance and innovative solutions for the money.
- Ensure that transport efforts support business policy goals and opportunities.
- Maintain competition in the aviation market, both nationally and internationally.
- Strengthen public transport to meet increasing transport demands in cities efficiently. Ensure that this also represents a competitive transport offering for longer journeys.
- Transfer more freight transport to sea and rail. Increased predictability and greater incentives will be crucial here.

Appendix:

The Roadmap for the Business Community of the Future project was launched in the winter of 2019. Its purpose is to highlight future opportunities for job and value creation, for export potential, and to identify those measures and provisions required to trigger growth potential. As a result of the COVID-19 pandemic, the need for strong political framework conditions has further intensified. A prerequisite for this work is to enter a more sustainable future that makes the low-emission society a reality.

In order to establish a broad knowledge base on the future possibilities, several feasibility studies were carried out as part of the project. Most of them are described briefly in the road map. The central analysis environments are SINTEF, Menon Economics, Socio-economic analyses, NMBU, Thema Consulting, Chatham House and Læringsliv AS, in addition to inhouse analysis. We extend a special thank you to Erik Jakobsen at Menon Economics and Karl A. Almås at SINTEF.

The project has been implemented as a broad involvement process within the NHO community. There was also collaboration with other alliance partners on specific areas, such as Finance Norway and the Norwegian Shipowners' Association. The perspectives have also been discussed with KS. The work also formed the basis for NHOs Annual Conference, 'Next Steps' in 2020.

An important guideline for this work has been that it is relevant to, and related to, business. Workshops were held with companies and partners in all regions, providing direct input into the process. The NHO's Owners' Forum and fora for smaller companies were involved. A separate, broad-based corporate panel was also established to ensure input, relevance and quality assurance along the way. Six meetings were held by the corporate panel, which provided a constructive platform for dialogue on business policy issues across various sectors and industries.



Næringslivets Hovedorganisasjon