Assessment and recommendations

The Assessment and recommendations present the main findings of the OECD Environmental Performance Review of Norway. They identify 30 country-tailored recommendations to help Norway make further progress towards its environmental objectives and international commitments. The OECD Working Party on Environmental Performance discussed and approved the Assessment and recommendations at its meeting on 16 February 2022.

1. Towards sustainable development

Norway has made progress on the path towards green growth over the past decade. The country is a frontrunner in many environmental areas and invests heavily in technological development and innovation to support its green transition. Norway's low-carbon transition is comparatively well advanced. The country has a low-carbon energy mix thanks to its widespread use of renewables. It is a world leader in electric vehicle adoption, and is advancing the decarbonisation of all transport sectors. However, the country still faces multiple challenges, including sustainable consumption patterns and biodiversity protection.

Norway set ambitious national environmental targets across all sectors. Its national targets on climate mitigation are among the most ambitious worldwide. The country aims at achieving climate neutrality by 2030 and enshrined in law the target of becoming a low emission society by 2050. While Norway is a climate mitigation and adaptation forerunner at home, it is also one of the world's largest energy exporters, thereby contributing indirectly to greenhouse gas (GHG) emissions abroad. Norway has the capabilities and financial means to accelerate a just transition within its own borders and abroad. The country already supports developing and emerging economies through the Norwegian International Climate and Forest Initiative, which is the largest single element in Norway's public climate finance. The government intends to double its total climate finance to NOK 14 billion (USD 1.6 billion) by 2026.

While not a member of the European Union, Norway is part of the EU internal market through the Agreement on the European Economic Area. As such, it implements large parts of EU environment and climate policies. The country also has a long tradition of applying a wide range of economic instruments to green its economy. Norway has a well-functioning environmental governance and management system with a high level of co-operation, vibrant civic engagement in decision making and strong advisory bodies. Citizens have generally free, open access to high-quality environmental information. The short distance between research and policy-making bodies is an asset of the Norwegian system. The integration of environmental concern into other policy areas has been at the core of policy making for several decades.

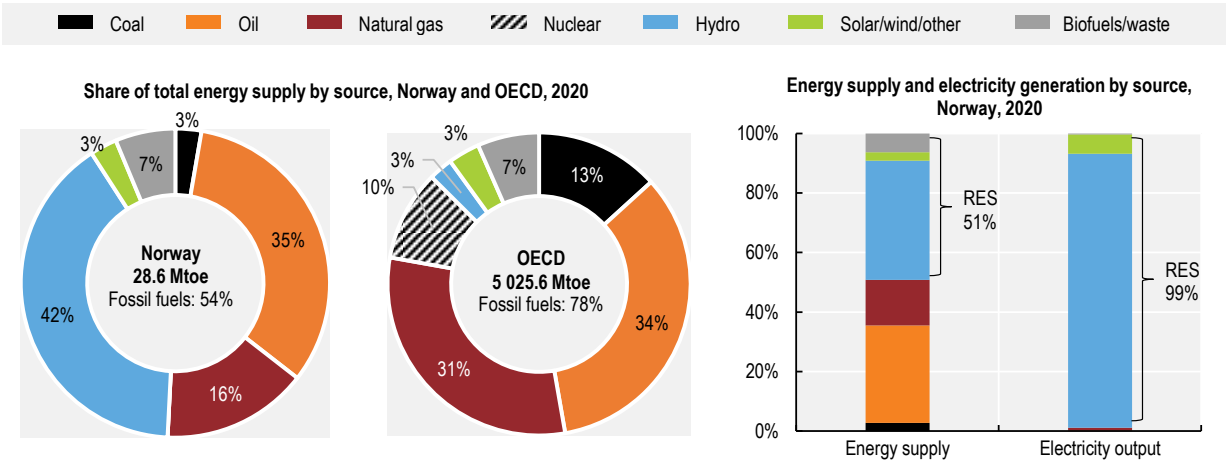
Norway is a frontrunner in many environmental areas, but there is still room for improvement.

Norway's energy transition is well advanced and the country is a leader in renewables

Norway has increasingly decoupled energy demand and related environmental effects from growth. Over the past decade, it has accelerated deployment of renewables and improved energy efficiency thanks to enhanced technology and the electrification of the transport and residential sectors. Nevertheless, Norway's energy consumption per capita, which historically has been among the highest in the OECD, is still above the OECD average. This is due notably to high energy consumption in the industry sector, as well as households' heating needs due to the cold Scandinavian climate. Improving energy efficiency thus needs to remain a priority for such an energy-intense economy.

Norway has one of the most decarbonised power sectors in the OECD area (Figure 1). It builds on widespread use of renewable electricity, primarily hydropower and more recently wind power. The country is energy self-sufficient with a surplus of renewable electricity in normal years, and has become Europe's largest energy exporter. Norway has reduced the share of fossil fuels in energy consumption since 2013 and decided to phase out its only coal-fired power plant in Svalbard. In 2020, it became the first country that formally prohibited use of fossil oil for heating in existing buildings and in new buildings altogether.

Figure 1. Norway's energy mix is much more decarbonised than the OECD average



Note: The breakdown of energy supply excludes heat and electricity trade but percentages shown reflect ratios calculated on total energy supply. Biofuel and waste include negligible quantities of non-renewable waste.
Source: IEA (2021), *IEA World Energy Statistics and Balances* (database).

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Following Iceland, Norway has the second largest share of renewables, representing 51% in its energy mix and 99% of its electricity output (Figure 1). It overachieved its national target of 67.5% share of renewable energy in gross final energy consumption in 2020 in line with the EU Directive on renewable energy. Norway's renewables sector is rapidly growing. The country has a competitive advantage in large-scale deployment of offshore renewables, particularly wind.

Norway has ambitious climate targets…

The 2017 Climate Change Act, the 2020 Nationally Determined Contribution (NDC) under the Paris Agreement and the Climate Action Plan 2021-30 lay out the framework of Norway's climate action. Norway also adopted its Climate Adaptation Strategy 2021. The government provides annual reporting on both mitigation and adaptation efforts to Parliament.

Norway has raised ambition on legally binding climate targets. Within its NDC 2020, Norway aims to reduce GHG emissions by at least 50% and towards 55% by 2030 compared to 1990 levels, including through international emissions trading, such as the EU Emissions Trading System (EU ETS). The 2017 Climate Change Act sets the long-term target of becoming a low-emission society by 2050. Moreover, in 2016, Norway's Parliament pledged to become climate neutral by 2030 (previously 2050). This means it must offset remaining emissions through emissions trading systems or international co-operation.

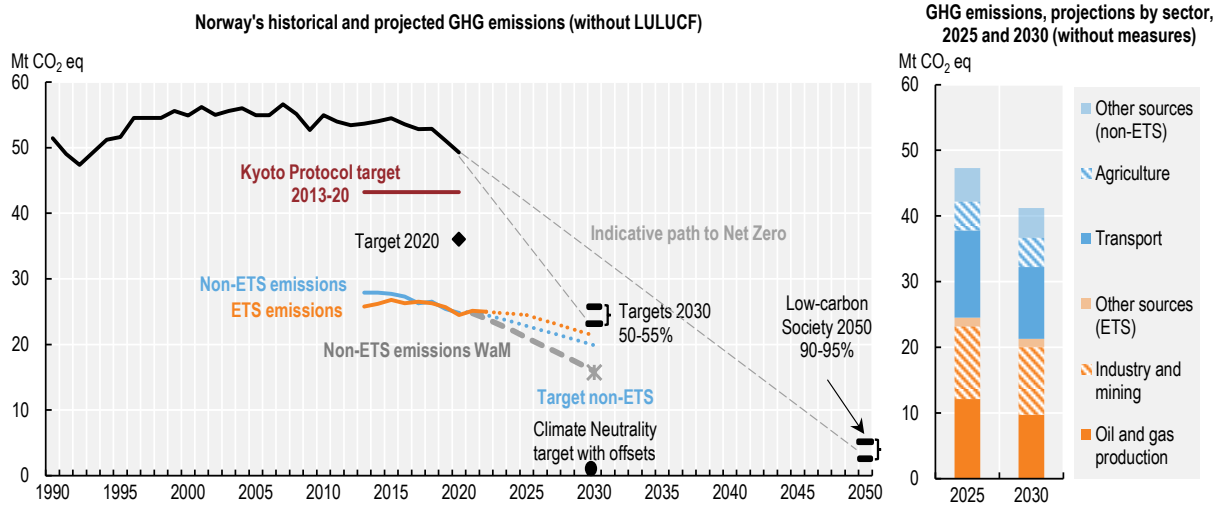
Norway plans to fulfil its climate commitment in close collaboration with the European Union. Its objectives are aligned with the enhanced ambition of the new EU-wide 2030 Climate and Energy Framework under the EU Green Deal. Emission taxation and participation in the EU ETS are the main elements of the government's climate policy. The Climate Action Plan outlines economy-wide and sector-specific measures for reducing emissions, as well as its policy for increasing CO2 sequestration and reducing emissions from forestry and land use. The government committed to applying the no-debit rule under the EU Regulation on Land, Land-Use Change and Forestry and intends to enhance climate sinks.

… but reducing domestic emissions will be challenging

Norway is a relatively small GHG emitter with absolute emission levels similar to other Nordic countries. The country has decoupled emissions from gross domestic product (GDP) growth. In 2020 energy industries, including oil and gas production, contributed to 30% of the country's GHG emissions, followed by transport, industry, agriculture and buildings. After peaking in 2007, domestic GHG emissions have declined, albeit more consistently in the second half of the 2010s. In 2020, they were about 10% lower than in 2010, but only about 4% lower than in 1990 (Statistics Norway, 2021[1]).

The starting point for emission reductions in Norway is low because its energy mix is already largely decarbonised, leaving few remaining quick wins. The expansion of offshore oil and gas resources over the past decades also contributed to increasing GHG emissions. These emissions have been relatively decoupled from production since 2016. The Norwegian petroleum industry has comparatively high environmental and climate standards. Many companies operating on the Norwegian shelf have set net zero targets.

Figure 2. Norway has a way to go to reach its 2030 climate targets



Note: IPCC = Intergovernmental Panel on Climate Change; LULUCF = land use, land-use change and forestry. The projections and effort sharing target apply different metrics (Global Warming Potential of IPCC's fourth and fifth Assessment Reports, respectively). The dotted line shows GHG emissions projections with existing measures. The dashed line (with additional measures - WaM) shows projections for the non-ETS sector, including the measures of the Climate Action Plan 2021-30. Data exclude emissions trading. Norway co-operates with the European Union to fulfil the 2030 climate target. The impact of this co-operation, especially Norway's participation in the EU Emissions Trading System, must be considered in assessing progress towards this target. Thus, reduction in domestic emissions cannot be used as the sole indicator to assess Norway's progress.

Source: EEA (2021), *Member States' greenhouse gas emission projections* (database); ESA (2021), *Climate Progress Report 2021*; Statistics Norway (2021), "Table 08940", *StatBank* (database).

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Meeting the enhanced climate target through domestic emission cuts will be challenging (Figure 2). According to projections of the 2022 National Budget, Norway will emit around 41.2 million tonnes of CO_2 equivalent (CO_2-eq) by 2030, which represents a reduction of 19.5% of emissions compared to the 1990 level. These estimates do not yet include measures of the Climate Action Plan 2021-30 or the effects of Norway's participation in the EU ETS. However, the government still expects a gap to achieve the 2030 emissions reduction target.

With high marginal costs of reducing domestic GHG emissions, the purchase of foreign emission credits often makes economic sense. Emissions trading within the EU ETS was a major factor in achieving Norway's commitments under the Kyoto Protocol (2008-12 and 2013-20), along with carbon credits under the Clean Development Mechanism and domestic measures. Moreover, many counties, cities and municipalities have set net zero goals and contribute to fulfilling Norway's national ambitions. The city of Oslo has an ambitious climate action plan and climate budget covering all relevant sectors.

Norway is a world leader in electric vehicle adoption and is decarbonising transport

Norway has by far the largest share of electric vehicles (EVs) worldwide. In 2021, about two-thirds of new passenger vehicles sold were fully electric. The country is making progress towards its goal of registering all new passenger cars and light vans as zero emission vehicles by 2025. While the charging infrastructure is increasingly dense, Norway needs to pursue public financial support with a view to establishing and maintaining public charging stations in areas that lack a commercial market, particularly in the north. Norway electrified a third of its domestic ferries. Norway is also a pioneer in electric aviation, which could help address growing concerns about the large number of short-distance flights.

The government's transport goals, strategies and priorities are detailed in the National Transport Plan 2022-33. This plan aims to halve the non-quota emissions from the transport sector by 2030 compared with 2005 levels (representing about a quarter of total emissions in 2020). A broad range of economic instruments and regulatory instruments is used to decarbonise all transport sectors. The state-owned enterprise Enova supports technology development and early market introduction.

The implementation of the zero growth goal through Urban Growth Agreements has helped reduce car traffic volumes in Norway's major cities. This has contributed to reducing GHG emissions, air and noise pollution, and congestion, as well as to improving quality of life in cities. Such agreements should be rapidly extended to medium-sized cities and smaller urban areas. Norway's small and medium-sized cities could largely benefit from lessons learnt in major urban areas.

Norway needs to redouble its efforts and make more structural changes to establish sustainable transport systems to meet the 2030 target. This involves promotion of behavioural changes, a stronger focus on shared mobility services and a shift from increased mobility towards improved accessibility. The rail system needs to be further modernised and become a cheap alternative to road and air transport. Airport expansion is counterproductive to reducing GHG emissions and environmental concerns need to be better reflected in any new plans. It is an opportune moment to rethink mobility and develop a socially fair and spatially balanced transport system.

Air quality is among the best within the OECD, but some seasonal challenges in urban areas remain

Norwegians enjoy good air quality. Norway's pollutant emissions and intensities of fine particulates ($PM_{2.5}$), nitrogen oxide (NO_x), sulphur oxide (SO_x) and black carbon have all decreased over the past decade. Norway complies with the EU directives on air quality standards and will continue to follow the EU zero pollution agenda closely. In addition, the country has set more ambitious local and national targets, supported by excellent nationwide air quality monitoring services. Premature death attributed to $PM_{2.5}$ exposure in Norway is less than one-third the OECD average. Norway's 4 major cities rank in the top 20 of the European City Air Quality Index.

Nevertheless, nearly all larger cities in Norway face localised air pollution problems and periodic worsening of air quality with high peak PM_{10} concentrations during winter and into spring. Thanks to proactive measures (zero growth goal, EVs, replacement of wood stoves), local air quality in urban areas is expected to improve in the coming years. Fees for studded tyres, an important source of airborne particulates, helped considerably reduce their use in urban areas.

Norway needs to expedite the replacement of ageing water infrastructure

While Norway has abundant water resources, total freshwater withdrawal has increased over the past decade, notably due to higher consumption by households and significant water losses. Leakage from the drinking water supply system is estimated at 30% (Environment Norway, 2021[2]). This represents not only a significant loss of water resources but also a potential risk for microbiological contamination in drinking water. Water supply systems are often more vulnerable in small municipalities, notably in terms of water supply stability and the ability of drinking water utilities to prepare and respond to emergencies (bedreVANN and Norsk Vann, 2020[3]). Information on drinking water quality could be made accessible directly on websites of municipalities. This would enable consumers to easily consult relevant information on their drinking water sources, as well as inspection reports.

Most people are connected to municipal wastewater systems. However, only 60% of Norway's population is connected to advanced wastewater treatment plants, which is one of the lowest shares in the OECD area. According to national statistics from 2020, more than half of the population was connected to wastewater facilities, which do not comply with pollution permits. This calls for regular inspections and the use of coercive fines. As noted in the previous OECD EPR of Norway (OECD, 2011[4]), the country's ageing water infrastructure requires urgent upgrades. It also needs to adjust to new climate challenges, such as increased precipitation, floods and rising sea levels. The rate of infrastructure improvement has been slow despite substantial investment. Norway has invested by far the largest share in infrastructure renewal in Europe: EUR 225 (about USD 255) per inhabitant per year compared to EUR 82 (about USD 93) in other EU member states (five-year average) (EurEau, 2021[5]).There is scope for improving operational efficiency of water services and co-ordination between different administrative levels.

Accelerated action is needed to reduce waste

Norway is not on track to meet its objective of decoupling waste generation from economic growth. Waste generation in Norway reached a record high in 2019. The average Norwegian produced 772 kg of municipal waste, one of the highest amounts in Europe (OECD Europe average = 499 kg per capita). However, the definition of municipal waste has been changing over the years, which makes it difficult to compare data. The Waste Management Plan for 2020-25 includes a waste prevention programme and proposals for changes in waste infrastructure to prepare for tightened directives within the EU zero waste strategy.

Nearly half of Norway's municipal waste is treated by incineration with energy recovery, while landfilling has almost disappeared. The country will need to significantly increase its recycling capacity. Norway has excellent waste treatment facilities, with cutting edge technology for waste sorting. While more flexible regulations are needed, extended producer responsibility schemes and better incentives are key to creating demand for secondary raw material, notably in the construction sector. Technical building standards would need to be adjusted to enable increased use of recycled building materials.

Thanks to voluntary commitments by the food industry, Norway reduced food waste by 12% (2015-18) and aims to halve food waste by 2030. However, NOK 22 billion (about USD 2.6 billion) in food is still wasted each year, representing about 1.3 million tonnes of CO_2-eq emissions. Collected food waste is increasingly used for biogas production. Awareness campaigns to promote better consumer choices and better understanding of best-before dates need to be pursued. Binding measures to reduce food waste may be needed.

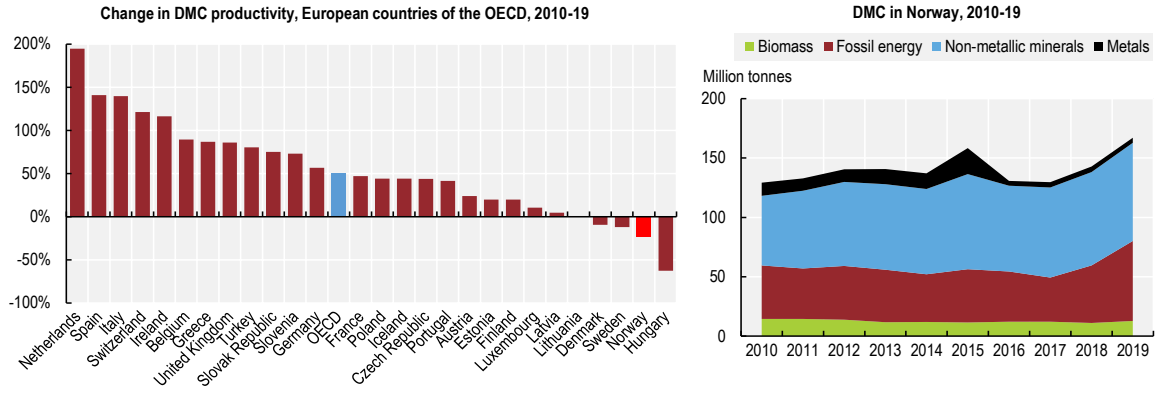
Norway still has a way to go towards achieving a circular economy

Promoting sustainable consumption patterns is a key challenge for Norway. The country has one of the world's highest material consumption rates, a high material footprint per capita and a declining material productivity (Figure 3). The government released its first strategy for developing a green, circular economy in July 2021, which sees the transition to a circular economy as an opportunity to foster value creation and sustainability. The strategy has broad scope, and largely applies the new EU Circular Economy Action Plan 2020.

The linear pattern of "take-make-use-dispose" does not provide producers with sufficient incentives to make their products more circular. Only a small share of products is cycled back into the Norwegian economy (Circular Norway, 2020[6]). As the European Union sets global standards in product sustainability, Norway could benefit from a stronger focus on life cycle thinking, eco-design, "the right to repair", etc. Policy makers need to create an enabling environment to facilitate the circular transition.

As typical for many other developed economies, material footprint originates in part from outside of Norway. A more holistic strategy would allow Norway to better understand and consider embedded emissions of imported goods and related global environmental impacts. Actions should not only tackle all economic areas to reduce Norway's material footprint (e.g. construction, forestry and wood products, energy transition, circular food systems, green transportation) but also focus on reducing its absolute levels of resource consumption. This involves further educating and empowering consumers to make informed decisions (e.g. use of sustainability labels).

Figure 3. Domestic material consumption productivity is decreasing



Note: Domestic material consumption (DMC) equals the sum of domestic extraction of raw materials used by an economy and their physical trade balance (imports minus exports of raw materials and manufactured products). DMC productivity designates the amount of GDP generated per unit of materials used. GDP at 2015 prices and purchasing power parities.
Source: OECD (2021), "Material resources", *OECD Environment Statistics* (database).

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Norway has a well-functioning environmental management system.

The implementation of the SDGs is making good progress but needs to be strengthened throughout the country

Norway ranked seventh on the 2021 index of countries' progress towards achieving the SDGs (Sachs et al., 2021[7]). Despite good progress, Norway still faces "significant or major challenges" for several goals, including climate action, sustainable consumption patterns and biodiversity protection. The 2021 National Action Plan for implementation of the SDGs promotes a whole-of-government approach. It establishes measures to ensure better horizontal and vertical co-ordination, as well as stronger co-operation with the private sector, academia and civil society. In 2020, the Ministry of Local Government and Modernisation, which is also in charge of regional development, became the national co-ordinating body for implementing the SDGs with a view to promoting local ownership and increasing cross-sectoral co-operation.

While nearly all municipalities have started working with the SDGs (Hjorth-Johansen et al., 2021[8]), implementation varies greatly across the country. Large, central and network-oriented municipalities have done better overall, thanks to stronger political commitment and better knowledge sharing and co-operation with other levels of government (Hjorth-Johansen et al., 2021[8]). Counties and municipalities need to be fully involved in national decision making from early planning to monitoring and evaluation. They must also strengthen their capacity to work with the SDGs strategically and systematically (OECD, 2020[9]).

The national government needs to further promote policy coherence, multi-level governance and multi-stakeholder partnerships to move beyond a goal-by-goal approach rooted in specific sectors. As in all countries, inter-ministerial co-ordination between different policy areas could still be improved. Specifically, ministerial departments should invest more in interdisciplinary expertise (e.g. internal mobility) and pay more attention to cross-sectoral spillovers to better integrate policies across sectors.

Environmental management capacity of local governments should be enhanced

Norway values local democracy and locally tailored solutions in the context of significant regional differences. In 2020, the government implemented a major territorial reform that merged several counties and municipalities. The reform aims at transferring power and responsibility to larger, more robust municipalities and regions. Local authorities are in charge of most aspects of environmental management and their level of responsibilities has been growing over the past decade. Municipalities manage local pollution control, while County Governors and the Norwegian Environment Agency control pollution at the regional and national levels, under the guidance of the Ministry of Climate and Environment. This can contribute to a more efficient and user-friendly public administration. However, differences in implementation capacity, the influence of local interests and greater institutional autonomy have led to uneven application of environmental regulations and national guidelines. Therefore, it is crucial to further strengthen the capacity of small municipalities, particularly in remote areas. They often face trade-offs between economic, social and environmental objectives. A stronger focus on learning from peers, sharing of good practices and more frequent opportunities for policy dialogue could help build institutional knowledge on good environmental management practices and inspire specialised support services.

Efforts to promote a meaningful engagement with minority groups need to be pursued

Evidence from recent surveys (SDWG, 2019[10]) suggests the government has improved overall communication with the Sami community. The right of Indigenous peoples to participate in decision-making processes was formalised in 2005. Beyond mandatory consultations, the government also consults with other Sami interest groups, particularly in matters that directly affect Sami land use. This has contributed over time to enhancing awareness and knowledge of Sami issues in ministries and agencies. In addition,

the government has set up dedicated mechanisms to better include minority groups' perspectives at municipality and county levels (e.g. councils for youth, seniors and persons with disabilities).

Nonetheless, there is still a way to go to better consider Sami-specific concerns in national policies and better protect minority rights. A research project (Ahlness, 2020[11]) found that "Members of the 'Nordic' majority population tend to view minority groups as less capable of ecological commitment." Reindeer herders' associations suspect consultation processes are undermined by asymmetric information, unequal negotiation power and lack of transparency. Promoting effective and meaningful engagement and incorporating indigenous knowledge remains a common challenge in the Arctic region. Dialogue has to be seen to help find better solutions and more strongly influence project design at an early stage.

Conflict of interest at local level can undermine the effectiveness of environmental assessment procedures

Since 2013, the Ministry of Climate and Environment and the Ministry of Local Government and Modernisation have shared responsibility for environmental impact assessment (EIA) and strategic environmental assessment (SEA). These processes are primarily integrated into the ordinary procedure for land-use planning and applications for licences and permits. In 2017, Norway incorporated the two EU directives on EIA and SEA in its legal system as one common system.

While environmental assessments are conducted at national level for major projects (e.g. national infrastructure, renewable energy projects), local municipalities are responsible for EIA in most cases. As a result, the local authority may be the applicant and the competent authority at the same time. This double role creates a potential conflict of interest, particularly in smaller municipalities, as there is no independent authority in the approval process. Local interests may sometimes lead to sub-optimal decisions as regards environmental outcomes and EIAs may address only direct and immediate on-site effects. This risks underestimating cumulative environmental effects that may occur in the medium and long term or beyond the spatial boundaries of municipalities. Limited local capacity can also undermine the quality of the EIA process. Every municipality should benefit from the expertise of a dedicated environmental officer. More room should be given to independent, critical, inter-disciplinary voices in local decision-making processes.

High non-compliance calls for continued compliance promotion

Norway has a solid legal and regulatory framework for compliance assurance using a combination of compliance promotion, monitoring and enforcement tools. Inspections are conducted by the Norwegian Environment Agency and the county governors. They have a joint monitoring strategy for 2016-20 and share a corporate database of inspection results across all sectors. However, as in all OECD countries, there is still an implementation gap. The country has a high rate of non-compliance (60-70% of the checks, including 10% of serious violations). About two-thirds of breaches are related to weaknesses of self-monitoring systems. Approximately 30% of site inspections are conducted without prior notice. Compliance monitoring also includes desk verification of self-monitoring reports and online checks of products. E-commerce non-compliance is particularly high and requires continued attention.[1]

Norway's strong focus on risk-based targeting leads to higher levels of non-compliance detection, which does not reflect the general compliance behaviour of the regulated community. Norway's inspection results also need to be interpreted in light of more in-depth compliance monitoring. Such monitoring checks the performance of company-internal environmental management systems whose elements are mandated by law. This makes the Norwegian system unique in the OECD area. However, the requirements are challenging for smaller companies; many have not sufficiently invested to meet them. They still lack routine checks and knowledge about safety standards and environmental requirements, including for chemical management of imported products. This underlines the importance of inspection campaigns and

compliance promotion efforts, which need to be pursued. The impact of current compliance promotion activities could be more systematically monitored, beyond the annual reporting of the Norwegian Environment Agency.

Norway is well positioned to promote a just, green transition within its own borders and abroad.

Norway's recovery has an environmental and climate focus

The health and economic impacts of the global COVID-19 pandemic have been lower in Norway than in other European countries. As elsewhere, local pollution and GHG emissions declined in line with the lower level of activity. While its economy was initially hit hard by slumping oil prices, Norway has so far been recovering quickly from the economic impacts of the global pandemic. In 2021, it already reached close-to-pre-pandemic GDP per capita levels (OECD, 2021[12]).

Economic rescue packages included time-limited income protection measures and business support schemes. These funded investments in key infrastructure sectors such as green maritime transport projects. In addition, they increased funding in technology development and several green conversion packages; the largest of them were channelled through its state-owned enterprise Enova. However, the country also provided substantial support to rescue the oil and gas industry (USD 15.2 billion) and the aviation sector (USD 0.9 billion) (OECD, 2021[13]). Tax concessions to the petroleum sector allow the immediate tax deduction of current and projected investment spending from 2020 to 2024. Thanks to the rebound in oil prices, the petroleum industry recovered more quickly than initially expected. Tax concessions in the early months of the pandemic may have been more generous than necessary (OECD, 2022[14]).

Norway supported implementation of existing green restructuring measures and plans. The government set-up a Green Platform worth NOK 1 billion (about USD 116 million, 2020-22). This aims to stimulate "bigger and more rapid investments from companies in green sustainable solutions and products" (Green Platform Initiative). The initiative is cross-cutting and involves the participation of five ministries. As in other OECD countries, monitoring and evaluation are needed to ensure that funds are spent in an economically efficient, environmentally sustainable and publicly supported manner (OECD, 2021[15]).

Norway invests heavily in development of new technology to support its green transition

Norway invests heavily in research and development (R&D) of energy and climate technology with a view to supporting lasting market changes for climate-friendly solutions. Enova has been strengthened and provides funding for new technology development in all sectors (NOK 3.7 billion – about USD 393 million in 2020, 3 850 projects). The 2021-24 framework agreement defines new priorities to help achieve Norway's climate commitments and support the transition to a low-emission society.

Launched in 2020, Norway's carbon capture and storage project (CCS) known as "Longship" is the country's largest ever industrial climate project (total cost of NOK 25 billion – about USD 2.9 billion, including NOK 16.8 billion – close to USD 2 billion in government funding, 2021-34) (Ministry of Petroleum and Energy, 2019[16]). The project has the potential to create jobs. Longship aims at kick-starting CCS development both in Norway and Europe, as well as enabling other countries to replicate technological solutions. In addition, Norway supports the development of hydrogen production with CCS and hydrogen production using electrolysis with renewable electricity, material recycling from car batteries, etc. A Green Platform encourages investment and innovation in all sectors (NOK 1 billion – about USD 116 million for 2020-22). A new research centre – the Norwegian Research Centre on Wind Energy (NorthWind) – aims to create export opportunities for Norwegian business and industry over the next eight years and to minimise the environmental impacts from future wind power development. Other Norwegian energy

research centres focus on CCS, hydropower, solar energy, biofuels, low emission industry, zero emission neighbourhoods, intelligent electricity distribution and zero emission energy systems for transport.

Norway counts heavily on technological developments to achieve its climate goals and strives to reap the gains from innovation and new technology. While strong government support for innovation will further boost Norway's green transition, technical solutions alone may not be sufficient. Norway's green transition will also need to involve behavioural changes and require adjustment to consumption patterns.

Green public procurement needs to be better monitored and assessed

A greener and more efficient use of public procurement is a powerful policy instrument for aligning public expenditure with green objectives and promoting greener consumption patterns. Norway's general government procurement spending has more than doubled over the past decade. It was 17% of GDP in 2020 (OECD, 2020[17]). Norway has a strong regulatory framework for sustainable public procurement. According to the 2016 Public Procurement Act, contracting authorities have a legally binding duty to develop and implement sustainable procurement practices. A stronger focus on life cycle costs is encouraged. The Act calls for the entire procurement cycle to consider sustainability criteria.

However, there is still room for improvement when it comes to implementation. Norway also needs to enhance countrywide uptake and strengthen the accountability framework. Audit and control are weak points in relation to sustainable public procurement in Norway (OECD, 2020[17]). Some good practices to follow up on sustainability considerations are available. However, as noticed by the previous OECD Environmental Performance Review (OECD, 2011[4]), there is no systematic approach for monitoring outcomes of sustainable procurement. Availability of data for monitoring purposes also remains a challenge. Data on the share of green spending in public procurement could usefully inform decisions, but they are not yet systematically available. Preliminary findings of the Norwegian Agency for Public and Financial Management indicate an increase in the share of green public procurement spending in food purchases and meal services as well as in the construction sector in 2021. A new action plan for 2021-30 proposes to increase the share of green public procurement.

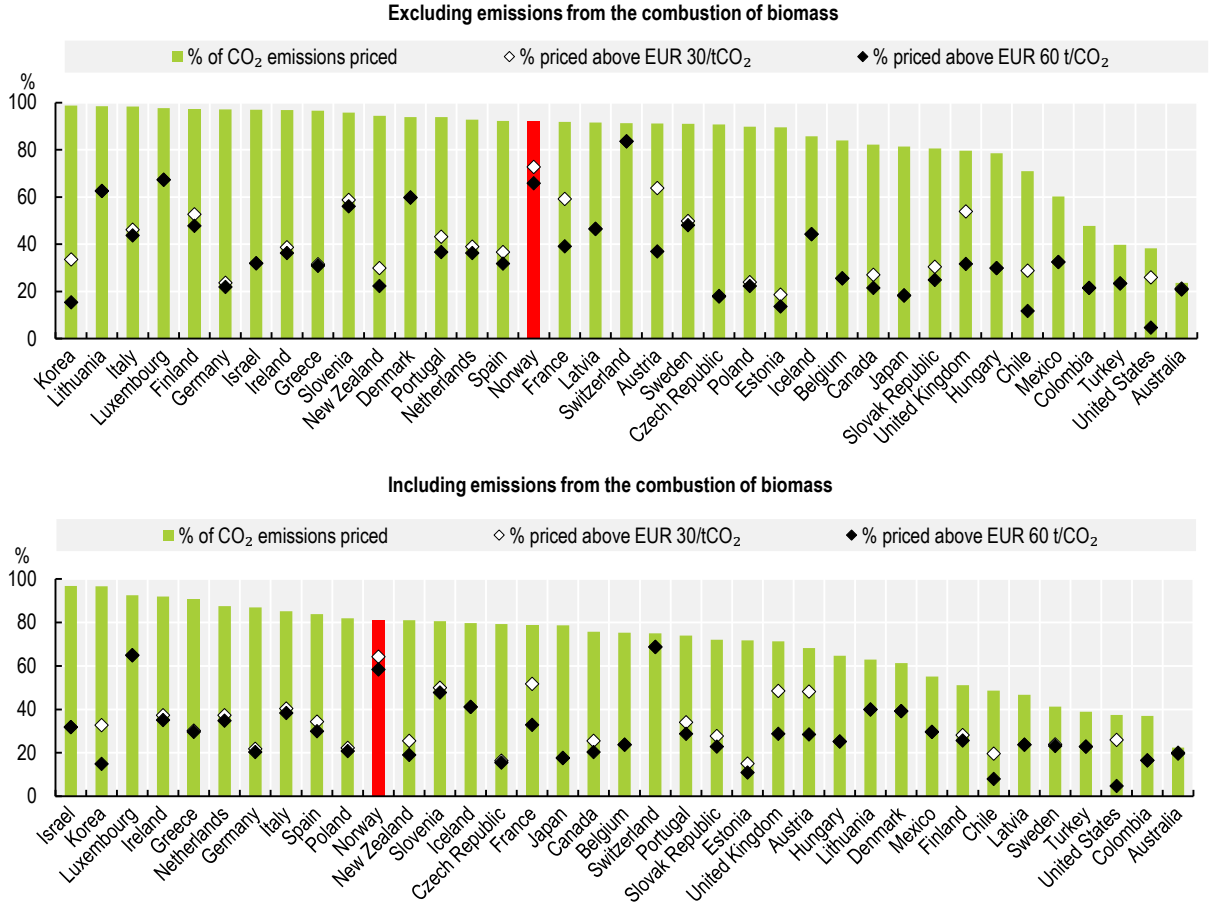
Norway aims to provide a long-term perspective on carbon pricing

Norway is a pioneer in using economic instruments for environmental protection, one of the first countries to introduce a carbon tax in 1991. To date, CO_2 taxes and emissions trading (EU ETS) cover approximately 85% of Norway's GHG emissions, including offshore production. Norway is also among the few countries that tax non-road emissions at more than EUR 30 per tonne of CO_2.

Norway's Climate Action Plan 2021-30 proposes to raise the carbon tax from NOK 590 (USD 69) per tonne of CO_2-eq in 2021 to NOK 2 000 (about USD 233) by 2030. Compensation measures may be used to ensure that specific groups or regions are not affected disproportionally. Households in Norway's northern regions already benefit from some tax exemptions for the use of electricity and energy from alternative sources or are charged a reduced rate for various excise taxes on energy products. The precise arrangements to operationalise the required tax shift will be part of a negotiation process and approved by Parliament within its annual budget cycle. By 2030, the scheduled increase in carbon prices is expected to reduce emissions by an estimated 8 million tonnes of CO_2-eq. This gradual carbon tax increase would provide a long-term perspective on carbon pricing and a strong price signal to encourage increased investments in renewable energy and low-carbon technologies. The next step is to ensure an effective and socially-balanced implementation over the next eight years.

Figure 4. Norway taxes a high share of CO_2 emissions from energy use

Share of energy-related CO_2 emissions priced in OECD countries, 2018



Note: The Effective Carbon Rate (ECR) is the sum of taxes (excise and carbon taxes) and tradeable permits that effectively put a price on carbon emissions. EUR 60 per tonne of CO_2 is a midpoint estimate for carbon costs in 2020, and a low-end estimate for 2030. Energy use data from IEA (2020), *World Energy Statistics and Balances*.
Source: OECD (2022), "Environmental policy: Effective carbon rates", *OECD Environment Statistics* (database).

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Norway should further reduce fossil fuel support and set time-bound targets

Norway's support to fossil fuels declined over the past decade, thanks to the gradual phase-out of several energy and carbon tax exemptions and reduced consumption of transport fuels with the uptake of EVs. Direct budgetary transfers to the oil and gas sector also declined over the decade. Most support measures are related to fiscal taxes (e.g. exemptions from the tax on mineral oil used for domestic shipping and fishing). Norway reports on tax expenditures diligently; debate is underway whether it makes sense to consider some of these expenditures as fossil fuel subsidies. Norway should systematically screen actual or proposed subsidies, including tax provisions to identify those that are not justified on economic, social and environmental grounds, and develop a plan to phase out fossil fuel and other environmentally harmful support. The government should also strengthen transparency by disclosing fossil fuel production and support plans in its commitments under the Paris Agreement (SEI et al., 2021[18]).

Furthermore, it would be useful for Norway to engage in a self-review and/or peer review of inefficient fossil fuel subsidies. Such reviews, similar to the ones within the G20, could help identify scalable good practices. Norway has been supporting various global initiatives to phase out fossil fuel support. The country is a member of the informal grouping of non-G20 countries known as the "Friends of Fossil-Fuel Subsidy Reform". In line with its international commitments, Norway should further reduce fossil fuel support and set quantified, time-bound targets.

Norway is working towards a sustainable vehicle taxation system

Having more vehicles that are fully electric generates important environmental benefits in relation to emissions of CO_2 and local air pollution. However, it has also strongly reduced revenues stemming from taxes on motor vehicles and motor-vehicle fuels. Responding to this loss of tax revenue, the government presented principles for a vehicle-taxation system that would be both environmentally and fiscally sustainable. The current taxation of vehicles and transport fuels has two main challenges. First, the tax largely does not apply to zero-emission vehicles. Second, it does not reflect differences in externalities depending on where and when the driving takes place. The government therefore plans to explore if it can reform the current system. An introduction of a time and place-based road use tax would be a welcome development.

Moreover, the government recently aligned the traffic insurance tax for EVs with the amount charged for motorcycles (70% of the traffic insurance tax for gasoline and diesel cars) and will apply the full rate as of March 2022. The government is also considering introduction of VAT on the most expensive EVs. These are first steps towards sharing the financial burden of road maintenance, infrastructure development and other externalities. As EV uptake becomes stronger, other measures (e.g. gradual removal of VAT exemption for EVs) may become necessary.

Norway has a well-developed road toll system. All major cities established toll rings using environmentally differentiated rates to discourage urban traffic and reduce related congestion problems. A recent road toll reform reduced the number of road toll companies from 60 to 5. It also simplified the price and discount schemes through an electronically managed AutoPass; some tolls serve as congestion pricing. The city of Oslo intends to transform the central area into a zero-emissions zone (ZEZ). Bergen is planning to implement a pilot ZEZ in 2023. Congestion charges are powerful tools that can address many externalities from road transport more effectively than fuel taxes (van Dender, 2019[19]).

The activities of the Government Pension Fund Global could become more consistent with Norway's international climate commitments

Norway needs to better consider emissions associated with foreign investments. The equity-portfolio carbon emissions of Norway's Government Pension Fund Global (GPFG) are estimated to be twice the country's total emissions (OMFIF, 2021[20]). The GPFG, which invests the surplus revenues of the petroleum sector, is the world's largest sovereign wealth fund. It pioneered ethical guidelines for investment decisions based on active ownership and the exclusion of firms from its portfolio. While climate risk is not explicitly anchored in its mandate, the fund has started incorporating some climate risks in its strategy.

The government should follow through on recommendations from an expert group that propose to base the responsible investment of the GPFG on the Paris Agreement's goals. At the COP26 in November 2021, Norway's prime minister announced government plans to make the GPFG "the leading fund in responsible investment and the management of climate risk".[2] This would help make the fund's activities more consistent with Norway's goals under international climate agreements. To date, despite its huge potential, the GPFG plays almost no role in the domestic or global green transition (Kattel et al., 2021[21]).

Norway is well positioned to prepare for a low-carbon future without oil and gas

Norway ranks number one on the Net Zero Readiness Index (KPMG, 2021[22]). It has a better track record than most other oil exporters in diversifying its economy. The country has many comparative advantages in other industries (e.g. low-carbon manufacturing in electricity-intensive industries, offshore wind, aquaculture, CCS). Building on its human capital with high education levels, well-functioning institutions, effective tax system and robust fiscal policy framework, Norway has the capabilities and financial means to accelerate a just transition within its own borders and abroad.

The transition to a less petroleum-dependent economy is already underway. The share of the petroleum sector within national GDP shrank from a peak of 25% in 2008 to 15% in 2021.[3] Employment in the petroleum sector dropped following the oil price plunge in 2014-16 and is set to decline in the long term; a more circular economy could create many new job opportunities. Shifting employment will require strategic planning and co-ordination.

According to the OECD Economic Survey of Norway 2022, the speed of the transition will determine any critical macroeconomic consequences for the Norwegian economy. If labour and capital resources can be reallocated from the oil and gas sector at a speed that avoids massive unemployment or stranded assets, then the transition will be comparatively benign (OECD, 2022[14]). While reduced oil and gas activities will create important economic and societal repercussions, the impact will probably be less than previously feared (Government of Norway, 2021[23]).

Beyond Norway's general system of workers' rights, the government has not yet developed an action plan for a "just and equitable transition" from fossil fuel production (SEI et al., 2021[18]). More clarity about the "just and equitable" transition in the Norwegian context would be useful. The government also needs to show it will address economic, social, spatial and gender inequalities beyond traditional support for affected communities or unemployment relief for workers. This involves a reflection on root causes to address structural changes and avoid replicating the same inequality patterns in new green industries. Equity issues concern uneven exposure to risk, uneven ability to capture the benefits and uneven responsibility for damage. Transformative change necessarily impacts lifestyle and consumption patterns.

The role of the private sector could be further leveraged by better integrating sustainability into business models. Civil society groups, communities and – more broadly – citizens are important sources of creativity and innovation, which policy makers could engage more strategically (Bruyninckx, 2021[24]). Today's children can drive the behavioural and lifestyle changes of tomorrow. Environmental education is of paramount importance.

Recommendations on sustainable development

Improving environmental governance

- Improve the understanding of local needs and provide adequate support for municipalities and counties to help them integrate the SDGs into local and regional planning; strengthen the capacity of small municipalities through peer learning, more systematic knowledge exchange and targeted support services.
- Develop inter-disciplinary expertise within ministerial departments (e.g. internal mobility) and a stronger focus on cross-sectoral spillover to better integrate policies across sectors and move beyond a goal-by-goal approach.
- Promote meaningful engagement of local communities and effective use of indigenous knowledge at an early stage of the decision-making process.
- Place stronger focus on cumulative environmental impacts in strategic and environmental impact assessments; ensure a clear separation of administrative roles in the validation process of environmental assessment at municipal level and develop local capacity (e.g. dedicated environmental officer); provide more room for independent, critical and inter-disciplinary voices to support the decision-making process.
- Enhance compliance promotion to reduce the high rate of non-compliance; improve the understanding of regulatory implementation gaps and better monitor the results of compliance promotion efforts, with a focus on small companies.

Greening the tax and subsidy system

- Implement the gradual increase in the CO_2 tax up to NOK 2 000 (USD 233) per tonne of CO_2 by 2030 as outlined in the Climate Action Plan 2021-30; if exemptions are needed, ensure these are limited in number and time-bound, while providing well-targeted support measures to households and firms particularly hit by the tax increase.
- Prepare the introduction of a placed-based road use tax system, with tax rates depending on where and when the driving takes place, and on the type of vehicle being used.
- Reduce the tax preferences given to EVs, by gradually removing their VAT exemption and by including these vehicles in the vehicle purchase tax.
- Systematically screen actual or proposed subsidies, including tax provisions to identify those that are not justified on economic, social and environmental grounds; develop a plan to gradually phase out support to fossil fuel consumption and use, as well as other environmentally harmful subsidies and define quantified, time-bound targets; assess the distributional and economic implications of removal of fossil fuel support and design alternative policies to achieve the same objectives in line with climate and environmental goals.

Promoting a green and just transition

- Place a stronger emphasis on promoting behavioural changes when providing support for businesses and households to meet environment- and climate-related goals; monitor and evaluate outcomes to ensure that support is spent in an economically efficient, environmentally sustainable and publicly supported manner.
- Create stronger incentives to reverse the trend of growing waste generation (e.g. expand and optimise the use of pay-as-you-throw schemes and central sorting capacity for municipal waste); increase significantly Norway's recycling capacity, and create incentives to increase demand for secondary raw materials, notably in the construction sector.

- Expedite the replacement of ageing water supply and wastewater pipes and the modernisation of sewerage systems; improve operational efficiency of water services and co-ordination between different administrative levels.
- Create an enabling environment and implement rapidly economy-wide measures to facilitate the circular transition; account for consumption-based emissions and promote more sustainable consumption patterns (e.g. educating and empowering consumers' choices, right to repair, sustainability labels) with a view to reducing Norway's global material footprint.
- Enhance countrywide uptake of green public procurement; encourage local authorities to make more use of green public procurement and strengthen the accountability framework (e.g. data on the share of green spending in public procurement).
- Make strategies related to Norway's exports, imports and foreign assets more consistent with its national and international climate goals (e.g. consider CO_2 emissions embodied in international trade and promote responsible investment and the management of climate risk within the GPFG).
- Develop analytical capacity to better understand Norway's global environmental and carbon footprints; use this information in environmental assessment.
- Ensure externalities relating to climate change and other environmental considerations are fully incorporated in policy towards the oil and gas extraction sector, including in decisions for new licensing rounds; provide support to businesses and regions to help them diversify in the context of decline in the petroleum-sector activity.

2. Land use and biodiversity management

Land-use change has exerted growing pressures on Norway's diverse and pristine landscapes

Norway has one of the most diverse landscapes in Europe. While the country is dominated by forest and bare mountains, it has a wide range of climatic conditions, landscapes, vegetation and land use in close proximity. In addition to its diversity, Norway contains the largest or most pristine representations of many European landscape types. Thus, Norway plays an important role in landscape and species conservation for the whole continent (Ciglič and Perko, 2013[25]).

Land use and land-use change place the greatest pressure on Norwegian biodiversity, negatively impacting 90% of threatened species (Norwegian Biodiversity Information Centre, 2018[26]) (OECD, 2020[9]). Climate change adds to the pressure, and is considered to have an increasingly negative effect (Ministry of Climate and Environment, 2015[27]). Development is the most important factor, but commercial forestry operations alone put pressure on 41% of threatened species (Norwegian Biodiversity Information Centre, 2018[26]); (Miljoverndepartementet, 2011[28]). According to the Nature Index for Norway, ecosystem quality has declined in several important ecosystem types since the early 2010s (Lier-Hansen et al., 2013[29]). From 2000 onwards, the Nature Index shows a weak positive development for forests and freshwater, while the impact of development is slightly negative for mountains. For open lowlands, there is a clear decline. The other ecosystems have been fairly stable but with smaller fluctuations between years and regions.

Almost a quarter of the endangered species live in agricultural landscapes. Populations of farmland bird species are declining at a faster rate than other Nordic countries. The area suitable for farming is scarce, with cultivated land accounting for less than 4% of the country's surface. Agricultural activity creates a cultural landscape that is valued for its own sake and for the biodiversity it supports. The most productive areas are often near fast-growing towns, which has led to the conversion of agricultural land to housing, roads, industry and other purposes. Norway set an annual target to convert no more than 400 hectares of cultivated land, which it has met in the last several years.

Norway has set the stage for continued improvement in management of landscapes and biodiversity

Norway is clarifying its vision of sustainable land use even as it adopts new tools for assessment and new means of co-operation to achieve its goals. The situation remains a work in progress but is moving in the right direction. If the government implements all its plans, it could generate positive outcomes for the health of biodiversity and ecosystems in Norway and in benefits for its people.

The Nature for Life Biodiversity Action Plan 2015, adopted by Parliament in 2016, sets out ambitious goals for biodiversity preservation with clear direction on how to achieve them (Ministry of Climate and Environment, 2015[27]). This is supported by the mapping system Nature in Norway (NiN), which provides detailed geo-referenced information on the status of species and ecosystems (Halvorsen et al., 2015[30]). The NiN has the potential to underpin specific, measurable, achievable, realistic and time-bound objectives for ecosystem management. In 2016, the Ministry of Climate and Environment initiated development of a system for assessing ecological conditions in Norwegian ecosystems. As of January 2022, three ecosystems have been assessed: forests, arctic tundra and mountains. The system of integrated ocean management plans has matured and has proven a highly successful mechanism to balance multiple interests in the marine space.

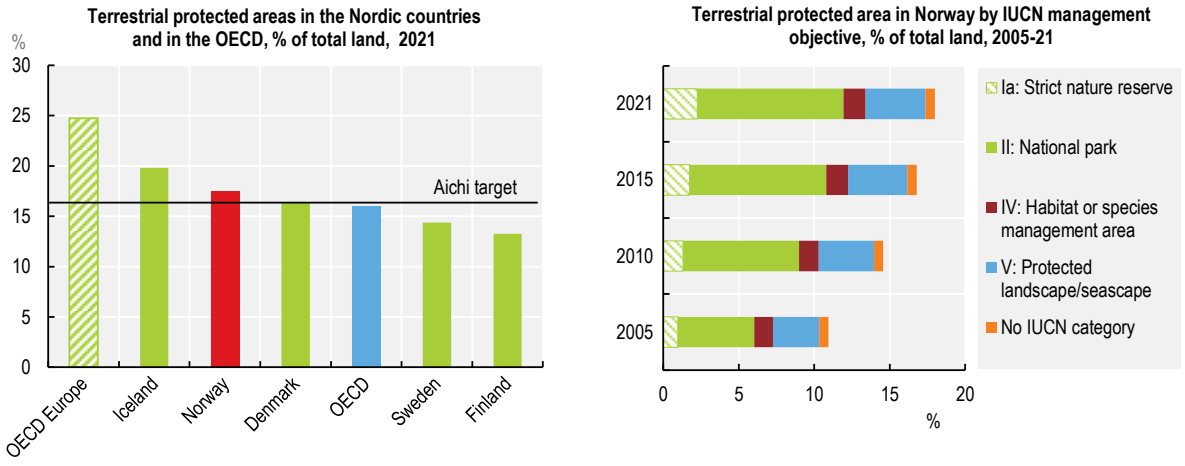
Implementation of the EU Water Framework Directive is well structured, involving all levels of government, as well as multiple sector agencies. Key elements are broad inclusion of stakeholders but with co-ordinating responsibility clearly assigned, measurable objectives with a reporting process attached and strong local anchoring of decision making. This framework could serve as a model for other aspects of ecosystem and land management, especially with regard to cross-sector co-ordination.

Norway has met the Aichi target on protecting land area but needs to develop a more representative network of protected areas

The most important risks to biodiversity and loss of ecosystem services in Norway come from land-use change. Reflecting this, the main policy tool for biodiversity conservation is protection of habitats and landscapes. Protected areas in Norway cover 17% of the mainland (25% including Svalbard) (Figure 5). This is in line with the 2020 Aichi target and above the OECD average. However, protected areas need to include more representative and significant landscape types, especially productive forest land.

Norway has set objectives to preserve significant or representative ecosystem types and those areas needed to protect threatened or endangered species. However, progress to fill gaps in the network of protected areas has been slow. An in-depth evaluation of habitat and landscape types identified 275 sites (totalling 584 km^2) that contain habitat types under-represented in protected areas or with low protection coverage (Miljødirektoratet, 2017[31]). As one reason for the low coverage, areas representing ecosystem types in need of additional protection may be small, scattered, already partially degraded or have high development value. Moreover, about 27% of protected areas are at risk of degradation and require additional action to secure their conservation values.

Figure 5. Protected area in Norway meets its Aichi 2000 target



Note: Data exclude protected areas in overseas territories. In Norway, the share of terrestrial area protected, including Jan Mayen and Svalbard, is about 25%. Right panel: Protected areas under management categories of the World Conservation Unit (IUCN) classification. Strict nature reserve and national parks reflect the highest level of protection.
Source: OECD (2021), "Protected areas", *OECD Environmental Indicators* (database), https://doi.org/10.1787/112995ca-en.

StatLink https://stat.link/85rzva

Norway has made progress in wetland conservation. This ecosystem type was the first to have a management system based on clearly defined objectives for ecological status as foreseen in the Nature for Life Biodiversity Action Plan. The aim is to slow conversion of wetlands to other uses, and accelerated restoration of wetlands. A ban on conversion of peatlands to agricultural use to avoid GHG emissions is a rare example in the OECD of agricultural regulations specific to climate change.

Norway uses both soft and hard tools to integrate environmental concerns into land-use management

Every four years, the national government provides input into local decision making. To that end, it expresses expectations for local planners and provides information, support and guidance for the regional and municipal planning process (currently covering 2019-23) (Ministry of Local Government and Modernisation, 2019[32]). County governors and county municipalities provide advice but may also object to local plans if deemed against national or significant regional interests. Management boards with local and regional representation manage protected areas, while county governors mainly handle smaller protected areas. Both operate within the limit of special rules set for each protected area. Sector regulations aim to ensure environmental performance, and sector ministries have significant responsibility for environmental objectives within their domains.

Increased reliance on voluntary protection of forest land, reduced use of the objection process in the Planning and Building Act, and refocusing national guidance on process issues rather than outcomes are all ways to reduce land-use conflicts. In the past, such conflicts have impeded progress on environmental protection. However, eliminating conflicts by increasing local self-determination puts national objectives at risk. A better approach is to find ways to deal with conflict constructively, and the following recommendations are intended to help in this regard.

Municipal land-use planning should better consider national objectives with respect to biodiversity and landscapes

Municipal land-use planning is a primary mechanism affecting the environment, landscape and welfare of citizens. While responsibility for land-use planning is shared among Norway's three levels of government, local municipalities assume most of the environmental management. This division of labour provides important autonomy for decisions whose impacts are often primarily local. However, it is a challenge to ensure that decisions reflect the values and desires of all Norwegians, especially if these effects are small but cumulative over time (Chapter 1, Section 1.4.2).

Local and national priorities for conservation of landscapes and biodiversity may not match. Small municipalities with ageing and shrinking populations, in particular, may prioritise economic and social development over environmental concerns. Differences in competence and local capacity can also be a significant problem.

The central challenge is managing the nationwide effect of local decisions. Closing the gap between local decisions and national objectives requires active engagement by the national government and the public. In the past, the government provided more guidance in its national expectations document regarding desired environmental outcomes of the planning process. However, in recent years it has focused more on ensuring the process is working well (Strand and Næss, 2017[33]). This is perhaps a consequence of the change in responsibility for the Planning and Building Act from the Ministry of Climate and Environment to the Ministry of Local Government and Modernisation. Providing clear national objectives to the different planning actors can improve the probability of achieving them. This is especially important when these objectives are non-local in nature (climate change, biodiversity), and any trade-offs with local, other regional and national objectives may not be appropriately weighted. The Ministry of Climate and Environment is better placed to co-ordinate local planning with respect to national environmental objectives and is already responsible for most related tasks. On the other hand, the Ministry of Local Government and Regional Development has greater expertise in the processes themselves. Sharing responsibility between the ministries can lead to more effective engagement with local planning.

The public has access to local deliberations on land-use plans and can provide comments or raise objections when national issues are at stake. However, more could be done to ensure a broader spectrum of people can participate. In particular, smaller communities may lack capacity to support extensive consultations and the ability to use the existing digital opportunities to facilitate participation.

The costs of participation can be reduced through increased use of digital- and web-based tools to notify citizens of when and how they may provide feedback, share documents and participate in the process. A national nature and environmental appeals board, following the Danish or Swedish model, can help ensure civil society has an effective means to engage in the planning process. This extra venue can help ensure the environment is given more "standing" in government processes. Norway already operates similar types of boards such as for real estate services or consumer complaints.

National governments have sought to reduce the use of objections in the planning process, but objections are not the problem

County governors (who are national entities) and government agencies represent national interests in the planning process. The objection mechanism lets these bodies, regional authorities and the Sami Parliament raise concerns regarding the compatibility of local plans with national priorities. Most of these objections are addressed through mediation and negotiation, but some are referred to the responsible ministry. The government has de-emphasised this objection process in the last decade, preferring increased guidance and negotiation during the planning process (NORUT, 2016[34]; Strand and Næss, 2017[33]). Consequently, the number of objections is expected to continue declining. Between 2008 and 2013, the ministry accepted 112 objections, a figure that dropped to 29 between 2014 and 2019.

The use of objections is a symptom of goal conflicts in the planning process. These will not be eliminated by discouraging the use of objections. Not all such conflicts can be resolved in every planning process at local level. Progress has been made in refocusing the role of the county governors from raising objections to providing more guidance and assistance at earlier stages of the planning process. This helps build capacity in the local municipality and reduces uncertainty. However, county governors must use their discretion in deciding when a local plan may not be compatible with national interests. The Circular T-2/16 provides guidance to county governors regarding issues of national significance but is not definitive. This is because limited tools are available to measure the impact of local decisions on ecosystem health, and to understand how local outcomes contribute to a total effect nationwide. A better solution is more quantification of outcomes to make the process more data-driven.

Better area accounting of ecosystems status and values could provide meaningful guidance in the planning process and reduce the need for objections

Building a link between data on ecosystems and local planning can clarify the effect of local decisions on ecosystem health. It can also give local planners more certainty that they can produce a plan in harmony with national interests. Area accounts, for example, can provide an overview of the total effects of new plan proposals on climate emissions, biodiversity, local nature and soil protection. Such a land-use accounting system can reduce use of objections and align local planning with national objectives. Use of the UN System of Environmental Economic Accounting–Ecosystem Accounting can also help systematically collect and report the needed information.

Good mapping and data for priority species and habitat types make it easier for municipalities to consider threatened biodiversity in development plans. Norway has made great strides in mapping and reporting on the quality of nature types (habitats) through the national nature map initiative (NiN) and in understanding and reporting of the quality of ecosystems through its Nature Index system. An in-depth evaluation of habitat and landscape types that merit supplemental protection and a survey of such sites identified a large number of candidates. This work sets the stage for more concrete input of information into local planning process with respect to national interests.

Compensation methods can help align objectives

The national government can sensitise local governments to important issues surrounding conservation and sustainable use of resources, the value of ecosystem services provided by diverse and healthy landscapes, and the role and importance of local landscapes as part of the larger ecosystem. For example, it could offer funds to help local governments formulate biodiversity plans. Efforts to assist local governments that lack institutional capacity are an important first step and worth continuing, but more can be done to ensure that local action is compatible with national objectives.

Co-financing (or other forms of assistance that put a value on local conservation commensurate with the national benefits that derive from them) can be an economically efficient way to align local and national incentives. Examples include assistance to implement biodiversity plans, increased funding for converting land to protected areas, co-financing of important projects or payments for ecosystem services. Urban Growth Agreements, in place in four major urban areas, are an example of co-financing between local, regional and national governments to achieve the goal of zero increase in vehicle traffic (Chapter 1, Section 1.3.5).

Managing total cumulative environmental impact while preserving the greatest scope for economic growth implies some means by which communities can trade conservation and development opportunities. The idea of “area neutrality” where development in one area is offset by restoration of a similar but degraded landscape elsewhere is worth considering. This approach may also provide a solution where larger cities have ambitious environmental objectives but smaller municipalities view development as essential for their

survival. Co-operation between such communities can provide opportunity for both conservation and development where it is most desired.

Voluntary protection schemes reduce conflicts but require additional checks

The budget for forest protection has increased from NOK 231 million (about USD 26.9 million) in 2013 to NOK 435 million (about USD 50.6 million) in 2021. The central government has the right in principle to designate any land for protection and start compensation discussions. However, it may be reluctant to exercise these rights and, indeed, has forsworn doing so for privately owned forest land. Relying on a voluntary approach reduces conflict and reinforces the rights of landowners but may not deliver desired results in a reasonable timeframe.

In 2016, Parliament set the objective to increase protected area from about 5% to 10% of total forest land. This objective aims to protect important habitats and ecosystems and to preserve a representative sample of Norwegian nature for future generations. The government should keep track of progress towards this goal, adjusting the approach if progress is regarded as too slow. For example, it could increase the rate of compensation, particularly for sites most in need of protection.

Co-ordination across sectors is improving, but more can be done

Sector administrations have responsibility to regulate activities and consider environmental concerns within their domains according to their own objectives. This is an important principle in Norway, but the Nature for Life Biodiversity Action Plan also recognises the need to co-ordinate activities to achieve maximum benefit. There are strong signs of improvement in this regard, including river basin management plans, marine management plans, the Trua Natur 2020 plan and the nature strategy for wetlands presented in 2021, among others (Mijødirektoratet, 2020[35]). Identifying which ministry is best placed to co-ordinate action increases the cost effectiveness of interventions and improves the likelihood of success. Co-ordination of the sectors' use of instruments with respect to individual species, habitat types and ecosystems also increases predictability for affected municipalities.

Forestry and agriculture, as land-use sectors affecting biodiversity in Norway, have a particular need to co-ordinate their actions. Both sectors have objectives to preserve activity in all areas of Norway and to support the prosperity of communities and individuals connected to the sector. In practice, they must balance these with objectives for environmental sustainability. Managing the interactions between these sectors, land-use planning and biodiversity objectives requires particular attention.

More is needed to promote climate-smart agriculture

Norway's agriculture sector is small but accounted for about 9% of national GHG emissions in 2020. Agricultural land suitable for arable crops is limited and benefits from many subsidies. In June 2019, the government and farmers' organisations signed a voluntary agreement to reduce GHG emissions by 5 Mt CO_2-eq between 2021 and 2030. Norway is one of few countries with quantified emissions objectives in agriculture. However, the government's climate plan for the agricultural sector is vague and should place a clear focus on cost-effective measures. Moreover, the short timeframe of annual negotiations may prioritise short-term goals at the expense of long-term perspectives.

Norway delivers unevenly across its four agricultural policy objectives (OECD, 2021[36]). Environmental performance and the efficient creation of value added along the food chain are both compromised by support policies linked to production levels. More analytical tools could help analyse the enormous amount of collected data to better understand conflicting goals in the agricultural sector. Supply constraints (e.g. soy imports) also need to be more strongly taken into account to reduce Norway's global carbon footprint. Norway should provide greater flexibility and stronger incentives for farmers to improve agri-environmental outcomes and develop climate-smart agriculture. While producer support in agriculture

is among the highest in the OECD, farmers remain exempt from GHG emission taxes. Moreover, agriculture is not part of the EU ETS. A lack of progress could make the sector one of Norway's largest sources of GHG emissions in the future.

Recommendations on land use and biodiversity management

- Continue to develop a management system for ecosystem types as foreseen in the Biodiversity Action Plan and set aggressive timelines for implementation; regularly assess ecological status and set specific, measurable, achievable, realistic and time-bound objectives accordingly.
- Establish quality norms for important threatened ecosystems and species as described in the Nature Diversity Act.
- Set a specific timeline for achieving national objectives regarding protection of representative or significant areas, including with respect to threatened species as part of the supplemental protection process. This includes the goal of 10% forest area protection; set aside a sufficient budget to achieve the desired level of protection in the specified period.
- Be more explicit in national expectations for regional and municipal planning by providing clear objectives to the different actors in the planning system.
- Give the Ministry of Climate and Environment formal responsibility for achieving national biodiversity- and ecosystem-related land-use goals in the context of activities under the Planning and Building Act, with a regular reporting requirement to the government.
- Create a national environmental appeals board to ensure that national objectives are safeguarded.
- Invest in data systems that connect local planning decisions to national environmental outcomes; ensure this information serves a feedback role into municipal strategic planning; develop a model to predict the effect of land-use changes on environmental outcomes.
- Provide funding for ecological compensation to align local and national interests for landscape conservation; assist municipalities with biodiversity action plans to implement them.
- Encourage municipalities to co-operate using the principle of area neutrality to increase opportunities for economic development and conservation simultaneously.
- Set a timeline for updating local plans to minimise the use of the exemption or special dispensation process by municipalities.
- Invest in capacity building for local authorities regarding national environmental priorities and objectives and how they can contribute to achieving them.
- Ensure that multiple objectives of land-using sectors are properly balanced (in both definition and execution) and their actions co-ordinated to achieve national environmental objectives at least cost.
- Phase out output-related support to agriculture, with a view to reducing potentially environmentally harmful incentives; provide greater flexibility and stronger incentives for farmers to improve agri-environmental outcomes and develop climate-smart agriculture.

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Notes

[1] In most OECD member countries, non-compliance detection numbers cover only site inspections. In Norway, the coverage is much broader, which makes comparison with other countries difficult.

[2] Statement by Prime Minister Jonas Gahr Støre at the UN Climate Change Conference in Glasgow, 2 November 2021, www.regjeringen.no/en/aktuelt/statement-at-the-un-climate-change-conference-in-glasgow/id2882242.

[3] In 2021, the petroleum sector represented 41% of total exports, 19% of total investments and 5.8% of employment (Norwegian Ministry of Energy and Petroleum, 2021, https://www.norskpetroleum.no/en/economy/governments-revenues.

Annex 1. Actions taken to implement selected recommendations from the 2011 OECD Environmental Performance Review of Norway

Recommendations	Actions taken
Chapter 1. Environmental management	
Strengthening the implementation of environmental policies	
Strengthen support for regional and local authorities to enable them to fully meet their responsibilities for implementing environmental policies, particularly for environmental impact assessment, enforcement and compliance, and land-use planning.	Every four years, the central government defines "national expectations" regarding regional and municipal planning to promote sustainable development throughout the country. This document typically provides guidance for regional and local authorities. In addition to this guidance, the 2019-23 document includes information on any new or planned revisions of guidelines. Among others, these guidelines define matters of land-use planning. They apply to all municipalities, regardless of their size and competencies. The Norwegian Environment Agency and the Directorate for Cultural Heritage have developed methods and guidance for planning and environmental impact assessments. The circular in 2016 (T-2/16) provides guidance on planning interests of national importance to promote better understanding of the objection process. Drawing on pilot projects in 2016-18 and 2020, the central government has implemented a new subsidy scheme since 2021 to help municipalities develop a municipal sub-plan for biodiversity. This helped increase knowledge of local biodiversity and how to manage it. Norway has worked to improve the mapping of habitat types and make land-use statistics more accessible, including through online platforms with land-use profiles, maps and data visualisation tools. Information intends to inform local planning processes and thereby increase the capacity of local land-use planners.
Reinforce efforts to reduce urban air pollution peaks in winter, including through accelerated renovation or replacement of wood burning stoves and reduction of emissions from road traffic.	Norway is decarbonising its transport sector and has become a world leader in electric mobility. Implementation of the zero growth goal through Urban Growth Agreements (UGAs) has helped reduce car traffic volumes in major cities (Bergen, Oslo, Stavanger and Trondheim). UGAs are implemented through multi-level governance arrangements. Measures include infrastructure investment, increased availability and frequency of public transport, land-use measures, restrictive measures for passenger cars and road tolls. The government plans to adopt five new UGAs (Buskerudbyen, Grenland, Kristiansandsregionen, Nedre Glomma and Tromsø). Meanwhile, it will expand the Oslo UGA to cover Oslo/Akershus. The Oslo area has a congestion charge and road toll rates differentiated according to the environmental performance of vehicles. Fees for studded tyres, an important source of airborne particulates, helped reduce their use in urban areas. The state-owned agency Enova supports measures to retrofit buildings. In addition, some municipalities have provided financial support to households for the replacement of wood burning stoves.
Assess the experience gained from the NO_X tax and associated agreements with the private sector and adjust, as necessary, the policies required to meet the NO_X reduction target.	Norway continued to apply a NO_X tax, which was introduced in 2007. Since 2008, three consecutive NOx agreements have been concluded between business organisations and the Ministry of Climate and Environment. The current agreement covers 2018-25. Norway reduced its NO_X emissions by 29% from 2005 to 2020 and met the 2020 emission reduction target of the Gothenburg Protocol. An evaluation of the NO_X agreements and the associated tax exemption is scheduled for 2022.
Expedite the replacement of ageing water supply and wastewater pipes and the modernisation of sewerage systems to separate waste and storm water, using charges and applying the polluter pays principle.	A 2015 expert group report proposes measures to help municipalities better prevent damage from storm water. Work on legislative amendments to the Act related to Water and Sanitation Plants and the Planning and Building Act is underway. In 2017, Norway revised its national goals for water and health. It introduced a new regulation for operation and maintenance of the drinking water pipe network. As of 2021, the central government has offered co-funding for municipalities and market operators to create stronger incentives for upgrading water pipes. A recent study analyses the potential for rationalisation in the water and wastewater sector, including proposals on how municipalities could renew the pipe networks faster and in a cost-efficient manner. Drawing on key findings, the Ministry of Local Government and Regional Development, the Ministry of Health and Care Services and the Ministry of Climate and Environment work together to identify required action.
Accelerate the development and adoption of river basin management plans and complete institutional arrangements for river management that assure	Norway established river basin management plans (RBMPs) for 2009-15 for selected water bodies and voluntarily applied the EU Water Framework Directive (WFD) for approximately 20% of its water bodies. Each RBD has its own management plan, including environmental

adequate dispute resolution, co-ordination of decision making among water users and appropriate funding of pollution reduction and water management efforts.	objectives and associated action plans. Norway completed – under formal WFD obligations – its first full cycle of RBMPs from 2016-21 and will start a new one from 2022-27.
Climate change	
Agree on clear and realistic domestic mitigation targets for 2020 and 2050, using 1990 as a baseline, that reflect both Norway's wish to serve as a model for other countries and the need to ensure the cost-effectiveness of the climate policy overall.	In 2015, Norway submitted its intended nationally determined contribution (INDC) to reduce greenhouse gas (GHG) emissions by at least 40% in 2030 compared to 1990-levels. Norway ratified the Paris Agreement in June 2016, which entered into force in November 2016. Consequently, Norway's INDC was converted into a nationally determined contribution (NDC). In 2020, Norway submitted an enhanced NDC to the United Nations Framework Convention on Climate Change. The NDC commits Norway to reduce GHG emissions by at least 50% and towards 55% by 2030 compared to 1990 levels. Norway also set a long-term target to become a low-emission society by 2050. It aims to reduce GHG emissions by at least 90-95% by 2050 compared to 1990 levels (enhanced target, initially 80-95%). Norway plans to fulfil its climate commitment in close collaboration with the European Union. The effect of Norway's participation in the EU Emissions Trading System will be considered in assessing fulfilment of its climate targets. The 2017 Climate Change Act established the 2030 and 2050 targets. In 2021, the government presented the comprehensive "Climate Action Plan for the Transformation of Norwegian Society as a Whole by 2030" as a way towards a carbon-neutral future.
Based on the existing monitoring systems, strengthen the mechanism for identifying policy adjustments, if needed, to stay on track to achieve climate targets; use the proposed carbon budget to address the overall impact of the public budget on emissions, and its implications for achieving mitigation targets.	The Climate Change Act entered into force in 2018. It introduced a system of five-year reviews of Norway's climate targets in line with the review cycles of the Paris Agreement. The government reports annually on both mitigation and adaptation efforts to Parliament. It also provides information on the expected effects of every proposed budget on current and projected GHG emissions and removals.
Establish a more consistent price for carbon across the economy, e.g. by removing exemptions from the carbon tax for the sectors that are not covered by the EU ETS; and establish a common carbon shadow price, and a trajectory for future carbon prices, to be used explicitly and consistently in policy assessments.	Since 2011, the government has abolished CO_2-tax exemptions for diesel used in coastal fisheries, antique vessels and machinery, as well as for natural gas and liquefied petroleum gas (LPG) used in coastal fisheries in domestic waters. In 2021, the government presented trajectories for global carbon prices compatible with the Paris Agreement. The government plans a gradual increase of carbon prices and common carbon price guidelines for policy assessments across sectors.
Develop an economy-wide energy efficiency strategy with appropriate incentives; regularly reassess policies to promote energy efficiency and renewable energy generation, taking possible interactions with the "cap" of the EU ETS into account; where interactions occur, these policies should provide co-benefits or effectively address other market failures.	The government published an economy-wide energy strategy (Meld. S 25, 2015-16). The 2021 White Paper "Putting Energy to Work" outlines objectives for a long-term value creation from energy sources. Renewable energy resources for economic growth and job creation is one of its four main goals. The government set a target to reduce energy intensity by 30% by 2030. In 2016, the government tightened threshold standards for new homes and major renovations to "passive house" level. As of 2020, Norway became the first country that formally prohibited use of fossil oil for heating in existing buildings and in new buildings altogether.
Comprehensively review all taxes and exemptions related to motor fuel use, vehicle ownership and use, as well as road pricing with a view to making them more coherent, cost-effective and better targeted to reduce CO_2 and other emissions.	In 2020, the government reviewed all taxes levied on purchase, ownership and use of motor vehicles, including taxes on fuel use, as well as exemptions to specific users or technologies. The 2021 National Budget outlines principles to make these taxes more sustainable, provide more consistent tax income and improve pricing of externalities. These principles provide the framework for annual tax adjustments. The government intends to gradually raise the tax on fuel use to reach NOK 2 000 (about USD 234) by 2030.
Nature and biodiversity	
Focus protection efforts on priority species and selected habitat types, pursuant to the new Nature Diversity Act; integrate the implementation of the Nature Diversity Act into sectoral policies; establish a science-based target for protection of forests, consistent with international obligations and representative of the different forest ecosystems in Norway; build consensus on conservation measures for large carnivores, based on robust research on their population dynamics, natural habitats and impacts on local communities.	The government established 14 priority species and 8 selected habitat types. Norway's national biodiversity action plan, "Nature for Life" (2015), presents a variety of measures for "critically endangered" and "endangered" species and habitats (e.g. protected areas, selected habitat types and priority species, sector-specific regulations and economic incentives). It plans to follow up on priorities set for managing these species and habitat types, along with measures to improve their environmental conditions by 2035. The 2018 Pollinator Strategy and the 2021 action plan aim to protect and help pollinating insects. A regulation for invasive alien species entered into force in 2015. The 2020 action plan outlines measures to combat alien invasive species towards 2025. The central government developed guidance on national planning (Circular T2/16), which can give it ground for objections to municipal plans. This guidance encompasses all environmental interests, including nature, climate, pollution and cultural heritage, and provides some "qualitative valuation" of environmental interests. The government pursued efforts to increase knowledge sharing and develops data visualisation tools to better locate threatened species

	and habitats with a view to raising awareness and improving management. In 2016, Parliament set a goal to protect 10% of Norway's forests, targeting those with important habitats for red listed species and areas. Annual funding for forest protection has nearly doubled over the past decade and reached NOK 435 million (about USD 50.6 million) in 2021. In 2019, the government adopted principles for ecological compensation – as a last resort – if encroachment on especially valuable nature cannot be avoided. It published a guidance document on the general principles in the Nature Diversity Act (2012). This was revised in 2016, with a focus on cross-sectoral provisions.
Strengthen management of protected areas, including by securing necessary financing; assure long-term conservation of particularly valuable and vulnerable areas identified in the sea management plans.	In 2019, the government published an action plan to strengthen management of terrestrial protected areas. The annual budget for the management of protected areas has more than doubled since 2013. More than half of national parks have visitor strategies, and plans for remaining parks are in development. In addition, 16 marine protected areas were adopted by 2021. Marine areas are also included in national parks, nature reserves, etc. Regulation and management of these areas is a priority. The government presented a national plan for the conservation of important areas for marine nature in 2021. This focuses on establishing a more systematic approach to the conservation of areas of importance for marine biodiversity. It is based mainly on the protection of valuable and vulnerable areas identified in the sea management plans.
Strengthen the control of building in coastal zones and along rivers, pursuant to the new Planning and Building Act.	Norway's 2019-23 national expectations document requires that "county and municipal authorities assess land use in the shore line and in and along watercourses in a coherent, long-term perspective, with special regard for natural diversity, cultural heritage environments, outdoor recreation, landscapes and other public interests". National planning guidelines for diversified management of the shore zone were revised in 2021 to clarify national land-use policies and secure national interests in these coastal zones. The guidelines are strictest where pressure for construction is high and where important values need to be protected. This includes coastal areas of the counties of Telemark, Vestfold and Viken, as well as the Oslo area. The government also provides guidance on how to use 3D-modelling in the planning and management of coastal zones.
Pursue efforts to make aquaculture environmentally sustainable, including pest control.	In 2021, the government adopted a new aquaculture strategy, "A Sea of Opportunities", to achieve the goal of sustainable growth in aquaculture. It aims to produce sustainable seafood with a small climate and environmental footprint. For over a decade, Norway has applied a broad range of mitigation measures to stabilise the threats posed to wild salmon from escaped farmed salmon and salmon lice. The country implements a system to adjust production capacity and ensure its environmental sustainability. Norway also considers broader environmental impacts of aquaculture, including strict regulations regarding the management of production sites. Regulations help reduce the environmental impact of pharmaceuticals. Technical requirements for floating fish farms were introduced more than a decade ago. Similar requirements have been applied since 2018 for land-based fish farms. Since 2016, an industry-managed fund has administered mitigating measures in rivers with a high prevalence of escaped fish. In 2017, government adopted a new anti-escaping strategy and increased its budget for surveillance of escapees in rivers. In addition, the government provides incentives (e.g. innovation licences) to develop technology that can reduce the environmental impact of fish farming. Environment surveys through certified agencies are mandatory for all sea-based production sites. If the environmental status of the bottom habitat does not comply with standard acceptance criteria, the aquaculture and/or pollution authorities will impose temporary fallowing of the production site. Norway has adopted a "National Quality Norm for Wild Atlantic Salmon".
Assess the effects on nature and biodiversity of measures for adaptation to climate change.	In 2018, the government adopted national planning guidelines for climate adaptation. These require stakeholders to consider nature-based solutions when planning for actions to adapt society to climate change. Stakeholders must explain why they did not choose nature-based solutions.
Waste management	
Review and adjust, as necessary, the current mix of instruments so as to more effectively and efficiently prevent and reduce waste from the main waste-generating sectors; apply additional measures to reduce waste generation by government agencies, including through public procurement; monitor results and report annually on progress.	Norway revised its waste policy in 2017. Two years later, the Norwegian Environment Agency published a National Waste Management Plan in accordance with the EU WFD. This was supplemented with an annex on hazardous waste in 2021. Norway is revising the regulation on waste electronics, packaging and the system of extended producer responsibility. The Norwegian Environment Agency published a cost-effectiveness analysis on different measures to achieve relevant targets of the EU WFD. The proportion of waste to be recycled is not quantified in the national goal, but the European Union has adopted quantified targets that apply to Norway under the European Economic Area Agreement. Norway notably reduced hazardous chemicals in products. A regulation that prohibits certain products made of single use plastic has been in effect since 2021. Other measures are forthcoming. A voluntary agreement in 2017 between 5 ministries and 12 commercial organisations covers the entire food chain and aims to halve the amount of food waste by 2030. In 2021, the government released its first strategy for developing a green, circular

	economy. It has broad scope and largely applies the new EU Circular Economy Action Plan 2020.
Investigate the effectiveness of volume- or weight-based waste disposal fees to provide further incentives for waste sorting and reduction by households; identify and promote the use of best practice models among municipalities.	Municipalities increasingly differentiate fees by pricing residual waste higher than sorted waste (e.g. different container sizes or less frequent collection of residual waste). Moreover, many municipalities use differentiated fees at designated waste delivery points for the public. Several larger municipal companies use digital tools to register weight.
Encourage the development of municipal and intermunicipal waste management plans to achieve national targets for waste reduction more efficiently, in particular for biodegradable and hazardous waste.	Some municipalities have developed local waste management plans of their own volition. Major changes in the national waste policy will impact municipalities (e.g. increasing recycling rates for municipal waste). Regulations on biowaste, plastic waste and packaging are forthcoming.
Assess the implications of elimination of the incineration tax on emissions of most hazardous substances from incinerators.	Norway reintroduced an incineration tax on GHG emissions effective 1 January 2022. This is part of a general policy to include as much as possible all GHG emissions in a tax scheme or in the EU ETS.
Continue work towards further reduction of hazardous chemicals in products by drawing up proposals for additional substances that would be eliminated by 2020 and encouraging international action in this area; improve data collection on these substances through the product register.	Norway has a national target to phase out use and emissions of substances on the national priority list. This list indicates priority substances for regulations and other measures. Norway works to regulate and limit the use of these substances in line with EU chemicals regulations. It has proposed harmonised classification for a number of substances under the EU CLP (regulation on classification, labelling and packaging of substances and mixtures). It also proposed restrictions of substances under the REACH regulation, and identified several substances to be listed under the Stockholm Convention. The Product Register is the official register of hazardous chemicals in Norway. The register was digitalised in 2015; electronic declaration of chemicals became mandatory as of 2018. Authorities use data in the register to monitor chemicals, analyse risk related to chemical substances and deal with acute situations. The Norwegian Environment Agency will launch a new version of the online platform in early 2022.
Redouble efforts to address problems associated with contaminated sites and contaminated sediments using reduction of negative impacts on human health, cost-effectiveness and public engagement as key guiding principles of the operations.	Norway prioritised actions related to contaminated sites and sediments over the last decades. In the early 2000s, the government prioritised 17 polluted seabed areas for purification. The decision aimed to ensure that environmental toxins are not spread further and do not pollute the surroundings.
Chapter 2. Towards sustainable development	
Continue to improve decision making for implementing the sustainable development strategy, building further on the impressive analytical capacity established for this purpose.	National implementation of the 2030 Agenda for Sustainable Development replaced the National Sustainable Development Strategy. The government has submitted Norway's first national plan to implement the 17 Sustainable Development Goals (SDGs), to be adopted by Parliament in spring 2022. The government ensures annual reporting on the follow-up of the SDGs to Parliament. It is progressively mainstreaming implementation of the 2030 Agenda in sectoral policies and strategies towards 2030. According to the proposed action plan, all strategies, action plans and white papers are screened to ensure SDG-relevance. Meanwhile, the SDGs are systematically integrated into guidance and performance agreements with state agencies and institutions. In 2020, the Ministry of Local Government and Modernisation (renamed the Ministry of Local Government and Regional Development) became the national co-ordinating body for the SDGs. The National Action Plan promotes a whole-of-government approach and establishes measures to ensure better horizontal and vertical co-ordination, as well as stronger co-operation with the private sector, academia and civil society. Norway has already submitted two comprehensive Voluntary National Reviews to the United Nations (2016 and 2021) and another Voluntary Subnational Review.
Further support environmental policy objectives by removing inappropriate exemptions in environmentally related taxes and (other) environmentally harmful subsidies.	In 2011, the government abolished CO_2 tax exemptions for diesel in coastal fisheries, and in antique vessels and machinery, as well as for natural gas and LPG in coastal fisheries and cargo and passenger transport in domestic waters. In 2019, as a follow-up on Aichi target 3, the government began assessing possible negative effects on biodiversity from subsidies, the consequences of possible changes in these subsidies and how they interrelate with other instruments. Within its Climate Action Plan 2021-30, the government proposes to review the effects of a tax on mineral fertilisers to reduce emissions of nitrous oxide. The tax base for biofuels has been expanded.
Consider introducing a broad-based road-charging system, e.g. to address transport-related air pollution, noise and congestion externalities.	Norway raises a significant amount of taxes (road use tax and carbon tax) on the sale of fossil fuel, which internalises externalities to a certain degree. Major cities are surrounded by toll cordons and road tolls are common. The government commissioned a report on a satellite-based road pricing system aimed, initially, at heavy goods vehicles. The report shows such a system would be a significant improvement over the different direct and indirect pricing mechanisms. Implementation will require time; in the interim, the

	government intends to improve the road pricing system.
Consider further greening Norway's agricultural sector, including a shift towards less distorting forms of agricultural support, such as income support and payments targeting specific environmental outcomes.	Agri-environmental measures are implemented as part of the National Environmental Programme, which aims to contribute to sustainable agriculture production with reduced GHG emissions, as well as fulfilling Norway's international commitments on environmental and climate in the agricultural sector. The most important agri-environmental measure in terms of spending is the Acreage Cultural Landscape Support. In June 2019, the government and farmers' organisations signed a voluntary agreement to reduce GHG emissions by 5 million tonnes of CO_2-eq between 2021 and 2030.
Reassess and clarify the objectives of the carbon capture and storage programme (domestic emission reduction, commercialisation, development co-operation); broaden collaboration, particularly targeting partners in countries where coal-fired power plants are under construction or planned	The government's carbon capture and storage (CCS) strategy spans a wide range of activities, from research, development and demonstration (RD&D) to large-scale projects and the promotion of CCS development and deployment on the international stage. Launched in 2020, Longship is Norway's largest ever industrial climate project. It aims to provide CCS technological development in Norway and internationally. The project benefits from long-term funding. The government's investment reached NOK 3.45 billion (USD 0.4 billion) in 2022 out of NOK 17 billion (USD 2 billion) in state aid pledged until 2030. The Technology Centre Mongstad is the world's largest facility for testing and improving CO_2 capture technologies on an industrial scale. CLIMIT – Norway's national RD&D programme of CCS technology – also yielded results for CCS development.

Source: OECD Secretariat based on country submission.