



Norwegian National
Human Rights Institution

Canary in the Coal Mine

Sámi Rights and Climate
Change in Norway

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1. Summary

The escalating climate crisis raises complex questions at the intersection of law, policy and science. Climate change threatens the effective enjoyment of a wide range of human rights, including the rights to life, private and family life and home, health, and culture. The purpose of this report is to examine the human rights protection of the Sámi people in Norway from the effects of climate change, who in many ways are the “canaries in the coalmine” of the climate crisis.¹

The report is written in English given its relevance in an international context. It provides an overview of the factual and legal framework pertaining to Sámi rights and climate change in Norway. It is not intended to provide a comprehensive analysis of the issue, nor is it exhaustive of all relevant sources. We thank all the stakeholders and scientists we consulted for their valuable input and feedback.

Based on the findings in the report, **Chapter 2** provides some recommendations to the Norwegian government and business. We hope the report will contribute to further dialogue on this important topic and to better realisation of human rights.

Chapter 4 of the report provides an overview of global efforts to limit warming to 1.5°C in accordance with the Paris Agreement. Already at 1.2°C of global warming, greenhouse gas emissions, particularly from the burning of fossil fuels, have caused widespread adverse impacts to nature and people, threatening the effective enjoyment of a whole range of human rights. These impacts are projected to worsen with every additional tonne of CO₂ emissions and every incremental increase in warming.

Approximately 150 billion tonnes of additional CO₂ emissions can be released into the atmosphere before the critical 1.5°C threshold is crossed. At the current rate of emissions, this will happen within 2 to 7

¹ This report is authored by the Norwegian NHRI (National Human Rights Institution), which is an independent public body established by Parliament to protect and promote the implementation of human rights in Norway. Providing advice to State authorities on their human rights obligations as well as monitoring emerging human rights challenges are important aspects of this work. This includes identifying any deficiencies in legislation, policies or practices that increase the risk of human rights violations. The main authors of the report are Peter Dawson, Hannah Brænden and Lars-Johan Strømgren, in close collaboration with Adele Matheson Mestad, Gro Nystuen, John Bernhard Henriksen, Anders Broderstad, Mina Haugen and Petter Wille. The report is designed by Magnus Eide. Thanks to everyone else who has contributed to the report.

years. States' existing policies to reduce emissions will still lead to a 3°C temperature rise by 2100. Only a rapid global transition from fossil fuels to renewable energy can deliver the emission cuts needed to avoid climate disaster.

Chapter 5 of the report discusses Norway's greenhouse gas emissions and climate policies. Norway emits approximately 50 million tonnes of CO₂ from within its borders every year, with a quarter of these emissions coming from the production of oil and gas. Once exported and burned abroad, this oil and gas is responsible for a further 500 million tonnes of CO₂ emissions every year. Norway has reduced its domestic emissions by 4.6% since 1990 and has significantly increased fossil fuel production and export. Norway was central in the negotiations that led to the agreement at the 2023 climate conference in Dubai to "transition away from fossil fuels". However, at the domestic level, Norway currently plans to increase fossil fuel production and export, while using a large proportion of available renewable energy to power offshore oil and gas platforms.

In **Chapter 6**, we summarise existing scientific research concerning current and future impacts of climate change which may be relevant for the Sámi people in Norway. Climate change is already causing significant negative effects in the Arctic, including higher temperatures and precipitation, permafrost thaw, loss of sea and land ice, changes in snow cover, extreme weather events and northward shifts of species.

These changes are occurring at an unprecedented magnitude and pace because the Arctic warms much faster than the rest of the world.

In Finnmarksvidda for example, annual average temperatures have already increased by 1.9°C, autumn temperatures have increased by 2.9°C, rainfall has increased by 25% and snow cover duration has decreased by three weeks since 1971. Sea surface temperature in the Norwegian Sea increased by approximately 1.2°C between 1980 and 2020. These changes pose several human rights challenges for the Sámi people, threatening important cultural practices and livelihoods such as reindeer herding and fishing, with associated impacts on Sámi health.

If global warming exceeds 1.5°C, many of the changes that negatively impact Sámi reindeer husbandry, fishing and health are projected to worsen by the end of the century. Under the highest emissions scenario (RCP8.5) for example, the annual average temperature in Finnmarksvidda will increase by 6.7°C, precipitation will increase by 22% and snow cover duration will decrease by 2-3 months. There will be a significant increase in the frequency of rain-on-snow events and 20-40 more days where the temperature fluctuates above and below 0°C. Sea surface temperature is projected to increase, by a further 2.2°C in the coastal parts of the Barents Sea and a further 1.2°C in the coastal parts of the Norwegian Sea in March from 2015 to 2100.

The options for the Sámi people to adapt to such drastic changes are limited, particularly in relation to reindeer herding. For example, the increasing use of supplementary feeding during grazing crises can negatively affect reindeer health, and add a significant burden to Sámi reindeer herders through increased workload, costs, stress and concern for loss of traditional practices and culture. Land use policy may also restrict access to alternative pastures or emergency support during grazing crises.

Chapter 7 provides an overview of the relevant legal framework for the protection of Indigenous Peoples' rights. The report mainly focuses on the International Covenant on Civil and Political Rights (ICCPR) Articles 17 and 27. The chapter analyses positive and negative obligations to protect Sámi rights, as well as the Indigenous Peoples' right to effectively participate in relevant decision-making processes.

Chapter 8 discusses the State's human rights obligation to protect the Sámi people from the impacts of climate change. While climate change threatens the effective enjoyment of a whole range of human rights for all, Indigenous Peoples' rights may be disproportionately impacted by climate change under ICCPR Articles 17 and 27. We analyse environmental and climate decisions from the UN Human Rights Committee (HRC) to establish existing human rights law in this field, and conclude that the Norwegian authorities have a positive obligation to protect the Sámi people from the real, serious, and reasonably foreseeable threat

that climate change poses to their culture and livelihoods.

Furthermore, we discuss what the authorities must do to comply with this positive obligation. Firstly, we analyse a potential obligation for States to reduce their *GHG emissions through mitigation measures* to protect the Sámi. While the HRC has neither rejected nor affirmed such a duty, the best available climate science suggests that it will likely not be possible to *effectively* protect the Sámi people's rights under ICCPR Articles 17 and 27 *in the long term* if States do not reduce the GHG emissions within their effective control in line with the remaining carbon budget for 1.5°C. While reduced emissions from one State *alone* will not determine the future course of climate change, several national courts have concluded that every State must do its part to combat climate change and protect human rights by reducing its own emissions. The Chapter also analyses the authorities' obligation to protect Sámi culture by *adapting to existing or unpreventable impacts of climate change*. State authorities must adopt and implement timely and adequate adaptation measures to protect Sami culture, the choice of which should be informed by traditional Indigenous knowledge. However, mitigation and adaptation measures themselves must not be detrimental to Sámi cultural practices or livelihoods.

Chapter 9 underlines the State's human rights obligation to protect traditional Sámi areas from intrusive interferences under ICCPR Article 27. The *Fosen* case from the

Norwegian Supreme Court Plenary serves as an important precedent for this legal analysis. The Chapter also addresses the statement from the Supreme Court that if Article 27 conflicts with other fundamental rights, such as the right to a healthy environment, the two rights may be “balanced against each other and harmonised”. However, this must ultimately be decided on a case-by-case basis if a conflict arises. To avoid this situation, we present some recommendations on how to avoid conflicts in the first place.

Lastly, **Chapter 10** briefly discuss the responsibility of businesses to respect Sámi rights in the context of climate change. For larger Norwegian companies, an obligation to identify and assess actual and potential adverse impacts on fundamental human rights follows from the Norwegian Transparency Act. This includes ICCPR Articles 17 and 27 and environmental impacts with a negative impact on human rights. With the upcoming adoption and entry into force of the EU Corporate Sustainability Due Diligence Directive, similar and further obligations will be applicable for larger companies in the EU.

2. Recommendations

Sámi rights are threatened by both the effects of climate change and by resource and energy developments aimed at addressing climate change. This double burden places the Sámi people in a vulnerable position. Research indicates that perceived fairness is one of the most important determinants for public acceptance of policies aimed at mitigating climate change.² A human rights-based approach, with broad and inclusive public participation in decision-making from affected communities, can contribute to legitimacy and democratic support for a rapid and comprehensive green transition.

There are many steps the authorities can take to ensure a human-rights based and timely transition to a low emissions society by 2050, in accordance with both the Norwegian Climate Act and the rights of the Sámi people under the Norwegian Human Rights Act and international conventions. Some of the measures proposed by the

Norwegian Government in 2023 for reindeer husbandry and renewable energy are a promising start to achieve this objective.³ The following recommendations are based on the findings in this report, and are aimed at strengthening the human rights protection of the Sámi people in the context of climate change.

Recommendation 1: Mitigation Measures

State authorities should implement deep, rapid and sustained reductions in both domestic and exported greenhouse gas emissions to protect the Sámi people's rights to culture and health from the future effects of climate change. Mitigation measures should

- be consistent with the IPCC's reduction rates and the remaining carbon budget for limiting global warming to 1.5°C.
- not themselves be detrimental to Sámi cultural practices or livelihoods.

² Bergquist, M. et al. "Meta-analyses of fifteen determinants of public opinion about climate change taxes and laws", *Nature Climate Change*, 21 (2022), p. 235-240.

³ The Norwegian Government, *Tiltakspakke for reindrift og energi*, 20.12.2023.

Recommendation 2: Adaptation Measures

State authorities should adopt timely and adequate adaptation measures to protect the Sámi people's rights to culture and health from the existing or unpreventable effects of climate change. Adaptation measures should

- increase flexibility in land use and species management, including for example reviewing regulations and practices which make it difficult for Sámi reindeer herders to access alternative pastures or emergency support during grazing crises.
- be informed by Sámi knowledge.
- not themselves be detrimental to Sámi cultural practices or livelihoods.

Recommendation 3: Respect Sámi rights in the green transition

State authorities should adopt measures to ensure that Sámi people's rights are respected in the renewable energy transition, including under ICCPR article 27, considering the cumulative impacts of past, present, and potential future interferences. To do so, the authorities should consider

- an independent evaluation of their handling of the Fosen case to prevent similar human rights violations in the future.
- adopting a comprehensive national plan for onshore wind power development. The 2019 draft national plan for wind power development from the The Norwegian Water Resources and Energy Directorate could serve as a basis for this initiative (NR 12-2019, *Forslag til nasjonal ramme for vindkraft*).

Recommendation 4: Consultation and participation

State authorities should ensure that the Sámi Parliament and affected Sámi communities are consulted on all climate policies and measures which may directly affect Sámi interests. To do so effectively, State authorities should

- involve relevant stakeholders early to establish how climate measures might interfere with Sámi rights with the objective of achieving agreement or consent.
- allocate sufficient resources and implement capacity-building initiatives to facilitate the effective participation of Sámi stakeholders.

Recommendation 5: Business responsibility to respect Sámi rights

Companies, including those in the extractive and renewable energy sectors, must undertake due diligence assessments to identify, prevent and put an end to actual and potential adverse human rights impacts for the Sámi people arising from their own operations or those in their supply chain or of business partners. This includes assessing

- the human rights impact of greenhouse gas emissions.
- the human rights impact of any industrial developments in Sámi areas.
- the quality of consultations with Sámi stakeholders in relation to these impacts.

Recommendation 6: New research on future climate risks and adaptation limits

State authorities should identify and address knowledge gaps concerning the cumulative effects of climate change and other interferences for the Sámi people to ensure there is an adequate evidence base for future human rights assessments. This includes

- more research on the future risks and adaptation limits for Sámi culture, livelihoods and health under various emission scenarios.
- Sámi traditional knowledge.

3. Introduction

Climate change threatens the effective enjoyment of a wide range of human rights, including the rights to life, private life and home, property, health, and culture.⁴ Already at the current level of warming, climate change is increasing the frequency and severity of extreme weather events and slow-onset impacts, with devastating consequences for nature and people. In addition, the Arctic warms at a faster rate than the global average, which affects all people living in Arctic areas, especially the Sámi people whose cultures and livelihoods depend on climate-sensitive ecosystems.

Although climate change affects all regions and populations in different ways, certain vulnerable groups are disproportionately impacted, including women, children, older people, people with disabilities and Indigenous Peoples.⁵ In this report, we focus primarily on how climate change affects the rights of the Sámi people in Norway, who in many ways are the “canaries in the coal-mine” of the climate crisis.⁶

The Sámi People and Sápmi

The Sámi people are an Indigenous People whose traditional territory (Sápmi) stretches across the central and northern parts of Norway, Sweden and Finland, and the Kola Peninsula in Russia. The Norwegian part of Sápmi has no formal borders, but generally includes Northern Norway and Trøndelag County. Most of these areas fall within the Arctic region.

⁴ Norwegian National Human Rights Institution (NIM). *Climate and Human Rights*. (2021). Available at: <https://www.nhri.no/en/report/climate-and-human-rights/>; European Network of National Human Rights Institutions (ENNHRI). *Climate Change and Human Rights in the European Context*. (2021). Available at: https://ennhri.org/wp-content/uploads/2021/05/ENNHRI-Paper-Climate-Change-and-Human-Rights-in-the-European-Context_06.05.2020.pdf.

⁵ Intergovernmental Panel on Climate Change (IPCC). *AR6 WGII Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* (2022) para. B.1; Nicholas Tyler et al., “The Shrinking Resource Base of Pastoralism: Saami Reindeer Husbandry in a Climate of Change” *Frontiers in Sustainable Food Systems* Vol. 4 (2021); Islam, S.N & Winkel, J. “Climate Change and Social Inequality”. UN Department of Economic & Social Affairs (UNDESA). Working Paper No. 152; Jerez, M.M., *Challenges and Opportunities for Indigenous’ Peoples’ Sustainability* (UNDESA, Policy Brief no. 101, 2021).

⁶ The expression “canary in the coal mine” refers to an early warning of danger or harm. In the past, canaries were used by coal miners to detect carbon monoxide because they were more sensitive than humans to dangerous gases and would therefore react earlier.

There are four main reasons why Indigenous Peoples, including the Sámi people, are disproportionately affected by climate change:

- Indigenous Peoples have a deep connection to their traditional lands, waters and resources, which are crucial for the continued survival of their cultures, languages, livelihoods and knowledges.⁷
- Indigenous Peoples often experience discrimination and marginalisation, at the personal and structural and institutional levels. This is exacerbated by climate change and affects Indigenous Peoples' ability to adapt to climate change.⁸
- Indigenous Peoples' traditional lands, waters and resources have historically been, and remain vulnerable to commercial and industrial developments. Climate change further exacerbates this vulnerability by increasing the demand

for land, including for renewable energy developments, mining of critical minerals, carbon sequestration and adaptation measures.⁹

- On a global level, indigenous Peoples manage or have tenure rights over at least 40% of the Earth's remaining ecologically intact landscapes, and their traditional territories are estimated to represent 80% of the Earth's biodiversity.¹⁰ These areas often include climate-sensitive ecosystems that are particularly vulnerable to the effects of climate change.

Rapid and drastic changes in the Arctic climate are having increasingly negative effects on Sámi cultures, health and livelihoods, including reindeer herding and fishing practices. Climate change is exacerbating an already challenging situation for the Sámi people, adding to the cumulative negative impacts of historical assimilation policies and industrial developments in

⁷ IPCC. *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* para. B.2.1; UN Office of the United Nations High Commissioner for Human Rights (OHCHR), *Report of the Special Rapporteur on the rights of Indigenous Peoples*, 2017, UN Doc. A/HRC/36/46, p. 4; UNDESA, 2021, p. 1; Tyler et.al., "The Shrinking Resource Base of Pastoralism: Saami Reindeer Husbandry in a Climate Change".

⁸ IPCC. *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* paras. B.2.1, B.2.4; OHCHR, 2017, p. 4; Johnsen, K.I et al., "Leaving no one behind – sustainable development of Sámi reindeer husbandry in Norway" In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

⁹ See for example, UN Permanent Forum on Indigenous Issues (UNPFII), Report on the twenty-first session, 25 April–6 May 2022, para. 5; Norwegian National Human Rights Institution (NIM). *Human Rights Protection against Interference in Traditional Sámi Areas*, 2022. Available at: <https://www.nhri.no/en/report/human-rights-protection-against-interference-in-traditional-sámi-areas/>.

¹⁰ Stephen Garnett et al., "A spatial overview of the global importance of Indigenous lands for conservation" *Nature Sustainability* 1 (2018); OHCHR, 2017, p. 3.

Sámi areas.¹¹ The ongoing climate crisis adds to various forms of government and corporate land interventions, with the negative consequences this has for reindeer husbandry.¹² The negative effects of climate change for the Sámi people are projected to worsen if warming exceeds the critical 1.5°C threshold in the Paris Agreement.

The factual section of the report focuses mostly on the impacts of climate change that are relevant to Sámi reindeer husbandry, fishing and health, although other aspects of Sámi culture and industries may also be relevant. The legal section of the report focuses mostly on States' obligation to effectively protect Indigenous Peoples' rights under Articles 17 and 27 of the International Covenant on Civil and Political Rights (ICCPR).

This report is authored by the Norwegian National Human Rights Institution (NHRI), which is an independent public body established by Parliament to protect and promote the implementation of human rights in Norway.¹³ Providing advice to State authorities on their human rights obligations as well as monitoring emerging human rights challenges are important aspects of this work. This includes identifying any deficiencies in legislation, policies or practices that increase the risk of human rights violations.

With a view to assuring the quality of this report, the Norwegian NHRI has asked for feedback from relevant experts from a range of institutions and organisations, such as the Sámi Parliament, the Saami Council, the International Centre for Reindeer Husbandry, the Arctic Monitoring & Assessment Programme (AMAP), the Norwegian Meteorological Institute, the Institute of Marine Research, the Norwegian Institute for Nature Research (NINA), the Norwegian Institute of Bioeconomy Research (NIBIO), the Norwegian Institute for Water Research (NIVA), the Bjerknes Centre for Climate Research, UiT The Arctic University of Norway and the Norwegian University of Life Sciences, among others. We thank all stakeholders for their valuable input and feedback. An earlier version of the report was also used as the basis for input at a side event at the UN Permanent Forum on Indigenous Issues 22nd Session in April 2023.

The escalating climate crisis raises complex questions at the intersection of law, policy and science. The purpose of this report is not to answer all these questions, but to provide a human rights perspective on the impacts of climate change for the Sámi people. We hope the report will contribute to further dialogue on this important topic and to better realisation of human rights.

¹¹ Jouni Jaakkola et al., "The Holistic Effects of Climate Change on the Culture, Well Being, and Health of the Saami" *Current Environmental Health Reports* 5, nr. 4 (2018) p. 413; Norwegian National Human Rights Institution (NIM). *Human Rights Protection against Interference in Traditional Sámi Areas*; UNDESA, 2021, p. 3

¹² The Truth and Reconciliation Commission report *Sannhet og forsoning*, Dok 19 (2022-2023) p. 554.

¹³ The Norwegian NHRI Act §§ 1,3.

4. The rapidly closing window to prevent dangerous climate change

According to the UN's Intergovernmental Panel on Climate Change (IPCC), any further delay in reducing greenhouse gas emissions will miss a brief and rapidly closing window of opportunity to secure a liveable future for all.¹⁴

Already at the current level of 1.2°C of global warming, climate change has caused widespread adverse impacts to nature and people, which are projected to increase exponentially if global warming exceeds the critical 1.5°C threshold. The remaining amount of CO₂ that can be emitted to remain within 1.5°C (the remaining carbon budget) is set to be exhausted between 2025-2030. Exceeding 1.5°C also risks triggering tipping points and feedback loops, which may greatly accelerate global

warming and lead to abrupt and irreversible changes in the Earth's climate system.¹⁵

In Article 2.1a of the Paris Agreement, State Parties agree to "pursue efforts to limit" the global temperature increase to 1.5°C above pre-industrial levels, with a maximum increase to "well below 2°C". New insights in the IPCC's 2018 report, confirmed in 2021 and 2022, have shifted the scientific, political and legal consensus towards limiting the temperature increase to 1.5°C instead of

¹⁴ IPCC, *AR6 Synthesis Report: Summary for Policymakers*, 2023, para. C.1.

¹⁵ IPCC, *AR6 WGI The Physical Science Basis*, 2021, p. 21; IPCC, *Special Report on Global Warming of 1.5°C*, 2018, pp. 262-264; IPCC, *AR6 WGI The Physical Science Basis: Summary for Policymakers*, 2021, para. C.3.2 and table SPM.1 at p.18; David Armstrong McKay et al., "Exceeding 1.5°C global warming could trigger multiple climate tipping points" *Science* 377, nr. 6611 (2022); Will Steffen et al., "Trajectories of the Earth System in the Anthropocene" *PNAS* 115, no. 33 (2018); Nico Wunderling, et al., "Global warming overshoots increase risks of climate tipping cascades in a network model." *Nature Climate Change* 13 (2023).

Types of Climate Measures

In this report, we use the terms *mitigation*, *adaptation* and *adaptation limits* as follows:

- **Mitigation:** A human intervention to reduce the concentration of greenhouse gases in the atmosphere. Supply-side mitigation measures include for example transitioning from the production of fossil fuels to renewable energy sources. Demand-side mitigation measures include for example efficiency gains and end-use fuel switching in various sectors, such as transport and construction. Carbon removal strategies include for example enhancing the natural sinks that store greenhouse gases, such as oceans, forests and soils.
- **Adaptation:** In human systems, the process of adjusting to the already incurred or expected harmful effects of climate change. Adaptation measures can for example include infrastructure and housing upgrades, early-warning systems, land-use management, finance, evacuation and disaster relief.
- **Adaptation limits:** The point at which certain harmful effects of climate change cannot be avoided through adaptation measures alone. Soft adaptation limits occur where financial, technical or political constraints make adaptation measures unavailable. Hard adaptation limits occur due to the physiological constraints of species and ecosystems.

These definitions are based on the IPCC Glossary for AR6, available at: <https://apps.ipcc.ch/glossary/>.

2°C, as this would “substantially reduce” the risks for humans.¹⁶

Hence, at the last three UN climate conferences, the State Parties to the Paris Agreement have resolved “to pursue efforts to limit the temperature increase to 1.5°C”.¹⁷ At the most recent climate conference in Dubai, State Parties also recognised the need for “deep, rapid and sustained reduc-

tions in GHG emissions in line with 1.5 °C pathways” and agreed to “transition away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science”.¹⁸ In Europe, the EU Climate Act states that climate change is an “existential threat” and that global temperature increase must be “limited to 1.5°C”.¹⁹

¹⁶ IPCC, *Special Report on Global Warming of 1.5°C*, 2018, pp. 177–181; IPCC, *AR6 WGI The Physical Science Basis: Summary for Policymakers*, 2021, pp. 19–24; IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* para. B.3.

¹⁷ UNFCCC Conference of the Parties, *Glasgow Climate Pact*, 08.03.22, UN Doc. FCCC/PA/CMA/2021/10/Add.1, paras. 20–22; UNFCCC Conference of the Parties, *Sharm el-Sheikh Implementation Plan*, 20.11.2022, UN Doc. FCCC/PA/CMA/2022/L.21, para 28; UNFCCC Conference of the Parties, *Outcome of the First Global Stocktake*, 13.12.2023, UN Doc. FCCC/PA/CMA/2023/L.17, para. 4.

¹⁸ *Ibid.*, para. 28(d).

¹⁹ Source: Regulation (EU) 2021/1119 (European Climate Law) preamble rec. 1 and 3.

The IPCC

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the United Nations to assess the science related to climate change. IPCC reports are normally written every 6–7 years by scientists who review thousands of scientific papers concerning drivers and impacts of climate change, future risks, and how mitigation and adaptation can reduce those risks. These assessments represent the international scientific consensus on climate change and are accepted by the 195 Member States of the IPCC.

According to the IPCC, limiting warming to 1.5°C requires a 48% *global* reduction in CO₂ emissions from 2019 levels by 2030 and net zero emissions by 2050.²⁰ However, as States have “common but differentiated responsibilities and respective capabilities”, developed countries must cut at a higher rate.²¹ While opinions on how to assess a country’s fair share of the remaining carbon budget differs, one study from legal scholars and climate scientists suggests that, when adjusting for historic responsibility for climate change and GDP per capita, developed States should reach net zero emissions by 2030 in order to stay within their

fair share of the remaining 1.5°C global carbon budget.²²

In 2023, the remaining global carbon budget for limiting warming to 1.5°C was approximately 150 billion tonnes of carbon dioxide, which will be exhausted within 2025-2030 under the current rate of global emissions.²³

Carbon Budget

A carbon budget refers to the maximum cumulative amount of carbon dioxide that can be emitted to keep global warming within a given temperature threshold – usually 1.5°C or 2°C above pre-industrial levels. This is measured in gigatonnes (Gt) of CO₂ – one gigatonne is one billion tonnes. To account for uncertainties in future modelling, carbon budgets are calculated based on a 67% or 50% chance of remaining below the temperature threshold.

²⁰ IPCC, *AR6 WGIII Mitigation of Climate Change: Summary for Policymakers*, 2022, paras. C.2 and C.1.2.

²¹ UNFCCC, Art 3.1, Art 4.1; Paris Agreement, Preamble, Art 2.1, 4.1, 4.2, 4.3 and 4.4.

²² Lavanya Rajamani et al., “National ‘fair shares’ in reducing greenhouse gas emissions within the principled framework of international environmental law” *Climate Policy* 21, no. 8 (2021) p. 17.

²³ Piers M. Forster et al., “Indicators of Global Climate Change 2022” *Earth System Science Data* 15, no. 6 (2023) ch. 8; Zhu Liu et al., “Monitoring global carbon emissions in 2022” *Nature Reviews Earth & Environment* 4 (2023). An earlier estimate put the remaining carbon budget in 2020 at 400 GtCO₂, see IPCC, *AR6 WGI The Physical Science Basis: Summary for Policymakers*, 2021, p. 29. New evidence and additional observational data indicate that the remaining carbon budget is now much lower. These carbon budgets are based on a 67% probability of limiting global warming to 1.5°C.

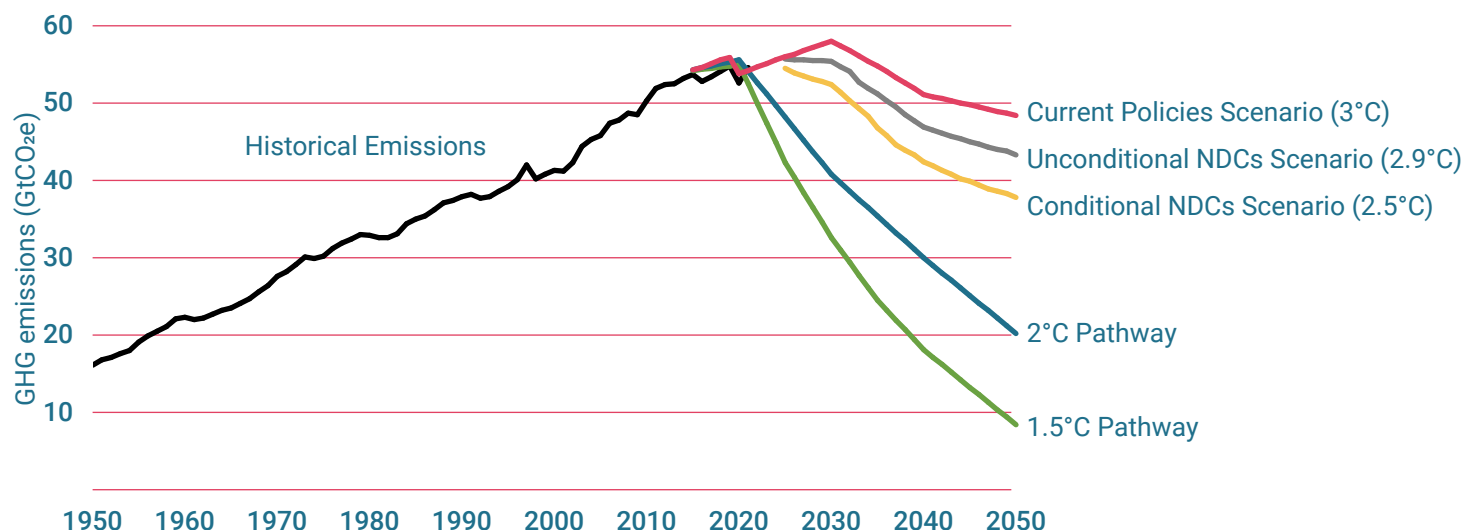


Figure 1: The gap between States' Nationally Determined Contributions (NDCs) and emission reductions required for 1.5°C, UNFCCC 2023: Sources: Jones; UNEP; UNFCCC and Carbon Brief.

As of November 2023, States' current policies to reduce emissions will still lead to a 3°C temperature rise by 2100 (see Figure 1 below).²⁴ Implementation of States' emission reduction targets which are achievable using domestic resources, known as *unconditional* NDCs, will only reduce this to 2.9°C. Implementation of States' targets which are dependent on external financial support, known as *conditional* NDCs, will reduce warming to 2.5°C.²⁵

Only an urgent system-wide transformation can deliver the enormous emission cuts needed to limit warming to 1.5°C and avoid climate disaster. This requires actions and changes across all sectors and systems, including in energy, industry, transport,

buildings, agriculture, forestry and the food and financial systems, while also ensuring a just transition.²⁶

The energy sector is the most critical as it accounts for two-thirds of global GHG emissions.²⁷ Over 80% of all CO₂ emissions since 1751 have come from the burning of fossil fuels and more than half have been emitted in the last 33 years.²⁸

Estimated future emissions from existing fossil fuel infrastructure already exhaust the remaining 1.5°C global carbon budget, and the additional emissions from planned fossil fuel infrastructure exhaust even the 2°C budget.²⁹ According to a "large consensus" across multiple climate models, "devel-

²⁴ Matthew Jones et al., "National contributions to climate change due to historical emissions" Scientific Data 10, no. 1 (2023); UNEP, Emissions Gap Report: The Closing Window (2022), p. 35, figure 4.3; UNFCCC Subsidiary Body for Scientific and Technological Advice, Technical Dialogue of the First Global Stocktake, 8.09.2023, UN Doc. FCCC/SB/2023/9, p. 17, figure 1; CarbonBrief, "UNEP: Meeting global climate goals now requires rapid transformation of societies", 27.10.2022; UNEP, Emissions Gap Report: Broken Record (2023), p. 31, table 4.4.

²⁵ UN Environment Program (UNEP), Emissions Gap Report: Broken Record (2023), p. XXII and 30-31.

²⁶ United Nations Environment Programme, Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again), 2023.

²⁷ International Energy Agency (IEA), "Energy sector is central to efforts to combat climate change", 2023, <https://www.iea.org/topics/climate-change>.

²⁸ IPCC, AR6 Climate Change 2021 The Physical Science Basis, 2021, pp. 676, 687, 688; Stainforth et al., "More than half of all CO₂ emissions since 1751 emitted in the last 30 years", Institute for European Environmental Policy, 29.04.2020.

²⁹ IPCC, AR6 WGIII Mitigation of Climate Change, 2022, Technical Summary p. 26 and Chapter 2 p. 72.

opening any new oil and gas fields is incompatible with limiting warming to 1.5°C”.³⁰ Furthermore, the world must cut an additional 23 gigatonnes of CO₂ emissions and add 1020 gigawatts of solar and wind power every year until 2030 to remain within a 1.5°C pathway.³¹ According to the modelling used by the International Energy Agency, renewable energy investment will need to triple by 2030 and wind and solar will need to increase from 10% of total electricity generation to 40% to remain within a 1.5°C pathway.³²

Increases in renewable energy production must be accompanied by decreases in fossil fuel production. The Norwegian Environment Agency points out that, “increased production of renewable energy does not in itself result in reduced emissions, since climate gains are only achieved when the new energy replaces the use of fossil energy”.³³ While renewable energy production is increasing globally, so is fossil fuel production, despite the UN warning that governments plan to produce more than double the amount of fossil fuels than what is consistent with a 1.5°C pathway.³⁴ Between 2017 and 2022, renewable energy production met only half of the *new demand* for energy globally, and is far from replacing fossil fuels in absolute terms.³⁵

³⁰ Conclusion of a meta-study from the International Institute for Sustainable Development (IISD), *Navigating Energy Transitions: Mapping the road to 1.5°C*, 21.10.2022 p. 14 ff., referring inter alia to reports from the IPCC and IEA, *World Energy Outlook*, 2021, p. 112; IEA, *Net Zero by 2050*, 2021, pp. 23, 99.

³¹ Ibid; IEA, *Net Zero by 2050: A Roadmap for the Global Energy Sector: Summary for Policymakers*, 2021, p.3.

³² IEA, *World Energy Investment*, 2023, p. 57; IEA, *World Energy Outlook*, 2022, pp. 97, 138 and 257.

³³ Norwegian Environment Agency, *Veileder: Produksjon og distribusjon av fornybar energi*, 15.09.2023, <https://www.miljodirektoratet.no/ansvarsomrader/klima/for-myndigheter/kutte-utslipp-av-klimagasser/klima-og-energitiltak/fornybar-energi/produksjon-og-distribusjon-av-fornybar-energi/>.

³⁴ UNEP et al. *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises*, 2023.

³⁵ DNV, *Energy Transition Outlook 2023*, 11 October 2023.

5. Norway's GHG emissions and climate policies

In 2020, there were 48.9 million tonnes of CO₂-equivalents emitted domestically in Norway. The biggest emissions sources in Norway are oil and gas extraction (24.5%), other industry (23%), road traffic (17%), other transport (15%), and agriculture (10%).³⁶

Norway has to a large degree achieved international obligations to reduce emissions by purchasing carbon credits based on emission cuts in other countries.³⁷ Since 1990, Norway has only reduced its *domestic* emissions by 4.6%.³⁸

Norwegian authorities have set several targets for reducing emissions. In the Norwegian Climate Act, the target for 2030 is that GHG emissions are reduced by at least 55% compared to 1990 levels.³⁹ For 2050, the target is that Norway becomes “a

low-emission society”, where GHG emissions are reduced by 90-95%. However, these targets may be fulfilled together with the EU through emissions trading. This means that there is no obligation under the climate law to reduce domestic emissions. The Government-appointed Climate Committee 2050 stated in 2023 that “[t]he question is not which emissions should be reduced, but which minor emissions remain in 2050”.⁴⁰

³⁶ State of the Environment Norway: “Norske utslipp og opptak av klimagasser”, <https://miljostatus.miljodirektoratet.no/tema/klima/norske-utslipp-av-klimagasser/>

³⁷ NOU 2023:25 p. 40.

³⁸ State of the Environment Norway: “Norske utslipp og opptak av klimagasser”, <https://miljostatus.miljodirektoratet.no/tema/klima/norske-utslipp-av-klimagasser/>

³⁹ Climate Change Act. Act of 16 June 2017 no. 60 on climate targets.

⁴⁰ The Norwegian Government: «Press release NOU 2023: 25 The transition to low emissions – climate policy choices towards 2050», https://files.nettsteder.regjeringen.no/wpuploads01/sites/479/2023/10/Pressemelding_engelsk.pdf

The agreement with the EU firstly relates to emissions that fall within the EU Emissions Trading System (ETS), mainly emissions from industrial activities. The Norwegian Climate Act explicitly states that participation in the EU ETS is relevant for assessing progress towards the targets. Norway also has agreements with the EU to reduce emissions that are not subject to the EU ETS by 40% by 2030, covering mainly emissions from transport and agriculture. The EFTA Surveillance Authority (ESA), responsible for monitoring implementation of this agreement, warned in 2023 that “Norway expects a significant gap towards its current targets,” and was therefore “strongly encouraged to consider additional measures to reduce their emissions”.⁴¹

In addition, the Government has committed to reducing *domestic* emissions by 55% by 2030 compared to 1990 levels.⁴² This means that 50% of Norwegian emissions must be reduced in the next six years. It is debated whether the Government has a sufficiently realistic plan to achieve this goal.

Norway is the world’s 8th largest producer of natural gas, and the 12th largest producer of crude oil.⁴³ Annual emissions from the combustion of exported Norwegian oil and gas are approximately 500 million tons of CO₂,

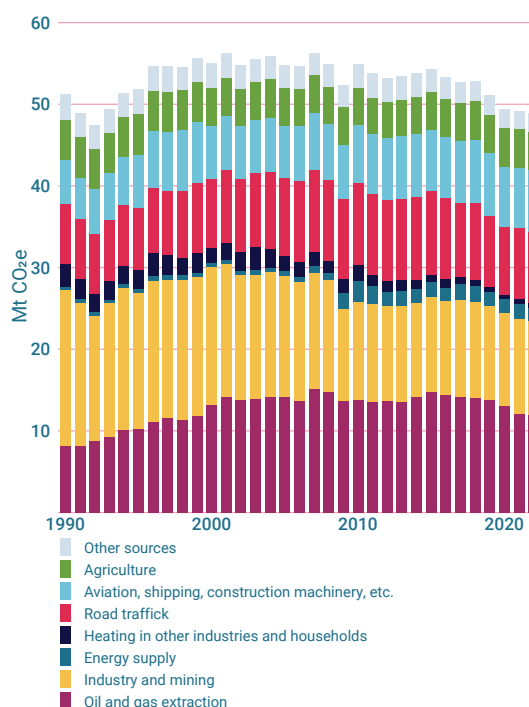


Figure 2: Greenhouse gas emissions in Norway by sector in million tons of CO₂-equivalents. Does not include emissions and uptake from forests and land use changes. Source: energiogklima.no and SSB

which is at least ten times higher than Norway’s annual domestic emissions.⁴⁴ In general, 95% of emissions relating to petroleum come from the ultimate combustion/burning of oil and gas, and only 5% from the production. Norway has plans to expand,

⁴¹ EFTA Surveillance Authority, *Climate Progress Report 2023*, 2023 p. 4.

⁴² The Norwegian Government: “Hurdalsplattformen. For en regjering utgått fra Arbeiderpartiet og Senterpartiet 2021-2025”, <https://www.regjeringen.no/contentassets/cb0adb6c6fee428caa81bd5b339501b0/no/pdfs/hurdalsplattformen.pdf> p. 29.

⁴³ UNEP et al. *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises*, 2023, p. 68.

⁴⁴ NOU 2023: 25 p. 211.

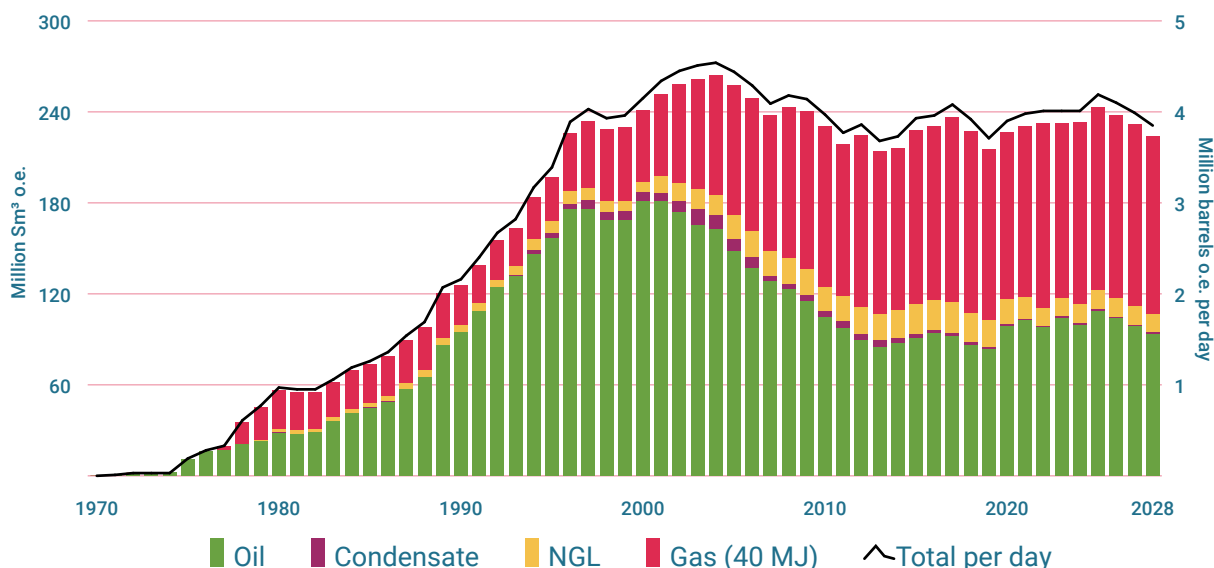


Figure 3: Historical and expected fossil fuel production in Norway 1970-2028, Norwegian Petroleum Directorate, 11. January 2024

not phase out, oil and gas production and export.

The Norwegian Petroleum Directorate estimates that Norway's oil and gas production will continue to rise in 2024 and 2025, almost reaching the record-high production levels of 2004.⁴⁵ While the Directorate projects a gradual decline from 2026, UNEP and others, with reference to the Directorate's reports, state that "the rate of decline is uncertain and depends heavily on possible new discoveries and thus on government policy for exploration", where "official forecasts tend to underestimate resource growth".⁴⁶ Historically, projections of future oil and gas production have been lower than actual production.⁴⁷

The total amount of energy used in Norway in 2021 was 326 terawatt hours (TWh), 42% of which came from electricity and 50% from fossil fuels.⁴⁸ Unlike many other comparable countries, almost all electricity used by households and services in Norway comes from renewable sources, mostly hydropower (88%), followed by wind power (10%).⁴⁹

Norway will need more renewable energy as industries transition away from fossil fuels and overall energy consumption continues to grow, but the exact estimates of future demand vary. The Government-appointed Energy Commission estimates that an additional 21-35 TWh will be needed in 2030.⁵⁰ The commission's majority recommended that Norway should have a goal of an increased capacity of at least 40 TWh from

⁴⁵ Norwegian Petroleum Directorate, «Sokkelåret 2022», 9 January 2023, <https://www.npd.no/aktuelt/publikasjoner/rapporter/sokkelaret/sokkelaret-2022/>; Nerijus Adomaitis, "Norway's oil production seen rising 5% in 2024", Reuters, 6 October 2023, <https://www.nasdaq.com/articles/norways-oil-production-seen-rising-5-in-2024-0>.

⁴⁶ UNEP et al. *The Production Gap*, 2023, p. 68; Norwegian Petroleum Directorate, *Resource Report 2022*, p. 58.

⁴⁷ NOU 2023: 25 p. 229, 230.

⁴⁸ NOU 2023: 3 p. 45.

⁴⁹ Tilnull.no: "Hvor mye av energibruken er fornybar?" <https://www.tilnull.no/energibruk/>; Statistics Norway: "Betydelig nedgang i strømforbruket", <https://www.ssb.no/energi-og-industri/energi/statistikk/elektrisitet/artikler/betydelig-nedgang-i-stromforbruket-i-2022>.

⁵⁰ NOU 2023: 3 p. 10.

hydropower, solar energy and onshore and offshore wind, and free up at least 20 TWh from improving energy efficiency.⁵¹ The Norwegian Water Resources and Energy Directorate responded that it is unrealistic to get an additional 40 TWh from renewable energy sources by 2030, but considered it ambitious and possible to achieve 20 TWh in energy efficiency and 5-10 TWh in increased solar capacity.⁵²

Current government policy is to use a significant proportion of the available renewable energy to electrify the production of oil and gas. While this can reduce Norway's domestic emissions, it is likely to increase Norway's exported combustion emissions. It is debated whether electrification of production will reduce overall global GHG emissions.⁵³ In any case, it will tie up available renewable energy.⁵⁴

⁵¹ NOU 2023: 3 p. 24.

⁵² Norges vassdrags- og energidirektorat, *Høringssvar fra NVE - NOU 2023:3 Mer av alt - Raskere - Olje- og energidepartementet*, 27.4.2023.

⁵³ Faktisk, [Åtte spørsmål og svar om elektrifisering av sokkelen](#) question 6 17.1.2022; Thema; *Elektrifisering av olje- og gasssektoren – har det global klimaeffekt?*, Rapport nr. 2022-23, 6.1.2023.

⁵⁴ NOU 2023: 25 pp. 252-254.

6. Effects of climate change for the Sámi people

The rapidly changing Arctic climate poses several human rights challenges for the Sámi people, negatively impacting their culture, livelihoods and health. This chapter will explore the effects of climate change on Sámi reindeer husbandry, fishing, and health. Both reindeer husbandry and fishing are central parts of the Sámi people's identity and their social, cultural and economic wellbeing.

The chapter is based on observations and projections published by the IPCC, the Arctic Monitoring and Assessment Programme (AMAP) and the Norwegian Meteorological Institute, as well as the Saami Council's recent report on "Climate Change in Sápmi" and academic research from Norway, Sweden and Finland. The chapter covers both observed effects and future risks, beginning with studies concerning the Arctic region as a whole, followed by studies concerning specific Sámi areas in Norway.

6.1 Observed effects

According to the IPCC and the Arctic Monitoring and Assessment Programme (AMAP), climate change is already causing significant negative effects in the Arctic, including higher temperatures and precipitation, permafrost thaw, loss of sea and land

Geographical delineation of Arctic

IPCC data concerning the Arctic includes areas in Norway north of Oslo (approx. 60°N), while AMAP data concerning the Arctic includes areas in Norway north of the Saltfjellet mountain range (approx. 66°N). However, Arctic-level observations and projections relate to the entire Arctic region, including Greenland, Northern Canada, Alaska and Siberia, as well as marine areas within this boundary. This means that not all data concerning the Arctic automatically applies to all Sámi areas in Norway. We have therefore included more granular data on, for example, Finnmarksvidda, Trøndelag and the coastal areas of the Barents Sea and Norwegian Sea where such data is available.

ice, changes in snow cover, extreme weather events, and northward shifts of species on land and in freshwater and marine ecosystems.⁵⁵ These changes are occurring at a “magnitude and pace unprecedented in recent history, and much faster than projected for other world regions”, with natural and human systems in the Arctic “approaching a level of change potentially irreversible for hundreds of years, if not millennia”.⁵⁶ This is largely because the Arctic warms more than three times faster than the global average due to a phenomenon known as “Arctic amplification”, which is driven largely by feedback loops such as Arctic sea ice loss and thawing permafrost.⁵⁷

Observed Changes to the Arctic Climate from 1971 to 2019

- Annual average temperature increased by 3.1°C. In some individual areas, temperatures increased by 6-7°C.
- Rainfall increased by 25%.
- Snow cover decreased by 21%.
- Sea ice declined by 43%.
- Tundra greenness increased by at least 10%.
- Permafrost warmed by 2-3°C.

Source: AMAP, 2021, *Arctic Climate Change Update 2021*, ch. 2.

6.1.1 Sámi Reindeer husbandry

Both the practice of reindeer herding and the health and welfare of the reindeer are dependent on a stable climate, functioning ecosystems and the annual cycle of reindeer ecology, including access to a diversity of quality pastures at different times of the

year.⁵⁸ Climate change has severe negative impacts on the reindeer herding practices of the Sámi people, through both slow-onset changes and sudden-onset events.⁵⁹ These impacts include:

⁵⁵ IPCC, *AR6 WGI The Physical Science Basis: Summary for Policymakers*, 2021, p. 15, para. B.2.1; IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, ch. 2, p. 200; IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross Chapter Paper 6*, 2022, p. 2321; Arctic Monitoring and Assessment Programme (AMAP), *Arctic Climate Change Update 2021: Key Trends and Impacts 2021*, ch. 2.

⁵⁶ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross Chapter Paper 6*, 2022, p. 2321.

⁵⁷ Earlier estimates indicated that Arctic temperatures have increased at twice the global rate, see IPCC, 2021 AR6 WGI, SPM p. 15, Atlas 11.2.2. Other studies indicate that Arctic temperatures have increased at three to four times the global rate, see Mika Rantanen et al., “The Arctic has warmed nearly four times faster than the globe since 1979” *Communications Earth and Environment* 3, no. 168 (2022).

⁵⁸ Saami Council, *Climate Change in Sápmi – an overview and a Path Forward*, 2023, p. 84; Tim Horstkotte et al., “Pastures under pressure. Effects of other land users and the environment”; Svein D. Mathiesen et al., “Strategies to enhance the resilience of Sámi reindeer husbandry to rapid changes in the Arctic” In *Arctic Resilience Interim Report* (Stockholm Environment Institute, 2013).

⁵⁹ Inger Hansen, et al., *Kartlegging av forskning på reindriftsområdet - kunnskapsgrunnlag og forskningsbehov* (NIBIO, 2021, pp. 38-39); Tyler et al., “The Shrinking Resource Base of Pastoralism: Saami Reindeer Husbandry in a Climate Change”, Saami Council, 2023, p. 84.

- Changes to the timing and length of seasons;
- The spread of woody/shrubby vegetation across the tundra;
- Reduced pasture quality;
- Reduced access to ground lichen for reindeer due to high snow depth and rain-on-snow events;
- Increased parasite and insect harassment during summer;
- Unstable ice conditions on migration routes;
- Hazardous weather conditions and wildfires.⁶⁰

One of the most significant challenges facing Sámi reindeer herders is more frequent and intense rain-on-snow events and freeze-thaw cycles during winter, which create an ice barrier, making it difficult for the reindeer to access food.⁶¹ This periodically prevents access to important grazing areas and migration routes, increasing the risk of starvation and death. Ice-locked pastures also disperse reindeer herds, increasing their exposure to predators, extreme weather and weaker ice cover on lakes and rivers.⁶² One estimate is that ice-locked pastures have already increased “from once every 50-100 years to frequencies on decadal times”.⁶³ During the last three years alone, large areas of ice-locked pastures have occurred twice, in 2020 and 2022.⁶⁴

⁶⁰ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, pp. 761 and 1868; Conor D. Mallory and Mark S. Boyce, “Observed and predicted effects of climate change on Arctic caribou and reindeer” *Environmental Reviews* 26, no. 1 (2018); Brage Bremset Hansen et al., “Climate events synchronize the dynamics of a resident vertebrate community in the high Arctic” *Science* 339, no. 6117 (2013); Bruce C. Forbes et al., “Sea ice, rain-on-snow and tundra reindeer nomadism in Arctic Russia” *Biology Letters* 12, no. 11 (2016); Hansen, et al., 2021, p. 37; Jaakkola et al., 2018, p. 401; Jan Åge Riseth and Hans Tømmervik, *Klimautfordringer og arealforvaltning for reindrifta i Norge. Kunnskapsstatus og forslag til tiltak – eksempler fra Troms* (NORUT, 2017) p. 3; Susan E. Lee et al., “Regional effects of climate change on reindeer: a case study of the Muotkatunturi region in Finnish Lapland” *Polar Research* 19, no. 1 (2000) p. 99; Jaakkola et al., 2018, p. 406.

⁶¹ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 761; Putkonen, J., & Roe, G. (2003). Rain-on-snow events impact soil temperatures and affect ungulate survival. *Geophysical Research Letters* 30(4), art-1188.

⁶² IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 1057; Anne Walkepää, *Syntesrapport - En sammanställning av fyra samebyars pilotprojekt med klimat- och sårbarhetsanalys samt handlingsplan för klimatanpassning (Synthesis report – A compilation of four Sámi villages’ pilot projects with climate and vulnerability analysis and an action plan for climate adaptation)* (SWEKO, report no. 12602183, 2019); Alessia Ubani et al., “Can management buffer pasture loss and fragmentation for Sámi reindeer herding in Sweden?” *Pastoralism Research, Policy and Practice* 10, no. 23 (2020).

⁶³ Marina Tonkoyeva et al., “Framing Adaptation to Rapid Change in the Arctic” In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

⁶⁴ Johnsen et al., “Leaving no one behind”, p. 3; Johnsen, et al., “Reindriften må tilpasse seg klimaendringer, men det er vanskelig med dagens forvaltning”, 16.01.23, forskersonen.no; Landbruksdirektoratet, “En styrket beredskap i reindriften”, Rapport nr. 43/2022, 15.10.2022. See also Saami Council, 2023, p. 102.

6.1.2 Sámi Fishing

Some fish species are closely related to Sámi culture, such as cod, saith, haddock, Atlantic salmon and Arctic char.⁶⁵ Sámi fishing, at both the commercial and small-scale subsistence levels, is dependent on functioning marine and freshwater ecosystems and stable migration patterns for various species.⁶⁶ While there is some research on how climate change affects these species and ecosystems, more research is needed on the consequences for Sámi culture and livelihoods.

Climate change has impacts on marine and freshwater ecosystems in the Arctic and the fish species which depend on them. Sea surface temperature in the Norwegian Sea increased by approximately 1.2°C between 1980 and 2020.⁶⁷ Increasing water temperatures can have a positive effect on the distribution and abundance of some fish species and a negative effect on others.⁶⁸ This depends on several interrelated factors, including the temperature tolerances of the species, food-web interactions and migration patterns between spawning, feeding and wintering areas.

Observed Changes to the Climate in Finnmarksvidda from 1971 to 2019

- Annual average temperature increased by 1.9°C.
- Temperatures in autumn increased by 2.9°C.
- Rainfall increased by 25%.
- Snow cover duration decreased by approximately three weeks.

Figures provided by the Norwegian Meteorological Institute, based on data from the 2015 report from The Norwegian Centre for Climate Services (NCCS) titled "Klima i Norge 2100".

In general, climate change is driving a northward expansion of temperate and subarctic fish species, which in some cases are displacing Arctic species.⁶⁹ For example, warmer waters in Northern Norway have increased the geographic range of species such as walleye pollock, pink salmon and brown trout, while shifting the spawning sites of North-East Arctic cod northward and significantly reducing the abundance of

⁶⁵ Saami Council, 2023, pp. 74, 78, 79.

⁶⁶ Ibid, p. 72.

⁶⁷ Kessler et al., "Observation-based Sea surface temperature trends in Atlantic large marine ecosystems" *Progress in Oceanography* 208 (2022). See also, IPCC, *AR6 WGI The Physical Science Basis*, 2021, chapter 9.2.1.1.

⁶⁸ Sturla F. Kvamsdal et al., "Multidisciplinary perspectives on living marine resources in the Arctic", *Polar Research* 41 (2022).

⁶⁹ IPCC *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, ch. 2, p. 200; AMAP, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, p. 115, p. 118; IPCC, *Special Report on the Ocean and Cryosphere in a Changing Climate*, 2019, ch. 3; Saami Council, p. 78; Aslak Smalås et al., "Increased importance of cool-water fish at high latitudes emerges from individual-level responses to warming" *Ecology and Evolution* 13, no. 6 (2023).

the cold-water-adapted Arctic Char.⁷⁰ Marine heatwaves and other extreme events are also becoming more frequent and intense in the Arctic, contributing to large-scale displacement of fish communities as well as delayed effects on species life cycles.⁷¹ The nature and reversibility of marine ecosystem responses to such events is extremely complex and poorly understood.⁷²

Higher water temperatures in Norway also increase the production of sea-lice and reduce the effectiveness of parasite control measures, leading to a significant increase in the infection pressure that is introduced from farmed to wild salmon.⁷³ In addition, Atlantic salmon are threatened by invasive pink salmon, which is considered a “climate winner”, because it easily adapts to warmer

waters.⁷⁴ These changes add to the cumulative effects of overfishing, pollution and habitat destruction, threatening Sámi fishing practices and traditional knowledge.⁷⁵

6.1.3 Sámi Health

According to the World Health Organisation, climate change is the greatest threat to human health in the 21st century.⁷⁶ The adverse health impacts of climate change affect everyone. However, certain regions, populations and individuals bear a disproportionate burden.

While all those living in the Arctic are affected, groups that organise their lives and societies in close connection with nature could face earlier and more severe health impacts. This includes Indigenous Peoples since a large degree of their physical and

⁷⁰ Ibid; Martin Svenning et al., “Temporal changes in the relative abundance of anadromous Arctic charr, brown trout, and Atlantic salmon in northern Europe: Do they reflect changing climates?” *Freshwater Biology* 67, no. 1 (2022); Kathleen M. Stafford et al., “Northward Range Expansion of Subarctic Upper Trophic Level Animals into the Pacific Arctic Region” *Oceanography* 35, no. 2 (2022); Sundby, S., and O. Nakken. 2008. Spatial shifts in spawning habitats of Arcto-Norwegian cod related to multidecadal climate oscillations and climate change. *Ices Journal of Marine Science* 65:953-962; Sandø, A. B., G. O. Johansen, A. Aglen, J. E. Stiansen, and A. H. H. Renner. 2020. Climate Change and New Potential Spawning Sites for Northeast Arctic cod. *Frontiers in Marine Science* 7.

⁷¹ Bérengère Husson et al., “Successive extreme climatic events lead to immediate, large-scale, and diverse responses from fish in the Arctic” *Global Change Biology* 28, no. 11 (2022).

⁷² Ibid.

⁷³ Sean C. Godwin et al., “Sea-louse abundance on salmon farms in relation to parasite-control policy and climate change” *ICES Journal of Marine Science* 78, no. 1 (2021); Anne D. Sandvik et al., “The effect of a warmer climate on the salmon lice infection pressure from Norwegian aquaculture” *ICES Journal of Marine Science* 78, no. 5 (2021).

⁷⁴ Kjetil Hindar et al., “Assessment of the risk to Norwegian biodiversity and aquaculture from pink salmon (*Oncorhynchus gorboscha*)” (Norwegian Scientific Committee for Food and Environment - VKM, report no. 1, 2020) p. 39; Robert J. Lennox et al., “Prospects for the future of pink salmon in three oceans: From the native Pacific to the novel Arctic and Atlantic” *Fish and Fisheries* 24, no. 5, p. 769.

⁷⁵ Saami Council, 2023, p. 73.

⁷⁶ World Health Organisation, “COP26 special report on climate change and health: the health argument for climate action”, 2021.

mental health are dependent on climate-sensitive ecosystems, and they often already face health inequalities.⁷⁷

Climate change has increased the risk of heavy snowfall, avalanches, blizzards, road destruction, weaker ice on lakes and rivers, spring flooding and landslides in the Arctic.⁷⁸ Extreme events such as these can pose serious risks for all people in the Arctic, but especially Sámi reindeer herders who often travel long distances in remote areas and dangerous conditions.⁷⁹ Reindeer herding is a physically demanding and dangerous profession, with some risks and hazards exacerbated by climate change, including for example injuries associated

with distributing feed during grazing crises.⁸⁰

There is a lack of research on the links between climate change, extreme weather, disease, injury and death in Sápmi. A survey of Sámi reindeer herders in Norway found that 43% of the respondents experienced one or more accidents causing injury during the past five years, often involving a snowmobile in autumn when weather conditions were shifting, and ice conditions were unpredictable.⁸¹

In the Arctic region as a whole, warmer temperatures, reduced snow cover and higher precipitation have contributed to an increase in the transmission of illnesses

⁷⁷ IPCC. *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* pp. SPM-12 and 4-54 (With additional references such as: Zentner, Kecinski, Letourneau, & Davidson, 2019, p. 534; IPCC, 2022, pp. 13-61; Markkula, Turunen, & Rasmus, 2019; Hansen, et al., 2021, p. 38). Compared to other Indigenous Peoples in the Arctic, there are fewer health inequalities between the Sámi population and the majority population in Norway. However, surveys studies show indicate that Sámi people respondents may have a higher risk of experiencing obesity, and chronic lifestyle diseases like diabetes, as well as discrimination angina pectoris, stroke and psychological distress. Whether intergenerational historical trauma is the cause, is still uncertain, but climate change can be said to represent a new external pressure on top of the already experienced assimilation policies and disparities in healthcare. See Christina Storm Mienna et al., "Somatic health in the indigenous Sámi population - a systematic review" *International Journal of Circumpolar Health* 78, no. 1 (2019); Kirsti Kvaløy et al., "Weight underestimation linked to anxiety and depression in a cross-sectional study of overweight individuals in a Sámi and non-Sámi Norwegian population: the SÁMINOR Study" *BMJ Open* 9 (2019); Naseribafrouei, A. et al. (2019) "Estimated 8-year cumulative incidence of diabetes mellitus among Sami and non-Sami inhabitants of Northern Norway - The SAMINOR Study". *BMC Endocr Disord* Vol 24, Issue 19. ; Hansen, K.L. et al. (2016). "Discrimination amongst Arctic Indigenous Sami and Non-Sami Populations in Norway: The SAMINOR 2 Questionnaire Study". *Journal of Northern studies* Vol. 10, No 2, 45-84

⁷⁸ AMAP, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, ch. 7; Inger Hanssen-Bauer et al., *Climate in Norway 2100* (Norwegian Centre for Climate Services, 2017).

⁷⁹ Sven Hassler et al., "Fatal Accidents and Suicide among Reindeer Herding Sámi in Sweden" *International Journal of Circumpolar Health* 63 (2004).

⁸⁰ One study suggest that it is already one of the most dangerous professions, see Grete Helen Meisfjord Jørgensen et al., "Helse, miljø og sikkerhet i reindriften – en case studie. Sluttrapport" [Health, environment and safety in reindeer husbandry - a case study. Final report] (NIBIO, 2019), pp. 23 and 42.

⁸¹ Anna Kristine Sokki Bongo et al., "Helse, miljø og sikkerhet i reindrift. Funn fra kartlegging blant reindriftsutøvere." (Ruralis Institutt for rural- og regionalforskning, rapport no. 11, 2022).

Negative Health Impacts of Climate Change for Arctic Indigenous Peoples

Direct effects:

- Increased injury and death due to extreme weather.
- Increased foodborne and waterborne diseases due to higher temperatures.
- Microbial contamination and release of pathogens from thawing permafrost.

Indirect effects:

- Mental health impacts due to disruptions to cultures and livelihoods.
- Increased stress and workload due to unpredictable and unusual weather events.
- Psychological effects of increased hate speech and harassment linked to growing competition for land and resources and the renewable energy transition.

Source: IPCC, AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6, 2022, p. 2340; Johnsen et al., "Leaving no one behind"; Norwegian National Human Rights Institution (NIM): Holdninger til samer og nasjonale minoriteter i Norge. (2022); Amnesty International

such as Lyme disease and tick-borne encephalitis, as well as the release of toxins and contaminants stored in snow.⁸²

Globally, climate change is causing increased stress and anxiety in the general population and in other vulnerable groups such as older people, children and Indigenous Peoples.⁸³ According to the IPCC, for

Arctic Indigenous Peoples, climate change is increasing the risk of:

- Depression, post-traumatic stress disorder, anxiety and suicide ideation;
- Financial and family stress and domestic violence;

⁸² Saami Council, p. 104; AMAP, *Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area*, 2017; Terry V. Callaghan et al., "Multiple Effects of Changes in Arctic Snow Cover" *AMBIO* 40 (2011).

⁸³ Marina Romanello et al., "The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels" *The Lancet* 400, no. 10363 (2022) panel 4; Caroline Hickman et al., "Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey" *Lancet Planet. Health* 5, no. 12 (2021); Jacqueline Middleton et al., "Indigenous mental health in a changing climate: a systematic scoping review of the global literature" *Environmental Research Letters* 15, no. 053001 (2020); Ashlee Willox et al., "Examining relationships between climate change and mental health in the Circumpolar North" *Regional Environmental Change* 15 (2015).

- Loss of cultural knowledge and continuity, disruptions to intergenerational knowledge transfer and loss of place-based identities and connections.⁸⁴

These effects may also be relevant in a Norwegian context. For example, research indicates that climate change leads to fear for the “future of Sámi culture and way of life and disappearance of cultural knowledge and traditions”, with Sámi reindeer herders reporting “increased stress, anxiety, worrying, and depression”.⁸⁵

6.2 Future risks

According to the IPCC, Arctic Indigenous Peoples and cultures, as well as the ecosystems on which they depend, are exposed to significant future risks due to climate change.⁸⁶ Under most emission scenarios, many of the changes that negatively impact Sámi reindeer husbandry, fishing and health are projected to worsen by the end of the century. This includes higher temperatures and precipitation, more frequent and severe rain-on-snow events, less snow and ice cover, more woody/shrubby vegetation replacing reindeer food sources, and increasing wildfires, parasites and diseases.⁸⁷

The Arctic climate in general will be “profoundly different” by 2050 under all warming scenarios, but the severity of the changes varies greatly depending on the course of States’ future Greenhouse Gas (GHG) emissions.⁸⁸

Emission scenarios

The IPCC uses two different methods for projecting future climate change scenarios – “Representative Concentration Pathways” (RCPs) and “Shared Socioeconomic Pathways” (SSPs). The RCPs are based solely on the future trajectory of greenhouse gas emissions and average warming, whereas the SSPs factor in assumptions about political ambition to mitigate emissions and other socioeconomic factors, such as population, economy, energy use and technology. Both cover a range of possible future scenarios, from “best case” low-emission pathways to “worst case” high-emission pathways. There are four RCPs (numbered as 2.6, 4.5, 6.0 and 8.5) and five SSPs (numbered as 1-1.9, 1-2.6, 2-4.5, 3-7.0 and 5-8.5).

⁸⁴ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2340 (With additional references such as: Cunsolo Willox et al., 2013a; Cunsolo Willox et al., 2013b; Cunsolo Willox et al., 2014; Durkalec et al., 2015; Harper et al., 2015; Cunsolo and Ellis, 2018; Hayes et al., 2018; Jaakkola et al., 2018; Markon et al., 2018; Minor et al., 2019; Middleton et al., 2020a; Feodoroff, 2021).

⁸⁵ Jaakkola et al., 2018, p. 410.

⁸⁶ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, pp. 2344-2349.

⁸⁷ Ibid, see Tables 5.10, CCP6.5, CCP6.5 and Figure CCP6.4 (With additional references such as: Riseth and Tømmervik, 2017, p. 3; Hansen, et al., 2021, pp. 43-44; Hansen, et al., 2021, p. 38).

⁸⁸ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2321; AMAP 2021, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, p. 46.

Without adequate mitigation of GHG emissions to limit global warming to 1.5°C, there is an increasing risk of crossing irreversible tipping points in the Arctic where climate change impacts surpass the ability of both natural and human systems to adapt.⁸⁹ This includes the risk of abrupt thaw of the Boreal permafrost, which together with the Arctic permafrost “contain 1460–1600 Gt organic carbon, almost twice the carbon in the atmosphere”.⁹⁰

6.2.1 Sámi Reindeer husbandry

The cumulative effects of climate change, competing land use and limitations on adaptive capacity pose serious threats to the future viability of Sámi reindeer husbandry.⁹¹

If global warming exceeds the critical 1.5°C threshold, snow cover duration will decrease significantly in Sápmi. Snow cover is inextricably linked to the health of Arctic ecosystems, influencing ground temperature, length of the growing season, species composition, light conditions, meltwater, surface moisture and nutrient availability, among

Projected Changes to Temperature, Snow Cover and Precipitation in the Arctic by 2100

- Under the **lowest emissions scenario** (SSP1-2.6), global temperatures will increase by 1.4°C, while Arctic temperatures will increase by 3.3°C on average and by 4.5°C in winter, compared to the 1985–2014 average. Snow cover in the Arctic will decrease by 18% in spring and 20% in autumn compared to the 1995–2014 average.
- Under the **highest emissions scenario** (SSP5-8.5), global temperatures will increase by 4.7°C, while Arctic temperatures will increase by 10.0°C on average and by 13.4°C in winter, compared to the 1985–2014 average. Snow cover will decrease by 55% in spring and 60% in autumn compared to the 1995–2014 average.
- Arctic precipitation will increase by 30–60% depending on the emissions scenario, with a transition from snow to rain in spring and autumn, as well as increases in both rainfall and snowfall in winter. More frequent freeze-thaw cycles and rain-on-snow events, weaker ice sheets and increased risk of avalanches and other hazards are expected.

Source: AMAP 2021, Arctic Climate Change Update 2021: Key Trends and Impacts, 2021, pp. 35, 38 and 58, Figures 3.4 and 3.10; IPCC, AR6 WGII Impacts, Adaptation and Vulnerability, 2022, pp. 1054–1058 (Box 7.1); Michelle R. McCrystall et al., “New climate models reveal faster and larger increases in Arctic precipitation than previously projected” *Nature Communications* 12, 6765 (2021).

⁸⁹ Ibid, FAQ CCP6.4.

⁹⁰ McKay et al., 2022; IPCC, *Special Report on the Ocean and Cryosphere in a Changing Climate: Summary for Policymakers*, 2019, paras. A.1.3, B.1.4.

⁹¹ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 1868 (Box 13.2). The box relates to reindeer herding in Sweden, but the threats discussed are also relevant in a Norwegian context.

other things.⁹² Snow also plays a central role in Sámi language, culture, traditional knowledge and livelihoods.⁹³

Under all future warming scenarios, declining snow cover in the Arctic will increase extinction rates for plants, mosses and lichens, especially where snow cover decreases by more than 20%.⁹⁴ This will have varying consequences for reindeer husbandry, with studies indicating both positive and negative effects on forage access and quality.⁹⁵

Future projections concerning the frequency and intensity of “rain-on-snow events” in Norway vary depending on the season, altitude and distance from the coast. Under the highest emissions scenario (RCP8.5) in 2050, coastal areas at lower elevations will experience fewer but more intense rain-on-snow events,⁹⁶ whereas inland areas above 800 m.s.l. will experience a significant

increase in both the frequency and intensity of rain-on-snow events, especially those in Finnmark, Troms and Nordland.

Future projections concerning the frequency of “freeze-thaw cycles” or “0°C crossings” show a similar pattern.⁹⁷ Under the highest emissions scenario (RCP8.5) in 2100, coastal areas at lower elevations will experience 40 fewer days with 0°C crossings per year. By contrast, there will be 20-40 more days with 0°C crossings per year in Finnmarksvidda. As already mentioned, this a serious development because it limits the reindeers’ access to food during winter.

Some of the future risks to Sámi reindeer husbandry resulting from climate change can be adapted to through supplementary feeding with pellets or bales and the use of trucks to transport reindeer. However, adaptive herding practices add a significant burden to Sámi reindeer herders through

⁹² Saami Council, 2023, p. 40-41; Christian Rixen et al., “Winters are changing: snow effects on Arctic and alpine tundra ecosystems” *Arctic Science* 8, no. 3 (2022); Pekka Niittynen and Miska Luoto, “The importance of snow in species distribution models of arctic vegetation” *Ecography* 41 (2018).

⁹³ Jaakkola et al., 2018, p. 403; Inger Marie Gaup Eira et al., “Traditional Sámi snow terminology and physical snow classification—two ways of knowing” *Cold Regions Science and Technology* 85 (2013).

⁹⁴ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, Cross-Chapter 6, p. 2331; Pekka Niittynen et al., “Snow cover is a neglected driver of Arctic biodiversity loss” *Nature Climate Change* 8 (2018).

⁹⁵ Christian Rixen et al., “Winters are changing: snow effects on Arctic and alpine tundra ecosystems” *Arctic Science* 8, no. 3 (2022); Minna Turunen et al., “Does climate change influence the availability and quality of reindeer forage plants?” *Polar Biology* 32, no. 6 (2009); SWECO, Syntesrapport: En sammanställning av fyra samebyars pilotprojekt med klimat- och sårbarhetsanalys samt handlingsplan för klimatanpassning (2019), p. 24; Jon Moen, “Climate change: effects on the ecological basis for reindeer husbandry in Sweden” *Ambio* 37, no. 4 (2008).

⁹⁶ Priscilla Mooney and L.Li, “Near future changes to rain-on-snow events in Norway” *Environmental Research Letters* 16, no. 6 (2021).

⁹⁷ Irene Brox Nilsen et al., “Projected changes in days with zero-crossings for Norway” *International Journal of Climatology* 41, no. 4 (2021).

increased workload, costs, and concern for loss of traditional practices and culture.⁹⁸ Supplementary feeding is also associated with changing animal behaviour, higher rates of disease and health issues among the reindeer due to higher animal density, stress, lower immune systems, poorer hygiene and digestive systems that have not adapted to artificial products.⁹⁹ Sámi reindeer herders and researchers have noted that supplementary feeding is not a long-term solution to increasingly difficult grazing conditions and threatens intergenerational transfer of culture and traditional knowledge.¹⁰⁰

In some cases, adaptation to climate impacts can include the use of alternative grazing areas, but these are tightly regulated and are increasingly difficult to find due to competing land use related to infrastructure, extractive industries, farming, tourism and wind power developments.¹⁰¹ Adaptation measures for reindeer herding will require greater flexibility in land use and more available land. Current land use policy does not appear to enable such a development.

Projected Changes to Temperature, Snow Cover and Precipitation in Finnmarksvidda and Trøndelag by 2100 Compared to 1971-2000

- Under the **lowest emissions scenario** (RCP2.6), annual average temperature will increase by 2.3°C in Finnmarksvidda and by 1.4°C in Trøndelag. Precipitation and snow cover data is limited for this scenario.
- Under an **intermediate emissions scenario** (RCP4.5), annual average temperature in Finnmarksvidda will increase by 4.5°C, precipitation will increase by 13% and snow cover duration will decrease by 1-2 months. Annual average temperature in Trøndelag will increase by 2.6°C, precipitation will increase by 11% and snow cover duration will decrease by 2-3 months.
- Under the **highest emissions scenario** (RCP8.5), annual average temperature in Finnmarksvidda will increase by 6.7°C, precipitation will increase by 22% and snow cover duration will decrease by 2-3 months. Annual average temperature in Trøndelag will increase by 4.5°C, precipitation will increase by 21% and snow cover duration will decrease by 3-4 months.

Figures and additional analysis provided by the Norwegian Meteorological Institute, based on data from "Klima i Norge 2100" (2015).

⁹⁸ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 1868 (With additional references such as: Furberg et al., 2011; Löf, 2013; Rosqvist et al., 2021; Lawrence and Kløcker Larsen, 2019; Tryland et al., 2019; Johnsen et al., "Leaving no one behind").

⁹⁹ Svein Morten Eilertsen, "Fôring av reinsdyr – og fôringsrelaterte sykdommer [Feeding of reindeer and related diseases]" *NIBIO POP* 8, no. 4 (2022); Morten Tryland et al., "Infectious Disease Outbreak Associated With Supplementary Feeding of Semi-domesticated Reindeer" *Frontiers in Veterinary Science* 6 (2019); Johnsen et al., "Leaving no one behind".

¹⁰⁰ Tim Horstkotte et al., *Supplementary feeding in reindeer husbandry: Results from a workshop with reindeer herders and researchers from Norway, Sweden and Finland* (Umeå University, 2020); Johnsen et al., "Leaving no one behind".

¹⁰¹ Riseth and Tømmervik, 2017, p. 3; Johnsen et al. "Leaving no one behind".

Moreover, the IPCC notes that “adaptation limits are being approached” for reindeer herding in the Arctic due to the speed of climate change, the narrow resource base on which Indigenous Peoples rely and the risk of “maladaptation” involving loss of culture and livelihoods.¹⁰² This is supported by research which indicates that the adaptation options for Sámi reindeer herding are increasingly limited, primarily due to accumulated pressure of predation and competing land-uses in combination with herders’ lack of influence in governance and decision-making.¹⁰³ Whether and how soon these limits are reached depends largely on the course of future GHG emissions and access to alternative grazing areas, but will likely vary between different regions in the Arctic.

6.2.2 Sámi Fishing

According to the IPCC, the cumulative effects of warming, sea ice loss, ocean acidification, habitat loss and species competition will lead to substantial range contrac-

tion and even extinction of several saltwater and freshwater fish species in the Arctic by the end of the century if global warming exceeds 1.5°C.¹⁰⁴ The extent of these changes will vary across the Arctic region, and not all will be relevant to Sámi fishing in Norway.

In the Nordic seas and coastal areas, boreal/subarctic fish species are expected to continue their northward expansion, while Arctic fish species will continue retracting due to higher competition and predation, loss of spawning habitat and shelter, increased predatory pressure, reduced prey availability, and impaired growth and reproductive success.¹⁰⁵

While there may be some short-term benefits for fisheries from the northward expansion of species, the long-term viability of commercial and subsistence fishing faces significant threats.¹⁰⁶ According to the IPCC, while high latitude fisheries have historically been resilient to climate variability, “the

¹⁰² IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2348 and 2351, CCP6.3.2.3 and Table CCP6.6; IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* para. C.4 and C.4.3 para. C.4 and C.4.

¹⁰³ Jaakkola et al., 2018, p. 401 and 410; Saami Council, 2023, p. 96-98; Annette Löf, “Examining limits and barriers to climate change adaptation in an Indigenous reindeer herding community” *Climate and Development* 5, no. 4 (2013); Wilbert van Rooij et al., “Loss of Reindeer Grazing Land in Finnmark, Norway, and Effects on Biodiversity: GLOBIO3 as Decision Support Tool at Arctic Local Level” In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

¹⁰⁴ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2321; IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 202; Saami Council, p. 55.

¹⁰⁵ Geir Ottersen et al., “Observed and expected future impacts of climate change on marine environment and ecosystems in the Nordic region” (Institute of Marine Research, 2023), ch. 10.

¹⁰⁶ Saami Council, p. 57; IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, ch. 2 and Table CCP6.2 (Arctic fish) at p. 2327; AMAP, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, p. 115, 117.

future of commercial fisheries in Arctic regions is uncertain”.¹⁰⁷

Cold-adapted Arctic fish species such as Polar cod, Atlantic salmon, Arctic Grayling, whitefish and Arctic char are particularly threatened.¹⁰⁸ One study predicts that Arctic char will lose 73% of its range in Sweden by 2100.¹⁰⁹ The IPCC notes that “cold-adapted Arctic fish species such as Polar cod are expected to decline further and lose spawning habitats at global warming levels over 1.5°C”, which may cause structural reorganisation of the Arctic food web in the future.¹¹⁰

While a recent study suggests that increasing ocean temperatures alone are unlikely to make the Norwegian coastal zone an unsuitable habitat for Atlantic salmon, there are uncertainties concerning the effects of warming freshwater, competition from new species such as pink salmon and increased sea lice.¹¹¹ The Norwegian government has noted that larger quantities of pink salmon might have negative effects for Atlantic salmon in certain areas.¹¹²

Overall, “Arctic marine ecosystems are facing cascading impacts and feedbacks

Projected Changes to Sea Surface Temperature in the Coastal Areas of the Barents Sea and Norwegian Sea by 2100 Compared to 2015 in March

- Under the **lowest emissions scenario** (SSP1-2.6), sea surface temperature will decrease by 0.4°C in the coastal parts of the Barents Sea and by 0.3°C in the coastal parts of the Norwegian Sea.
- Under an **intermediate emissions scenario** (SSP2-4.5), sea surface temperature will increase by 0.8°C in the coastal parts of the Barents Sea and by 0.3°C in the coastal parts of the Norwegian Sea.
- Under the **highest emissions scenario** (SSP5-8.5), sea surface temperature will increase by 2.2°C in the coastal parts of the Barents Sea and by 1.2°C in the coastal parts of the Norwegian Sea.

Source: Anne Britt Sandø, “Risikoanalyse for de norske havområdene om direkte og indirekte virkninger av klimaendringer på marine økosystemer under ulike utslippsscenarioer” [Risk analysis for the Norwegian sea areas on direct and indirect effects of climate change on marine ecosystems under various emission scenarios] (Institute of Marine Research, 2022) table 1.

from global warming”.¹¹³ These impacts will have varying consequences for different populations and industries, but will particularly impact Arctic Indigenous Peoples,

¹⁰⁷ IPCC, *Special Report on the Ocean and Cryosphere in a Changing Climate*, 2019, ch. 3.2.4.1.1 Fisheries – Arctic.

¹⁰⁸ Ibid; Saami Council, pp. 42 and 54.

¹⁰⁹ Catherine Hein et al., “Future Distribution of Arctic Char *Salvelinus alpinus* in Sweden under Climate Change: Effects of Temperature, Lake Size and Species Interactions” *Ambio* 41, no. 3 (2012).

¹¹⁰ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2328 and 2330.

¹¹¹ Trond Kristiansen et al., *Klimapåvirkning på viktige kystvannsarter [Climate impact on important coastal water species]* (Norwegian Institute for Water Research - NIVA, 2022) p. 64.

¹¹² Meld. St. 26. (2022-2023), p. 21 box 3.6.

¹¹³ AMAP, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, p. 117.

whose cultures and traditional livelihoods are closely connected to fishing.¹¹⁴

6.2.3 Sámi Health

Climate change is also projected to increase both physical and mental health risks in the Arctic in the future,¹¹⁵ particularly in relation to increased food insecurity, waterborne diseases, emerging pathogens, injury and death, and negative mental health outcomes.¹¹⁶

Globally, climate change is expected to increase rates of adverse mental health impacts.¹¹⁷ This is concerning given that Sámi people are already at greater risk of experiencing psychological distress. As is the case for Sámi reindeer herding and fishing, the severity of future negative effects depends on the course of future GHG emissions. The IPCC notes that there are limited adaptation measures that effec-

tively reduce climate-related health risks in the Arctic.¹¹⁸

As climate change affects the timing of seasons and the geographic expansion of different species, there are increased opportunities for diseases to spread from wildlife to humans in the Arctic, including for example anthrax and tularemia (rabbit fever).¹¹⁹ The increased risk of disease transmission applies to both traditional food sources and drinking water in the Arctic.¹²⁰

The IPCC, along with the European Space Agency and NASA have expressed concern that “rapidly thawing permafrost in the Arctic has the potential to release antibiotic-resistant bacteria [and] undiscovered viruses”.¹²¹ In 2016 for example, extreme temperatures and thawing permafrost in Siberia led to the release of anthrax spores from frozen animal remains, hospitalising 72 nomadic herders, killing one child and

¹¹⁴ Ibid.

¹¹⁵ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2340.

¹¹⁶ Ibid, Table CCP6.6.

¹¹⁷ IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability*, 2022, p. 1098.

¹¹⁸ Ibid, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, p. 2340 and 2350.

¹¹⁹ Saami Council, p. 54; IPCC. *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers* TS.B.5.8; Yan Ma et al., “Potential for Hydroclimatically Driven Shifts in Infectious Disease Outbreaks: The Case of Tularemia in High-Latitude Regions” *International Journal of Environmental Research and Public Health* 16, no. 19 (2019).

¹²⁰ Saami Council Report, p. 51; AMAP, *Arctic Climate Change Update 2021: Key Trends and Impacts*, 2021, Chapter 7; IPCC, *AR6 WGII Impacts, Adaptation and Vulnerability: Cross-Chapter Paper 6*, 2022, ch. CCP6.2.6.

¹²¹ The European Space Agency, *Permafrost thaw could release bacteria and viruses*, 22 October 2021, https://www.esa.int/Applications/Observing_the_Earth/Permafrost_thaw_could_release_bacteria_and_viruses; Kimberley R. Miner et al., “Emergent biogeochemical risks from Arctic permafrost degradation” *Nature Climate Change* 11 (2021).

over 2,300 reindeer.¹²² Threats to human health from microbial pathogens in thawing permafrost are generally considered low, but are projected to increase with climate change.¹²³ There is approximately 13000 km² of permafrost in the peatlands of Finnmarksvidda and the mountainous areas of Southern Norway, which is projected to thaw at an accelerated rate if global warming exceeds 1.5°C.¹²⁴ The associated threats to human health in Norway are unclear.

¹²² Alec Luhn, "Anthrax outbreak triggered by climate change kills boy in Arctic Circle", *The Guardian*, 1 August 2016, <https://www.theguardian.com/world/2016/aug/01/anthrax-outbreak-climate-change-arctic-circle-russia>.

¹²³ Ruonan Wu et al., "Permafrost as a potential pathogen reservoir" *One Earth* 5, no. 4 (2022).

¹²⁴ Kjersti Gislås et al., "Permafrost Map for Norway, Sweden and Finland", *Permafrost Periglacial Processes* 28, no. 2 (2017); Norwegian Meteorological Institute, *Cryo: Permafrost real-time monitoring*, available at: <https://cryo.met.no/en/permafrost>; Inger Hanssen-Bauer, "Climate in Norway 2100 – a knowledge base for climate adaptation" (Norwegian Meteorological Institute, 2017), chapter 5; Kjersti Gislås et al., "CryoGRID 1.0: Permafrost Distribution in Norway estimated by a Spatial Numerical Model" *Permafrost Periglacial Processes* 24, no. 1 (2013); JeSámme Bartlett et al., "Carbon storage in Norwegian ecosystems" (Norwegian Institute for Nature Research, Report 1774b, 2020), p. 23; Jan-Olof Selroos et al., "Permafrost Thaw with Thermokarst Wetland-Lake and Societal-Health Risks: Dependence on Local Soil Conditions under Large-Scale Warming" *Water* 11, no. 3 (2019); Gunn Kristin Tjøflot, "Permafrost in the Arctic can thaw faster than presumed", *Science Norway*, 7 June 2020 <https://partner.sciencenorway.no/climate-environment-geology/permafrost-in-the-arctic-can-thaw-faster-than-presumed/1692079>.

7. Protection of Indigenous rights under the ICCPR

7.1 Introduction

Several human rights conventions are relevant to Indigenous Peoples' rights. However, Article 27 of the ICCPR is the most important provision pertaining to the protection of Indigenous Peoples' cultural practices.¹²⁵ Article 17 of the ICCPR concerning the right to privacy, family and home is also relevant. These two rights are key for the discussions in this report.

The UN Human Rights Committee (HRC) is established to monitor State compliance with the ICCPR and to interpret the convention and can consider complaints alleging violations of the Convention from individuals in States that have ratified its First Optional Protocol. National courts may also interpret and enforce the rights set out in the ICCPR, depending on its legal status within the country's domestic legal system.

Article 27 of the ICCPR

In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language.

The ICCPR is incorporated into the Norwegian Human Rights Act and has precedence over other domestic legislation in the event of a conflict.¹²⁶ General comments and findings in individual cases from the HRC are not in themselves legally binding on Convention States. Nonetheless, the HRC statements on the interpretation of the ICCPR generally carry "significant weight" in Norwegian courts, depending on how well the interpretations are anchored in the text of the Convention and on whether they express

¹²⁵ Article 27 is also mirrored in the UN Convention on the Rights of the Child, ensuring the cultural rights of indigenous children, see CRC Article 30.

¹²⁶ As an international treaty, the ICCPR is interpreted in accordance with Articles 31-33 of the Vienna Convention on the Law of Treaties (VCLT). This means that the terms of the treaty are interpreted in accordance with their ordinary meaning, in their context and in the light of their object and purpose.

The Fosen Case, Supreme Court of Norway, 11 October 2021

Facts: In 2013, the operators received license and expropriation permission from the Ministry of Petroleum and Energy to construct four wind power plants, including Roan and Storheia, in an area used by the Sámi reindeer herders of the Sør-Fosen sijte and Nord-Fosen sijte. The Sámi reindeer herders claimed that the wind turbines limited their access to important winter grazing areas, interfering with their culture and traditional livelihoods. The two plants became operational in 2019 and 2020, respectively.

Key Issues: Whether the wind power development violated the reindeer herders' right to enjoy their culture under ICCPR Article 27 and whether sufficient remedial measures had been implemented.

Decision: The Grand Chamber of the Supreme Court unanimously found that the construction of the wind power plants covering 60km² had a substantive negative effect on the reindeer herders' possibility to enjoy their culture. This was particularly due to the loss of winter grazing areas and its negative effect on the reindeer herders' economy, seen in conjunction with the vulnerability of the South Sámi culture. In the absence of satisfactory remedial measures, the Court held that the interference amounted to a violation of ICCPR Article 27. The wind power licence and the expropriation decision were deemed invalid.

In December 2023, a settlement containing remedial measures including access to alternative land areas and economic compensation was reached between the Sør-Fosen sijte and the wind power company. The settlement was considered by the parties to end the human rights violation for Sør-Fosen sijte. For Nord-Fosen sijte, the human rights violation was still ongoing per February 2024.

legally binding obligations, or whether they are only recommendations of best practices.¹²⁷ A recent decision by the HRC concerning the application of the ICCPR in the context of climate change and Indigenous Peoples (*Daniel Billy et al. v. Australia*) is thus relevant. The Norwegian Supreme Court often relies on the jurisprudence from the HRC when interpreting the ICCPR. One recent example of this is the use of cases from the HRC in the judgment

from the Norwegian Supreme Court pertaining to ICCPR Article 27 in the *Fosen* case.

There are also other instruments that are important to protect the human rights of Indigenous Peoples. The UN Declaration on the Rights of Indigenous Peoples (UNDRIP), although not in itself legally binding, to a large extent reflects binding conventional and customary law and is thus of considerable legal significance. The Norwegian

¹²⁷ Rt-2008-1764 para. 81, HR-2017-2428-A (Sara), para. 57, cf. HR-2017-2247-A (Reinøya), para. 119, and HR-2021-1975-S (Fosen), para. 102.

Supreme Court, in a judgment from 2018, asserts that the UNDRIP is a key Indigenous rights instrument, and that it reflects international law, including ILO Convention 169.¹²⁸ The UNDRIP may also shed light on the interpretation of the legal obligations under the ICCPR and is referred to by the HRC in its reasoning.¹²⁹

7.2 Positive and negative obligations

ICCPR Article 17 establishes both a negative obligation on States to refrain from disproportionate interference with private and family life, and a *positive obligation* to adopt measures to ensure the implementation of the right, inter alia “when environmental damage threatens disruption to privacy, family and the home”.¹³⁰ For the purposes of ICCPR Article 17, private and family life encompasses both physical and psychological integrity.¹³¹

ICCPR Article 27 protects the cultural practices of minorities. Indigenous Peoples,

including the Sámi people, are a minority within the meaning of ICCPR Article 27. Traditional use of land, and Sámi reindeer herding, fishing and hunting, are protected as cultural practices by this provision if they are an “essential element of the culture”.¹³² While Article 27 grants *individual* rights, it may also be invoked by *groups of individuals*, because individuals “depend in turn on the ability of the minority group to maintain” its culture.¹³³

ICCPR Article 27 entails a *negative obligation* on States to refrain from certain interferences in Indigenous areas and cultural practices. In line with the interpretations of the HRC, the Norwegian Supreme Court held in the *Fosen* case that Article 27 will be violated if “[an] interference has a substantive, negative impact on the possibility of cultural enjoyment”.¹³⁴

The cumulative effect of the interference in question combined with the effects of other

¹²⁸ HR-2018-456-P (Nesseby), para. 97.

¹²⁹ See for example *Daniel Billy et al. v. Australia*, (CCPR/C/135/D/3624/2019) para. 8.13. Articles 11, 12, 13, 25 and 29 of the UNDRIP, which recognise, among other things, Indigenous Peoples’ rights to practice and transmit to future generations their cultural and spiritual traditions, customs, histories, languages and their distinctive spiritual relationship with their lands, territories, waters and resources.

¹³⁰ *Daniel Billy et al. v. Australia*, paras 8.9, 8.10.

¹³¹ *Ibid*; *Portillo Cáceres v. Paraguay*, (CCPR/C/126/D/2751/2016) para 7.8. See *mutatis mutandis*, *Sacchi et al. v. Germany* (dec.), 22.09.2021, CRC/C/88/D/107/2019 para 9.13 regarding the Optional Protocol to the Convention on the Rights of the Child on a communications procedure 19.11.2011 Article 5.

¹³² E.g. HRC, *General Comment No. 23* (CCPR/C/21/Rev.1/Add.5) para. 7; HRC, *Kitok v Sweden*, (CCPR/C/33/D/197/1985) paras. 9.6, 9.8. HRC *Poma Poma v. Peru* (CCPR/C/95/D/1457/2006) paras. 7.2–7.4; *Aapirana Mahuika et al. v. New Zealand*, (CCPR/C/70/D/547/1993).

¹³³ *Daniel Billy et al. v. Australia*, para. 8.14; HR-2021-1975-S paras. 103–110. Further, see Norwegian National Human Rights Institution (NIM). Human Rights Protection against Interference in Traditional Sámi Areas, 2022 pp. 25-26.

¹³⁴ HR-2021-1975-S para 129. Article 27 may nevertheless be subject to derogation, see ICCPR Article 4.

interferences, both previous and planned, may together constitute a violation.¹³⁵ Remedial measures may nevertheless keep the interference below the threshold for violation by, for example, compensating for lost income or allocating other lands to the protected minority.¹³⁶

ICCPR Article 27 is negatively formulated, and states that the minorities covered by the provision “shall not be denied” their rights. However, it also speaks of “the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language”. The wording of Article 27 thus covers not only the negative right, but also implicitly refers to a positive obligation for the State. The HRC has assumed that this right must be protected, also through active actions on the part of the State.¹³⁷ This means that States must not only refrain from interfering with the right but are also obliged to take positive measures to ensure it, including through legislative or administrative measures. According to the HRC, the positive obligation “is directed to ensure the survival and

continued development of the cultural, religious and social identity of the minorities concerned”.¹³⁸

In the context of climate change, the HRC has considered positive measures necessary to protect Indigenous Peoples’ “collective ability to maintain their traditional way of life, to transmit to their children and future generations their culture and traditions and use of land”.¹³⁹ In practice, it can be difficult to distinguish between positive and negative human rights obligations as they often overlap.¹⁴⁰

7.3 Participation in decision-making and consultation

The ICCPR Article 27 also entails a right for minorities to effectively participate in decision-making processes that may affect them. According to the HRC and the Norwegian Supreme Court, the extent of effective participation is an element in the overall assessment of whether the authorities have violated Article 27.¹⁴¹ This right is further reflected in the provisions on consultation and effective participation and in the provisions on consultation and free, prior and informed

¹³⁵ HR-2021-1975-S, para 119.

¹³⁶ *Lubicon Lake Band v. Canada* (No. 167/1984) paras. 33, 24.1, 29.10.

¹³⁷ HRC, *General Comment no. 23*, para. 6.1. See also the Norwegian Supreme Court, HR-2017-2428-A (Sara), para. 58 cf. 59.

¹³⁸ HRC, *General Comment No. 23*, para 9.

¹³⁹ *Daniel Billy et al. v. Australia*, para. 8.14. This element also forms a central part of the corresponding right to culture for children under the Convention on the Rights of the Child Article 30 and UNDRIP Articles 13 and 25.

¹⁴⁰ See for example, Wibye, “Beyond Acts and Omissions – Distinguishing Positive and Negative Duties at the European Court of Human Rights” *Human rights Review* 23 (2022).

¹⁴¹ HRC, *Apirana Mahuika et al. v New Zealand* (CCPR/C/70/D/547/1993) para 9.8; HRC, *Poma Poma v. Peru* (CCPR/C/95/D/1457/2006), para. 7; HR-2017-2247-A (Reinøya), para. 121, cf. HR-2017-2428-A (Sara), paras. 72 and 89, see also HR-2021-1975-S (Fosen), paras. 120-123

consent (FPIC) in ILO Convention 169 and the UNDRIP.¹⁴² Consultation, effective participation and FPIC can provide important guidelines for the interpretation of provisions in the ICCPR.

One important backdrop for these rights is ICCPR Article 1 on self-determination. In several cases, the HRC has pointed out that this right can be relevant to the interpretation of other articles in the ICCPR, including Article 27.¹⁴³

Both ILO 169 and the UNDRIP contain several provisions that more explicitly impose an obligation on States to consult. ILO 169 Article 6 is the most specific and legally binding. Under Article 6, States shall “consult the peoples concerned, through appropriate procedures and in particular through their representative institutions, whenever consideration is being given to legislative or administrative measures which may affect them directly”. Moreover, “consultations shall be undertaken in good faith, and in a form appropriate to the circumstances, with the objective of achieving agreement or consent to the proposed measures.” The UNDRIP Article 19 has a similar content, “States shall consult and cooperate in good faith with the Indigenous Peoples concerned through their own representative

institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.”

ILO 169 Article 7 recognises Indigenous Peoples’ right to participate in decision-making processes and to adopt their own priorities in matters that directly concern them. Article 15 contains rules on the right of Indigenous Peoples to participate in the use and management of natural resources and to be consulted in connection with plans to exploit natural resources in their traditional areas.

These provisions specify that the consultations must be undertaken in good faith and hence organised in such a way that they may facilitate reaching agreement or consent. Indigenous Peoples must have an actual opportunity to influence the process. It is, however, not an absolute requirement that the Indigenous Peoples’ prior consent must be obtained before a project is implemented, except when a measure may lead to “relocation”.

ILO 169 Article 16 and UNDRIP Article 10 specify when free, prior and informed consent is required. ILO 169 Article 16 stipulates that Indigenous Peoples shall not be

¹⁴² ILO Convention 169 Articles 6, 7, 15, 16 and UNDRIP Article 10, 19.

¹⁴³ HRC, *Apirana Mahuika et al. v New Zealand* (Communication No. 547/1993), para. 9.2, HRC, *Diergaardt et al. v Namibia* (Communication No. 760/1997), para. 10.3. The HRC has observed that ICCPR Article 27, interpreted in the light of the UNDRIP and ICCPR Article 1 on self-determination, gives indigenous peoples a fundamental right to “freely determine their political status and freely pursue their economic, social and cultural development”. HRC, *Sanila-Aikio v Finland* (Communication No. 2668/2015), para. 6.8 cf. and HRC, *Klemetti Näkkäläjärvi et al. v Finland* (Communication No. 2950/2017), para. 9.8. The Committee also referred to its General Comment 12 on Article 1.

forcibly removed from their areas. The provision further states that if “relocation” (resettlement) of such persons is nevertheless deemed strictly necessary, this can only happen with the group’s free, prior and informed consent. Moreover, if consent cannot be obtained, such relocation “... shall take place only following appropriate procedures established by national laws and regulations, including public inquiries where appropriate, which provide the opportunity for effective representation of the peoples concerned”. Article 10 of the UNDRIP confirms that Indigenous Peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the affected Indigenous Peoples, in accordance with a compensation agreement, and if possible, the group shall be allowed to return.¹⁴⁴

In Norway, the right to consultation is enshrined in the Sámi Act Chapter 4, which *inter alia* states that legislation, regulations and other decisions or measures that may affect Sámi interests directly must be subject to consultations, except for matters of a general character which can be assumed to affect the whole society in the same way. A duty to consult may also apply to laws, regulations, decisions and other measures concerning climate change.

Disagreements may arise regarding when the duty to consult takes effect. In the pre-

paratory work for the Norwegian consultation provisions, it is stated that the threshold for the consultation obligation to take effect is low.¹⁴⁵ A key purpose of consultations is to assess the potential impact, and for that reason, a high entry threshold could counteract this purpose. It is therefore important to have early dialogue so that relevant issues are illuminated as early as possible.

¹⁴⁴ The main reason for this is the fact that ILO 169 (art. 1 (3)) does not take a position on indigenous peoples right to self-determination, whereas UNDRIP (art. 3 and 4) does.

¹⁴⁵ Prop.86 L (2020-2021) Endringer i sameloven, p. 71.

8. Obligations to protect Indigenous Peoples from the effects of climate change

Climate change threatens the effective enjoyment of a whole range of human rights for all, including the rights to life, private life and home, health, property and culture. Indigenous Peoples are among the groups whose human rights are particularly vulnerable to climate change.

There is internationally no legally binding right to a healthy environment as such under UN human rights treaties or the European Convention on Human Rights (ECHR). However, in 2022, 161 UN Member States acknowledged in a non-binding UN resolution that climate change “constitute [one] of the most pressing and serious threats to the ability of present and future generations to effectively enjoy all human rights”.¹⁴⁶ Over 110 States recognise a legally binding right to a safe, clean, healthy and sustainable environment in their domestic legislation.¹⁴⁷

In Norway, Article 112 of the Constitution grants the right to a healthy environment.

This report focuses on Indigenous Peoples’ rights that may be disproportionately impacted by climate change, particularly the right to private life and home under ICCPR Article 17 and the right to culture under ICCPR Article 27. The interpretation of ICCPR Article 17 may be relevant to the corresponding right under ECHR Article 8, which also protects against certain environmental threats, and arguably aspects of

¹⁴⁶ A/76/L.75 preamble rec. 13.

¹⁴⁷ See *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, Right to a healthy environment: good practices*, A/HRC/43/53 30.12.2019 para 10.

Indigenous Peoples' cultures and traditional livelihoods.¹⁴⁸

In the following sections, we first discuss how the HRC has considered the applicability of, and positive obligations under, ICCPR Articles 17 and 27 in previous environmental and climate cases. Against this backdrop, we analyse whether the Norwegian State has a positive obligation to protect the Sámi people from climate change under Articles 17 and 27, and whether that might entail an obligation to reduce GHG emissions (mitigation) and facilitate adjustment to existing or unpreventable impacts (adaptation).

8.1 Existing HRC decisions on environmental harm

In its General Comment no. 36, the HRC defines environmental degradation and climate change as “some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life”.¹⁴⁹ Accordingly, States have an obligation to take “appropriate measures” to “preserve the environment and protect it against harm, pollution and climate change caused by public and private actors” and to “pay due regard to the precautionary approach”.¹⁵⁰ The Committee has also clarified

The Paris Agreement

The Paris Agreement is an international treaty signed by most of the parties to the UNFCCC in which States agree to “pursue efforts to” limit global warming to 1.5°C or at most 2°C above pre-industrial levels in order to significantly reduce the impacts of climate change for humans and ecosystems. To do so, Parties aim to achieve a balance between emissions and removal by carbon sinks in the second half of this century (net zero by 2050). Under Article 4, each State Party must submit “Nationally Determined Contributions” (NDCs) every five years outlining its intended mitigation and adaptation measures. NDCs must represent a progression from the State’s previous NDC and reflect its “highest possible ambition”.

fied that the right to life should be interpreted in light of international environmental law, which presumably includes the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement.¹⁵¹ This is consistent with the approach of the European Court of Human Rights (ECtHR) and the Inter-American Court of Human Rights, which also interpret their conventions in light of *inter alia* the precautionary principle.¹⁵²

¹⁴⁸ Council of Europe, *Manual on Human Rights and the Environment (3rd edition)*, February 2022. In a Sámi and climate change context, see for example discussions in Nordlander, Linnéa, “Litigating climate change in the Arctic: the potential of Sámi human rights claims” in *Journal of Human Rights and the Environment*, Vol. 13 no. 2 pp. 415-440.

¹⁴⁹ HRC, *General comment No. 36 on article 6: right to life* (CCPR/C/GC/36) paras. 26 and 62.

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*

¹⁵² Under ECHR Article 8, see *Tătar c. Roumanie* (67021/01) 27.1.2009 §§ 109, 112, 120 and ECHR, *Guide on case-law of the Convention – Environment*, 31.8.2022 p. 85. Under the right to life and private life in the Inter-American Convention on Human Rights, see *Advisory Opinion OC/17*, 15.11.2017, para 180.

States' human rights obligations concerning *pollution* and *climate change* both pertain to environmental harm. Both pollution and climate change are caused by activities which to a large extent are controlled by the State through domestic regulations, licensing and approval processes. The human rights impacts of pollution and climate change are therefore similar, including the impacts on Indigenous Peoples' rights to life, health and culture.

In individual cases, the HRC has interpreted ICCPR Articles 6, 17 and 27 as requiring States to avoid "real" or "serious" and "reasonably foreseeable" threats to these rights from environmental harm.¹⁵³ This resembles the applicability test under ECHR Articles 2 and 8.¹⁵⁴ With regard to the content of this obligation, the HRC has required States to adopt the "appropriate", "adequate" or "necessary" positive measures to ensure the "effective exercise" of the right in question.¹⁵⁵

The HRC has dealt with two cases concerning local pollution. In the first case, *Portillo Cáceres v. Paraguay*, the HRC found that pollution from toxic agrochemicals posed a reasonably foreseeable threat to the authors' lives.¹⁵⁶ The Committee observed

The Precautionary Principle

The UNFCCC is an international treaty to which Norway and 197 other States are a party that aims to stabilise GHG concentrations "at a level that would prevent dangerous anthropogenic [human induced] interference with the climate system". According to Article 3.3, States Parties "should take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures."

The broad inclusion of the precautionary principle in various international conventions allows "a strong argument to be made that it reflects a principle of customary law, and that within the context of the European Union it has not achieved customary status, without prejudice to the precise consequences of its application in any given case", see Sands et al, *Principles of International Environmental Law*, Fourth Edition Cambridge University Press 2018, pp. 239-240. In Norway, it is included in Nature Diversity Act section 9.

that States have an obligation under ICCPR Articles 6 and 17 to adopt positive measures to protect and ensure the effective

¹⁵³ *Daniel Billy et al. v. Australia* para 8.3, 8.6, 8.9, 8.14; *Portillo Cáceres v. Paraguay* para. 7.5, 7.8; *Benito Oliveira et al. v. Paraguay*, (CCPR/C/132/D/2552/2015), 21 September 2022, para 8.8 ("the large-scale fumigation with toxic agrochemicals presents a threat which the State party could reasonably have foreseen"); General comment no. 16 on article 17 (1988), paras. 1 and 9. See also *Teitiota v. New Zealand*, (CCPR/C/127/D/2728/2016) 2019 para 9.4 with further references.

¹⁵⁴ ECHR, *Guide on case-law of the Convention – Environment*, 31.8.2022 pp. 7-8, pp. 24-29.

¹⁵⁵ *Portillo Cáceres v. Paraguay* para. 7.3; *Benito Oliveira et al. v. Paraguay* para. 8.3, *Daniel Billy et al. v. Australia* paras. 8.12, 8.14.

¹⁵⁶ *Portillo Cáceres v. Paraguay* (CCPR/C/126/D/2751/2016), 20 September 2019, paras. 2.3, 7.5.

exercise of these rights by properly supervising and avoiding dangerous pollution.¹⁵⁷

In the second case, *Benito Oliveira et al. v. Paraguay*, the HRC found that large-scale fumigation with toxic agrochemicals had contaminated waterways, food sources and natural resources, posing a reasonably foreseeable threat to the Campo Agua'e Indigenous community's health, culture and means of subsistence. The State was aware of this threat, but still failed to monitor and take steps to provide protection, which constituted a violation of ICCPR Articles 17 and 27.¹⁵⁸

The HRC has also dealt with two cases concerning climate change. In the first case, *Teitiota v. New Zealand*, the Committee considered whether New Zealand's decision to reject an asylum application from a citizen of Kiribati in the Pacific Ocean violated the *non-refoulement* obligation under Article 6. The individual applied for asylum because of rising sea levels in his home country, arguing, among other things, that sea level rise had led to a lack of clean drinking water and opportunities to obtain food. While the Committee did not find a violation in this case, it noted that "without robust national and international efforts, the effects of climate change in receiving States may expose individuals to a violation of their

rights [...] thereby triggering the non-refoulement obligations of sending States".¹⁵⁹

In its second climate case, *Daniel Billy et al. v. Australia*, the HRC found that Australia had violated its obligation under ICCPR Articles 17 and 27 to protect the Indigenous Torres Strait Islander people and their culture from the foreseeable threats of climate change. This was because rising sea levels, flooding and ocean acidification had already threatened homes and ancestral graveyards, eroded lands and resources used for traditional fishing, farming and cultural ceremonies, while also causing anxiety and distress.¹⁶⁰ According to the Committee, Australia had failed to "adopt timely adequate adaptation measures to protect the [Indigenous Peoples'] collective ability to maintain their traditional way of life" and transmit it "to their children and future generations", which amounted to a violation of ICCPR Articles 17 and 27.¹⁶¹

The Committee's decision was based on Australia's lack of adequate *adaptation measures*, primarily the delayed construction of seawalls.¹⁶² While the Committee referenced different *mitigation measures* taken by Australia, it did not consider their adequacy or relevance in this case. However, the majority reaffirmed that without "robust national and international efforts", climate change

¹⁵⁷ *Portillo Cáceres v. Paraguay*, paras. 7.3, 7.8.

¹⁵⁸ *Benito Oliveira et al. v. Paraguay*, paras. 8.3, 8.4, 8.5, and 8.8.

¹⁵⁹ *Teitiota v. New Zealand* para 9.11.

¹⁶⁰ *Daniel Billy et al. v. Australia*, paras. 8.12, 8.13, 8.14.

¹⁶¹ *Ibid*, para. 9.

¹⁶² *Ibid*, para 8.14.

***Daniel Billy et al. v. Australia*, UN Human Rights Committee, 23 September 2022**

Facts: A group of eight Indigenous people from the Torres Strait Islands submitted a petition against the Australian Government claiming that the effects of climate change, including sea-level rise, storm surges and ocean acidification, cause direct harm to their culture, livelihood, traditional way of life and food sources.

Key Issues: Whether Australia had violated the complainants' rights to life (Article 6), culture (Article 27), and privacy, family and home (Article 17) by failing to (a) adequately mitigate climate change through emission reductions and (b) adequately fund climate adaptation measures such as seawalls.

Decision: The Committee found that Australia's failure to adopt timely and adequate adaptation measures to protect the complainants from the adverse effects of climate change violated their rights under ICCPR Articles 17 and 27. The Committee did not consider whether Australia's mitigation measures were adequate. The Committee's majority did not find a violation of Article 6. The Committee stated that Australia should (1) provide the complainants with adequate compensation for the harm suffered; (2) begin consultations with the complainants; (3) continue implementing adaptation measures; and (4) take steps to prevent similar violations in the future. In its response to the Committee, the Australian Government has outlined several new measures to implement the decision.

Source: *Daniel Billy et al. v. Australia*, Australian Government Attorney General's Department, *Billy et al. v Australia* (3624/2019) Australian Government Response, 30.3.2023.

may expose individuals to violations of the right to life.¹⁶³ The Committee moreover required Australia to provide an effective remedy and to take steps to "prevent similar violations" (of Article 17 and 27) in the future.¹⁶⁴

In a concurring individual opinion in *Daniel Billy et al. v Australia*, one member of the Committee¹⁶⁵ noted that "it is mitigation actions which are aimed at addressing the

root cause of the problem and not just remedying the effects. If no effective mitigation actions are undertaken in a timely manner, adaptation will eventually become impossible."¹⁶⁶

8.2 Positive obligations to protect the Sámi people from the effects of climate change

8.2.1 Applicability of Articles 17 and 27

Climate change, in combination with other cumulative negative effects, has already

¹⁶³ *Daniel Billy et al. v. Australia*, para. 8.7

¹⁶⁴ *Daniel Billy et al. v. Australia*, para. 11.

¹⁶⁵ Gentian Zyberi.

¹⁶⁶ *Daniel Billy et al. v. Australia*, annex II. See also Individual opinion by Committee Member Duncan Laki Muhumuza (Annex I).

caused adverse effects on Sámi culture in Norway to the extent that the adaptive capacity in Sámi societies is strained (Chapter 6.1). Further warming poses a real, serious and reasonably foreseeable threat to the long-term sustainability of core elements of Sámi culture and identity, such as reindeer husbandry (Chapter 6.2). These risks are well-known to the Norwegian Government, which endorses the IPCC reports,¹⁶⁷ and has itself described the Sámi population as vulnerable to the effects of climate change.¹⁶⁸

ICCPR Articles 17 and 27 are therefore applicable to the “real, serious and reasonably foreseeable” threat that climate change poses to the Sámi people. The question then becomes what measures are “appropriate”, “adequate” or “necessary” to protect the Sámi people from the risks arising from climate change.¹⁶⁹

8.2.2 Mitigation of climate change through emission reductions in line with science

The HRC has neither rejected nor affirmed that States have a duty to reduce their *GHG emissions* through mitigation measures in order to protect Indigenous rights from the adverse effects of climate change. In the *Daniel Billy* decision, the HRC found that it had *jurisdiction* to consider both mitigation and adaptation measures, but it did not discuss mitigation measures further with

respect to the articles that were found to be violated.¹⁷⁰

However, the Committee has on several occasions noted that States have an obligation to take “appropriate”, “adequate” or “necessary” measures to protect the rights recognised in ICCPR Articles 6, 17 and 27 from environmental harm. Any determination of what is necessary to effectively protect the Sámi people and culture from the effects of climate change should be based on updated best available science and Indigenous Peoples’ traditional knowledge.

The relevant question is therefore whether mitigation measures are *necessary* to *adequately* protect the rights of Indigenous Peoples under ICCPR Articles 17 and 27. The following discussion is without prejudice to States’ obligation to avoid interference aimed at reducing emissions that will threaten Indigenous Peoples rights under international human rights law (discussed further in Chapter 10).

It is well established in climate science that “deep, rapid and sustained GHG emissions reductions” and a “substantial reduction in overall fossil fuel use” are necessary to avert dangerous climate change above the critical 1.5°C threshold and to secure a liveable future for all.¹⁷¹

¹⁶⁷ IPCC, *IPCC Factsheet – How does the IPCC approve reports?*, revised July 2021.

¹⁶⁸ Meld. St. 26 (2022-2023) s. 30.

¹⁶⁹ *Paraguay* Para 7.3, 7.; *Benito* para 8.3, *Billy* para 8.12, 8.14.

¹⁷⁰ *Daniel Billy*, para 7.7 and 7.8.

¹⁷¹ IPCC, *AR6 Synthesis Report: Summary for Policymakers*, 2023, pp. 18 and 28.

It is also well established in climate science that with increasing global warming, “adaptation options that are feasible and effective today will become constrained” because “human and natural systems will reach adaptation limits”.¹⁷² For example, people living on low-lying islands face hard adaptation limits if warming exceeds 1.5°C. According to the IPCC, “seawalls effectively reduce impacts” in the short-term, but “can also result in lock-ins and increase exposure to climate risks in the long-term”. This can worsen “existing inequities especially for Indigenous Peoples”.¹⁷³ This is partly because exceeding 1.5°C risks activating tipping points such as abrupt loss of Barents Sea ice and collapse of the Greenland ice sheet, which would ultimately lead to several meters of sea level rise.¹⁷⁴ It therefore follows from the IPCC’s reasoning that the culture of Indigenous Peoples on low-lying islands, such as the Torres Strait Islander people, cannot in practice be sufficiently protected in the long term unless emissions are mitigated in line with the 1.5°C target.¹⁷⁵

With regard to the Sámi people, there does not appear to exist any detailed projections on the temperature thresholds at which Sámi reindeer husbandry, fishing or other cultural practices become untenable.

However, the best available science establishes that the risks greatly accelerate if warming exceeds the critical 1.5°C limit and worsen under higher emissions scenarios. Even under a best-case emissions scenario where global temperatures are kept within the 1.5°C limit, the average temperature in Finnmarksvidda will still increase by 2.8°C. Under a worst-case emissions scenario, by 2100 the average temperature in Finnmarksvidda will increase by 6.7°C, snow cover duration will decrease by 2-3 months, there will be up to 40 more days with 0°C crossings per year and sea surface temperature along the coast in Northern Norway will increase by 2.2°C. This would be devastating for reindeer husbandry, and for cold-water species traditionally used in Sámi fishing, with associated impacts on Sámi health. Thus, in line with the precautionary principle, lack of full scientific certainty of when Sámi cultural practices become untenable should not be used as a reason for not adopting mitigation measures.

The Supreme Court of Norway has acknowledged that climate change will seriously affect Indigenous Peoples and local communities, particularly in the Arctic and Northern Norway.¹⁷⁶ Moreover, in the *Fosen* case, a wind power development

¹⁷² Ibid, p. 19.

¹⁷³ IPCC, *AR6 SYR (2023) SPM*, paras. B.4.2, B.4.3.

¹⁷⁴ McKay et al., 2022; Boers et al., “Critical slowing down suggests that the western Greenland Ice Sheet is close to a tipping point,” *Proc. Natl. Acad. Sci.* 118, no. 21 (2021).

¹⁷⁵ There is a pending domestic case before the Federal Court of Australia concerning the impacts of climate change in the Torres Strait Islands, which deals with the question of mitigation, see Federal Court of Australia, *Pabai Pabai v Commonwealth of Australia Online File*, <https://fedcourt.gov.au/services/access-to-files-and-transcripts/online-files/pabai-v-australia>.

¹⁷⁶ HR-2020-2472-P paras. 52, 55.

caused a substantive negative impact on the local Sámi reindeer herders' possibility to enjoy their culture through loss of winter pastures used for reindeer herding.¹⁷⁷ While this case concerned an industrial development, climate change also causes or exacerbates periodical losses of access to winter grazing areas due to inaccessible ice-locked pastures and insecure migration routes (see Chapter 6). As the projections above regarding snow cover loss illustrate, there will be a significant loss of winter pastures in the future if global warming exceeds 1.5°C, especially in Trøndelag, where the South-Sámi culture is already vulnerable.

In summary, based on the best available climate science, it will likely not be possible to *effectively* protect the Sámi people's rights under ICCPR Articles 17 and 27 in the long term if States do not reduce the GHG emissions within their effective control in line with the remaining carbon budget for 1.5°C.¹⁷⁸ While the precise temperature

limits for the viability of Sámi cultural practices are unclear, a precautionary approach favours that States stay within the 1.5°C limit to avoid *possible* significant and irreversible damage to Sámi culture. Although reduced emissions from one State alone will not determine the future course of climate change, it may be argued (as several national courts have done) that every State must do its part to combat climate change by reducing its own emissions,¹⁷⁹ in line with the scientific fact that "every tonne of CO₂ emissions adds to global warming".¹⁸⁰

An obligation to reduce emissions would be in line with several judgements from national courts, primarily based on the right to life and physical integrity under ECHR Articles 2 and 8 or equivalent constitutional rights.¹⁸¹ Three cases based on the same rights under the ECHR are currently pending before the Grand Chamber of the ECtHR. Thus far, there have been few cases concerning Indigenous rights and mitigation obli-

¹⁷⁷ HR-2021-1975-S para 136.

¹⁷⁸ For a discussion of which emissions that are within State's effective control, see e.g. NIM, *Grunnloven § 112 og plan for utbygging og drift av petroleumforekomster*, 18.3.2022 Chapter 3.2.5. with references to e.g. *Greenpeace Nordic et al. v. Norway*, HR-2020-2472-P (Supreme Court of Norway), 22.12.2020 para. 149 ref. para 155, see also paras 167 and 260; *Royal Dutch Shell*, ECLI:NL:RBDHA:2021:5339 (The Hague District Court), 26.05.2021, para. 4.4.19 (appealed), *Sacchi* (dec.), para 9.9.

¹⁷⁹ See e.g. *Urgenda*, paras. 5.7.1, 5.7.7-5.7.8; *Neubauer*, paras. 149, 202-204; *Notre Affaire à Tous et al. v. France*, no. 1904967, 1904968, 1904972, 1904976/4-1 (Administrative Court of Paris), 3.2.2021, para 34; *Commune de Grande-Synthe v. France* ("Grande-Synthe I"), no. 427301, (Le Council d'Etat) 19.11.2020 para 12; *Massachusetts v. EPA*, 549 U.S. 497 (Supreme Court of the United States), 2.4.2007, p. 23.

¹⁸⁰ IPCC, AR6 WGI *The Physical Science Basis: Summary for Policymakers* (SPM), 2021, para. B.2.2, pp. 19–24, 35, 41. IPCC, AR6 WGI (2021) para. 11.3.5

¹⁸¹ *Urgenda v. the Netherlands*, ECLI:NL:HR:2019:2007 (Supreme Court of the Netherlands), 20.12.2019 para. 8.3.4-5; *Neubauer* paras. 137, 154-170, interpreting the right to life and physical integrity under the German Constitution art. 2(2) in light of the parallel rights under ECHR and ECtHR case-law as requiring emission cuts; *VZW Klimaatzaak v. Belgium et al.* 2021/AR/15gs, 2022/AR/737, 2022/AR/891, (Court of Appeal Brussels) 30.11.2023 (not final).

gations.¹⁸² However, the International Court of Justice might clarify the question of a duty to mitigate emissions under the ICCPR in its pending advisory opinion on the obligation of States in respect of climate change.¹⁸³

8.2.3 Adaptation to existing or unpreventable climate change impacts

ICCPR Articles 17 and 27 entail a positive obligation on States to take “timely and adequate adaptation measures” to protect these rights from the serious negative effects caused by already incurred or unpreventable climate change.¹⁸⁴ This has already been established by the HRC in *Daniel Billy et al. v. Australia*.

In *Daniel Billy*, the State had taken “numerous actions to address adverse impacts caused by climate change” through adaptation measures. This included, among other things, an adaptation plan where 58 of the actions had been initiated or completed. These encompassed direct involvement with regional authorities with Indigenous representation on adaptation, heat mapping, installation of monitoring sites relating to tides, sea level, temperature and rainfall and

financing different adaptation projects worth billions of dollars.¹⁸⁵ The State, however, failed to explain a “delay in seawall construction” it had planned, which was crucial to protect against the damaging impacts from rising sea levels.¹⁸⁶ The Australian Government and the Queensland State Government committed \$24 million AUD in 2013/14 for the construction of seawalls on four islands in the Torres Strait. However, all this funding was used to construct a seawall on just one of the islands in 2017, leaving the other islands without protection. At the time of the Committee’s decision there had therefore been a ten-year construction delay for the remaining islands.¹⁸⁷

The UN Committee on the Rights of the Child, interpreting the right for indigenous children to culture under CRC Article 30,¹⁸⁸ has also highlighted that States “must undertake measures to meaningfully engage with Indigenous children and their families in responding to environmental harm, including harm caused by climate change, taking due account of and integrating concepts from Indigenous cultures and

¹⁸² But see e.g. *Waratah Coal Pty Ltd v Youth Verdict et al.* (No 6) [2022] QLC 21, 25.11.2022 paras 40-46, paras. 1521-1536, 1566-1568.

¹⁸³ UN General Assembly, *Resolution 77/276*, 29 March 2023.

¹⁸⁴ *Daniel Billy et al. v. Australia*, paras. 8.12 and 8.14.

¹⁸⁵ *Daniel Billy*, para. 8.11.

¹⁸⁶ *Ibid*, para. 8.12.

¹⁸⁷ Joanne Etherton et al., *Communication to the UN Human Rights Committee in Daniel Billy et al. v. Australia*, 13 May 2019, paras. 91-95, available at www.climatecasechart.com.

¹⁸⁸ In General Comment no. 11, the UN CRC underlined the linkage between CRC art. 30 and art. 27 of the ICCPR and referred to interpretations from the Human Rights Committee, see CRC/C/GC/11 para 16 and 17.

traditional knowledge in mitigation and adaptation measures”.¹⁸⁹

If the HRC’s reasoning in *Daniel Billy* is applied to the Sámi context, the relevant question is which “timely adequate adaptation measures” are necessary to protect the Sámi’s “collective ability to maintain their traditional way of life” and transmit it “to their children and future generations”.¹⁹⁰ The Sámi people should take an active part in such discussions, so that their knowledge of adaptation measures and their views on how to maintain their culture for future generations are taken into account.

According to the IPCC, the most important adaptation measures for Sámi reindeer husbandry include protecting grazing lands and ensuring flexibility in access to alternative winter pasture areas that might be less exposed to an unstable climate and snow-on-ice events.¹⁹¹ This is supported by research which indicates that inflexible regulatory approaches to land-use planning and

crisis responses, and a disregard for traditional knowledge in the management of reindeer husbandry, make it difficult for Sámi reindeer herders to adapt to climate change.¹⁹² Similarly, a lack of flexibility in fishing regulations, management policies and quota systems makes it difficult for Sámi fisheries to adapt to climate change.¹⁹³

According to the IPCC, “Indigenous knowledge and local knowledge can provide important understanding for acting effectively on climate risk and can help diversify knowledge that may enrich adaptation policy and practice.”¹⁹⁴ This is supported by a vast body of research which indicates that Indigenous Peoples’ traditional knowledges increase the effectiveness, sustainability and equity of adaptation measures.¹⁹⁵

A more comprehensive discussion of adaptation for Sámi reindeer husbandry, fishing and health, and the role of traditional knowledge in adaptation measures, can be

¹⁸⁹ CRC/C/GC/26 para 58.

¹⁹⁰ Ibid.

¹⁹¹ IPCC AR6, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, Tables CCP6.2 and CCP6.6, Box 13.2. See also the evidentiary assessment referred to in HR-2021-1975-S, para 83.

¹⁹² Johnsen et al., “Leaving no one behind”, p. 57; Saami Council, “Climate Change in Sápmi – an overview and a Path Forward”, 2023, p. 121

¹⁹³ Ibid, p. 122.

¹⁹⁴ IPCC. *Climate Change 2022: Impacts, Adaptation and Vulnerability*, ch. 1, Executive Summary and 1.3.2.3.

¹⁹⁵ Petzold, J., Andrews, N., Ford, J., Hedemann, C. & Postigo, J. Indigenous knowledge on climate change adaptation: a global evidence map of academic literature. *Environ. Res. Lett.* 15, 113007 (2020); Sawatzky, A. et al. “The best scientists are the people that’s out there”: Inuit-led integrated environment and health monitoring to respond to climate change in the Circumpolar North. *Clim. Change* 160, 45–66 (2020); Schlingmann, A. et al. Global patterns of adaptation to climate change by Indigenous Peoples and local communities. A systematic review. *Curr. Opin. Environ. Sustain.* 51, 55–64 (2021).

found in the Saami Council's recent report on climate change.¹⁹⁶

In a 2023 white paper to Parliament on climate adaptation, the Norwegian Government discussed the impacts of climate change on Sámi culture, and the need to integrate Sámi interests and knowledge in climate adaptation.¹⁹⁷ In this context, the government expressly acknowledged that Norwegian authorities are obligated under the Constitution and ICCPR Article 27 to secure the natural basis for Sámi reindeer herding and carry out consultations in decisions that can affect Sámi interests directly. With reference to the report from the Saami Council, the Government expressed that it will:

- gather more knowledge on how climate change is affecting Sámi culture and business, traditions, lifestyle and health,
- consult with the Sámi Parliament and the Sámi Reindeer Herders' Association of Norway on adaptation where relevant, even if it is not legally obliged to do so, and
- incorporate Sámi traditional knowledge in adaptation measures.

These measures, including the human rights-based approach, are promising. Yet, to be effective, actual adaptation measures must be adequate and be implemented in a timely manner. At present, there is not enough information to make a comprehensive assessment of whether existing or proposed adaptation measures are sufficiently timely and adequate to protect Sámi culture from the effects of climate change.

We will highlight two important points regarding *limits to adaptation*, underscoring that adaptation and mitigation must go hand in hand also for the protection of Sámi rights. Firstly, adaptation measures may be insufficient under ICCPR Article 27 if they deprive the cultural practice of its traditional elements. For example, a proposal for winter feeding of reindeer in enclosures, as a remedial measure, was rejected by the Norwegian Supreme Court in the *Fosen* case partly because the suggested model deviated "considerably from traditional, nomadic reindeer husbandry".¹⁹⁸

Secondly, if global warming exceeds 1.5°C, certain harmful effects of climate change will be increasingly difficult to avoid through adaptation measures.¹⁹⁹ For this reason, national courts have found in cases regar-

¹⁹⁶ Saami Council, "Climate Change in Sápmi – an overview and a Path Forward", 2023, pp. 119-130. The Norwegian authorities have also carried out adaptive measures related to ice-locked-pastures, and efforts to improve the system has commenced, but we will not further elaborate on this here.

¹⁹⁷ Meld. St. 26 (2022-2023) s. 57.

¹⁹⁸ The Norwegian Supreme Court in HR-2021-1975-S para. 149, the Supreme Court concluding that "the information provided to the Supreme Court demonstrates uncertainty as to whether such a system is compatible with reindeer herders' right to enjoy their own culture".

¹⁹⁹ World Climate Research Programme et al. *10 New Insights in Climate Science*, 10.11.2022, pp. 13–17. See also IPCC, AR6 WGII, 2022 SPM para C.3 ff.

ding states mitigation measures under human rights law and the right to a healthy environment that adaptation measures alone cannot adequately protect individuals' rights to life, physical integrity and property.²⁰⁰ As noted above (Chapter 6.2), adaptation measures alone cannot protect Sámi rights from the long-term effects of climate change.

²⁰⁰ The Dutch Supreme Court found that the Netherlands could not demonstrate that “the potentially disastrous consequences of excessive global warming can be adequately prevented by” adaptation measures (*Urgenda*, para. 7.5.2). The German Constitutional Court held that it would be “completely inadequate” – and a violation of the right to life, physical integrity and property – to rely on adaption alone (*Neubauer*, para. 157).

9. Obligations to protect Indigenous Peoples' territories from intrusive interferences

Renewable energy developments and the extraction of certain minerals are an important aspect of mitigating climate change and thus protecting Indigenous Peoples from climate harm.²⁰¹ However, such industrial developments may also result in violations of the human rights of Indigenous Peoples, *inter alia* through their loss of access to the lands and waters they have traditionally used for cultural practices and business activities. To avoid Indigenous Peoples being disproportionately impacted by both climate harm and climate solutions, mitigation and adaptation measures must be implemented in a way that respects the rights of Indigenous Peoples.

ICCPR Article 27 not only protects Indigenous Peoples from the impacts of climate change, but also from commercial or industrial developments that interfere with their right to maintain and develop their cultures (see Chapter 7). If an interference results in

a *substantive negative impact* on Sámi culture, and thus violates ICCPR Article 27, there can be no proportionality assessment between the interests of society at large and the interests of the minority, because Article 27 does not provide for limitations.²⁰²

²⁰¹ These may include for example, wind and solar power projects or the mining of minerals used in the construction of wind turbines, solar panels and batteries, such as lithium, cobalt, copper, graphite and nickel, see International Energy Agency, *The role of critical minerals in clean energy transitions*, 2021, executive summary. Other minerals may also be important in renewable energy technologies, such as iron ore which is used to make steel for wind turbines.

²⁰² The only exception, pursuant to Article 4 of the ICCPR, is that several human rights, including Article 27, can be derogated from in cases of emergency that threaten the life of the nation.

The Norwegian Supreme Court noted in the *Fosen* case that “the protection of the minority population would be ineffective, if the majority population were able to limit it based on its legitimate needs”.²⁰³

However, the Norwegian Supreme Court also noted that if Article 27 conflicts with other fundamental rights, such as the right to a healthy environment, the two rights may be “balanced against each other and harmonised”.²⁰⁴ In the *Fosen* case, there was no such conflict because the renewable energy transition “could also have been taken into account by choosing other – and for the reindeer herders less intrusive – development alternatives”.²⁰⁵ It was not specified where such alternative developments could have been located, but the affected reindeer herders had suggested alternative locations in the *Fosen* area, not elsewhere in Norway. These suggestions had not been taken into account by the wind power companies. The Supreme Court did not discuss the circumstances in which a renewable energy development would be considered necessary to secure the right to a healthy environment.

In another case, the Supreme Court of Norway found that the climate is covered by Article 112 of the Constitution. It held that

courts may only review acts of Parliament where the Parliament has failed to address an environmental problem, or where it has *grossly neglected* its duty to protect the right to a healthy environment under Article 112(3),²⁰⁶ but did not specify the threshold for judicial review of administrative decisions in which the Parliament has not been involved. Moreover, the Supreme Court found that combustion of Norwegian-produced oil and gas abroad can be relevant to consider when it causes harm in Norway, and that this constitutional provision may contain an obligation for the State to deny oil exploration permissions.²⁰⁷

If a renewable energy project does not in practice reduce overall emissions, it is difficult to see how interference could be considered necessary to protect the right to a healthy environment in a potential conflict with Indigenous people’s rights. For example, if a wind park is used to electrify Norwegian oil platforms, the exported combustion emissions as relevant under Article 112 may outweigh any domestic emission reductions associated with electrifying production (see Chapter 5).

Furthermore, there may also be alternative mitigation measures available that would provide an equivalent level of protection for

²⁰³ HR-2021-1975-S, para. 129.

²⁰⁴ *Ibid*, para. 130.

²⁰⁵ *Ibid*, para. 143.

²⁰⁶ *Greenpeace Nordic et al. v. Norway* (HR-2020-2472-P) para 142. For a closer analysis of the judgement in English, see Christina Voigt, «The Climate Judgment of the Norwegian Supreme Court: Aligning the Law with Politics», *Journal of Environmental Law*, Vol. 33(3) 2021 pp. 697-710.

²⁰⁷ HR-2020-2472-P paras. 149, 155, 222, 223.

Human Rights Protection Against Interferences in Traditional Sámi Areas

In the aftermath of the *Fosen* case, the Norwegian NHRI published a report on *Human Rights Protection Against Interferences in Traditional Sámi Areas* on how to ensure that Sámi rights are protected against such interferences. In that report, we highlighted that the authorities could take following measures may strengthen compliance with ICCPR Article 27:

- ensure thorough, sufficiently early and independent impact assessments;
- ensure sufficient knowledge on the gradual reduction of reindeer grazing areas and on the overall consequences of development projects, to ensure that the cumulative effect of several different projects in reindeer herding areas is assessed;
- review whether development projects should be able to commence before the validity of a permit has been subject to a final legal determination;
- clarify the relevant elements to assess a potential violation of ICCPR Article 27 in legislation or other regulations;

In 2023, the government proposed improvement of the overview of reindeer husbandry's land use through updated land use maps and district plans for reindeer husbandry, and review of the regulations for impact assessments with a view to assess how the regulations can better facilitate assessments of reindeer husbandry. (See *Tiltakspakke for reindrift og energi*, 20.12.2023).

the right to a healthy environment without substantially interfering with Sámi rights. For example, locating a proposed wind power development in another area, developing solar or offshore wind, improving the efficiency of existing renewable energy infrastructure or reducing fossil fuel production.

In general, courts will strive to avoid conflicts between different human rights by har-

monising them through interpretation. If this is not possible, balancing and harmonising these rights in the event of a conflict would be a complex and unprecedented legal exercise in a Norwegian context, because both the right to a healthy environment in Article 112 and the rights of Indigenous Peoples in Article 108 (closely linked with ICCPR Article 27)²⁰⁸ are on the same constitutional level.

²⁰⁸ According to the Norwegian Supreme Court, "Article 27 ICCPR must be viewed in context with Article 108 of the Constitution, which imposes a duty on the state authorities «to create conditions enabling the Sámi people to preserve and develop its language, culture and way of life». The provision is based on Article 27 ICCPR and may constitute an independent legal basis where other sources of law give no answer", HR-2021-1975-S para 99. There is thus a close link between Article 108 of the Constitution and ICCPR Article 27, see see NOU 2007:13 p. 190 onwards, as well as NOU 2008:5 p. 259 onwards.

Rather than having a larger theoretical discussion on how these rights might be balanced in the event of a potential conflict, which must ultimately be decided on a case-by-case basis by the courts, we will present some recommendations on how to avoid conflicts in the first place.

Conflicts between these two rights may firstly be avoided by locating renewable energy developments or similar interferences outside the Sámi reindeer herding area.

As a point of departure, the Sámi reindeer herding area is estimated to cover approximately 40% of the Norwegian mainland.²⁰⁹ However, this seemingly large area includes inter alia cities, villages, roads, railroads, wind power plants, mining sites, rivers, lakes, and steep mountains – in other words, areas where reindeer herding cannot be carried out. Such obstacles also divide and delimit the available reindeer herding areas. According to Statistics Norway, approximately 22% of the Sámi reindeer herding areas in Norway are within 500 meters from buildings and infrastructure, 37 % within 1 kilometre and 89% within five kilometres. The most impacted areas are south of Finnmark.²¹⁰ A 2022 study suggests that only 4% of Sámi reindeer grazing areas in Norway, Sweden and Finland are

untouched by human activities such as forestry mining, tourism, roads and railways.²¹¹

It is the *cumulative* effects of all interferences in an area that together may constitute a substantive negative effect on Sámi culture. The government has a duty not only to consider the effect of the measure in question, but also how it relates to other previous and planned interferences in an area. The State as well as municipalities therefore, in their development and planning of new projects, should prioritise which developments they allow. Renewable energy developments in Sámi areas would inevitably require restrictive approaches to other interferences, such as for example roads, holiday homes or other industrial developments.

An approach that balances the need for more wind power and avoids further strain on Sámi reindeer herding areas can be found in the Norwegian Government's draft national wind power plan from 2019. It identified 13 suitable areas for development, mostly in Southern Norway, after excluding most of the Sámi reindeer herding areas and other areas of high environmental, social or cultural value.²¹² While the plan was not adopted, it still provides a useful evidence base for identifying suitable areas

²⁰⁹ Statistics Norway, «Utbygging får konsekvenser for reinbeiteområder. SSB analyse 2020/16, <https://www.ssb.no/natur-og-miljo/artikler-og-publikasjoner/utbygging-far-konsekvenser-for-reinbeiteomrader>.

²¹⁰ Ibid.

²¹¹ Stoessel et al., "Mapping cumulative pressures on the grazing lands of northern Fennoscandia", in *Scientific Reports* Vol. 12, 30.9.2022.

²¹² Jakobsen, S.B, et al., *Forslag til nasjonal ramme for vindkraft*. p. vii.

for wind-development that are less intrusive for Sámi culture.

Conflicts may further be avoided if the affected Sámi right holders are meaningfully consulted on any proposed interference in Sámi areas, with the aim of obtaining their free, prior and informed consent. If consultation is done early and in good faith, it may be possible to ensure that the proposed interference is located and designed in a way that does not entail a substantive negative effect on the Sámi people's right to culture.

10. Business responsibility to respect Sámi rights in the context of climate change

In Norway, many of the cases pertaining to corporate human rights responsibility concern Indigenous Peoples' rights. While only governments have direct human rights responsibilities under international law, corporations are normally responsible for the development and utilisation of natural resources. Over the past couple of decades, increasing attention has been paid to companies' responsibilities for human rights in connection with their operations and business relationships.

Several guidelines and principles (particularly within the UN and the OECD frameworks) seek to “build bridges” across the gap that exists between the legal human rights obligations of States and the responsibilities of companies. These guidelines indicate what companies should do to ensure that they do not cause or contribute to human rights violations and address such violations when they occur. To this end, companies are expected to carry out due diligence of their own activities as well as their business relationships. In addition, national legislation in several countries and forthcoming in the EU requires due diligence

of companies, and in some cases, provides for accountability where companies have caused or contributed to human rights violations.

The Norwegian *Transparency Act* requires larger enterprises to carry out due diligence. This obligation covers the human rights requirements in the UN Guiding Principles on Business and Human Rights (UNGPs) and the OECD Guidelines for Responsible Business Conduct. The enterprises shall “identify and assess actual and potential adverse impacts on fundamental human rights and

decent working conditions” resulting from their operations.²¹³

The Norwegian NHRI and the OECD National Contact Point for Norway have published a guide with examples of how business can impact human rights.²¹⁴ The reference to basic human rights includes, among other things, ICCPR Articles 17 and 27 and ILO Convention 169. The obligations under the Act apply to the enterprise itself and to activities directly related to the business through supply chains or business partners both inside and outside Norway. The obligation to carry out due diligence pertains to larger companies; both private companies and enterprises with state ownership. This obligation will therefore be relevant to enterprises whose operations or supply chains have actual or potential adverse human rights impacts for the Sámi people.

The point of departure is that the obligations for States discussed in this report are also relevant for enterprises to consider and report on under the Transparency Act. The obligation to carry out due diligence also entails that the relevant enterprises, when planning a development in Sámi areas, make assessments in line with ICCPR Article 27, and refrain from implementing

projects that will have a substantive negative impact on Sámi cultural practices and livelihoods. The due diligence will therefore need to include, among other things, evaluations of how impact assessments can be carried out in a responsible manner, securing inclusion of Sámi traditional knowledges, assessments of cumulative effects over time, remedial measures and how consultations can be carried out in accordance with the rules in the Sámi Act.

The Transparency Act specifies that the enterprises shall carry out due diligence in accordance with the OECD Guidelines for Multinational Enterprises and specific guidelines for different sectors.²¹⁵ The 2023 OECD Guidelines for Multinational Enterprises specifies for the first time that enterprises should pay special attention to the potential adverse impacts for Indigenous Peoples, and refers to further guidance on the principle of Free, Prior and Informed Consent and the UNDRIP in the OECD Due Diligence Guidance on Meaningful Stakeholder Engagement in the Extractive Sector.²¹⁶ The latter has an Annex B on how to engage with Indigenous Peoples, which recommends that enterprises (i) understand context, (ii) ensure that Indigenous Peoples are appropriately identified and prioritised,

²¹³ Act relating to enterprises’ transparency and work on fundamental human rights and decent working conditions (Transparency Act), LOV-2021-06-18-99, Section 4(b).

²¹⁴ <https://www.nhri.no/wp-content/uploads/2023/10/Tabell-MR-eksempler.pdf> See this link for English version: https://www.ungpreporting.org/wp-content/uploads/UNGPREportingFramework_withguidance2017.pdf

²¹⁵ Section 4 and Prop.150L (2020-2021) Lov om virksomheters åpenhet og arbeid med grunnleggende menneskerettigheter og anstendige arbeidsforhold (åpenhetsloven) p. 64, 107.

²¹⁶ OECD (2023), *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*, Paris: OECD Publishing, <https://doi.org/10.1787/81f923> para 45.

(iii) establish the necessary support system for meaningful engagement with Indigenous Peoples, and (iv) design appropriate and effective activities and processes for engagement with Indigenous Peoples.²¹⁷

Under the Transparency Act Section 5, the enterprise shall also publish an account of the due diligence assessments, which shall at least include *inter alia* information regarding measures the enterprise has implemented or plans to implement to cease actual adverse impacts or mitigate significant risks of adverse impacts, and the results or expected results of these measures. According to the preparatory work, relevant information could include whether stakeholder dialogue with particularly vulnerable groups, typically Indigenous groups, has been carried out.²¹⁸ Under Section 6, any person can also have a right to information from an enterprise regarding how it addresses actual and potential adverse impacts for Indigenous Peoples.²¹⁹

Regarding the climate impacts of enterprises, the Ministry of Children and Families stated in the preparatory work for the Transparency Act, that a company's impact on the environment is covered by the Act "if the environmental impact results in a negative

impact on human rights".²²⁰ This may entail that companies should conduct due diligence and report on how GHG emissions under their effective control affect, among other things, the right to life, physical integrity, property and the Sámi people's right to cultural practice.²²¹

Under a section on the environment, the 2023 OECD Guidelines for Multinational Enterprises also include a detailed section on climate change mitigation and adaptation, underlining that enterprises should ensure that their GHG emissions are consistent with internationally agreed global temperature goals based on best available science. This includes "introduction and implementation of science-based policies, strategies and transition plans on climate change mitigation and adaptation as well as adopting, implementing, monitoring and reporting on short, medium and long-term mitigation targets". Mitigation targets "should be science-based, include absolute and also, where relevant, intensity-based GHG reduction targets and take into account scope 1, 2, and, to the extent possible based on best available information, scope 3 GHG emissions".²²²

²¹⁷ OECD (2017), *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector*, Paris: OECD Publishing. Annex B pp. 92-99.

²¹⁸ Prop.150L (2020-2021) p. 112 (our translation).

²¹⁹ Ibid p. 113.

²²⁰ Prop.150L (2020-2021) p. 44 (our translation).

²²¹ Forbrukertilsynet, *Klima, miljø og menneskerettigheter*, updated 7.11.2023, available here <https://www.forbrukertilsynet.no/vi-jobber-med/apenhetsloven/klima-miljo-og-menneskerettigheter>.

²²² *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct* paras. 76, 77.

In December 2023, the European Council and Parliament reached a provisional agreement on the Corporate Sustainability Due Diligence Directive (CSDDD).²²³ It is likely to be formally adopted by the EU in 2024 and enter into force in 2025. The CSDDD will set due diligence obligations for large companies regarding actual and potential adverse impacts on human rights and the environment. The Directive will apply to companies in Norway to the extent that they fall within its scope.²²⁴

The final text of the CSDDD was, per February 2024, not yet adopted, but the original proposal from the European Commission in February 2022 contained several obligations not currently covered by the Norwegian Transparency Act.²²⁵ One example is that the actual and potential adverse impact of companies on the environment and climate will be covered by the draft CSDDD, regardless of whether it results in a negative impact on human rights. Both the Norwegian Transparency Act and the draft CSDDD list ICCPR Articles 17 and 27 as relevant to companies' due diligence obligations, but the draft CSDDD also lists Indigenous Peoples' right to their lands, territories and resources under UNDRIP Articles 25, 26(1) and (2), 27 and 29(2).

²²³ <https://www.consilium.europa.eu/en/press/press-releases/2023/12/14/corporate-sustainability-due-diligence-council-and-parliament-strike-deal-to-protect-environment-and-human-rights/>

²²⁴ In the preparatory works for the Transparency Act, the Ministry stated that the Act will be evaluated in light of the CSDDD and may have to be amended to incorporate additional obligations, see Prop.150L (2020-2021) p. 44.

²²⁵ Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0071>.

Reference list

Norwegian legal sources

Laws and regulations

Transparency Act: Act of 18 June 2021 no. 99 relating to enterprises' transparency and work on fundamental human rights and decent working conditions.

Climate Change Act. Act of 16 June 2017 no. 60 on climate targets.

NIM Act: Act of 22 May 2015 no. 33 relating to the Norwegian National Human Rights Institution. (The Norwegian NHRI Act)

Nature Diversity Act: Act of 19 June 2009 no. 100 relating to the management of biological, geological and landscape diversity.

Constitution: The Constitution of the Kingdom of Norway of 17 May 1814.

Preparatory work for laws, public investigations and parliamentary documents

The Truth and Reconciliation Commission: Sannhet og forsoning – grunnlag for et oppgjør med fornorskingspolitikk og urett mot samer, kvener/norskfinner og skogfinner. (2023) Dok.nr.19 (2022-2023).

NOU 2023:23 Omstilling til lavutslipp – Veivalg for klimapolitikken mot 2050.

NOU 2023:3 Mer av alt – raskere.

NOU 2008:5 Retten til fiske i havet utenfor Finnmark.

NOU 2007:13 Den nye sameretten – Utredning fra Samerettsutvalget.

Meld. St. 26 (2022-2023) Klima i endring – sammen for et klimarobust samfunn.

Prop.150 L (2020-2021) Lov om virksomheters åpenhet og arbeid med grunnleggende menneskerettigheter og anstendige arbeidsforhold.

Prop.86 L (2020-2021) Endringer i sameloven.

Supreme Court decisions

HR-2021-1975-S

HR-2020-2472-P

HR-2018-456-P

HR-2017-2428-A

HR-2017-2247-A

Rt-2008-1764

International sources

Conventions and declarations

Directive (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law').

The Paris Agreement of 12 December 2015.

The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) of 13 September 2007.

The United Nations Framework Convention on Climate Change (UNFCCC) of 9 May 1992.

The International Labour Organisation's Indigenous and Tribal Peoples Convention No. 169 of 27 June 1989.

The UN Convention on the Rights of the Child of 20 November 1989.

The Vienna Convention on the Law of Treaties of 23 May 1969.

The International Convention on Civil and Political Rights (ICCPR) of 16 December 1966.

Decisions of the UN Human Rights Committee

Daniel Billy et al. v. Australia (2022), CCPR/C/135/D/3624/2019.

Benito Oliveira et al. v. Paraguay (2021), CCPR/C/132/D/2552/2015.

Teitiota v. New Zealand (2020), CCPR/C/127/D/2728/2016.

Portillo Cáceres v. Paraguay (2019), CCPR/C/126/D/2751/2016.

Sanila-Aikio v Finland (2018), CCPR/C/124/D/2668/2015.

Klemetti Näkkäljärvi et al. v Finland (2018), CCPR/C/124/D/2950/2017.

Poma Poma v. Peru (2009), CCPR/C/95/D/1457/2006.

Apirana Mahuika et al. v. New Zealand (2000), CCPR/C/70/D/547/1993.

Diergaardt et al. v Namibia (2000), CCPR/C/69/D/760/1996.

Lubicon Lake Band v. Canada (1990), CCPR/C/38/D/167/1984.

Kitok v Sweden (1988), CCPR/C/33/D/197/1985.

Decisions of the European Court of Human Rights

European Court of Human Rights (ECHR): *Guide to the case-law of the European Court of Human Rights – Environment*. (2022)

Tătar c. Roumanie (67021/01), 27 January 2009.

Statements, reports and decisions from UN agencies

UN Committee on the Rights of the Child (CRC): General Comment nr. 11 on Indigenous children and their rights under the Convention. (2009), CRC/C/GC/11.

UN Committee on the Rights of the Child (CRC): General Comment nr. 26 on children's rights and the environment, with a special focus on climate change. (2023), CRC/C/GC/26.

UN Department of Economic and Social Affairs (UNDESA): *Challenges and Opportunities for Indigenous' Peoples' Sustainability*. Policy Brief no. 101, Mirian Masaquiza Jerez (2021).

UN Environment Program (UNEP), Stockholm Environment Institute (SEI), Climate Analytics, E3G & International Institute for Sustainable Development (IISP): *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises*. (2023).

UN Environment Program (UNEP): *Emissions Gap Report: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again)*. (2023)

UN General Assembly, Human Rights Council: *Right to a healthy environment: good practices. Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*. (2019), A/HRC/43/53.

UN General Assembly: *Resolution adopted by the General Assembly on 29 March 2023. Request for an advisory opinion of the International Court of Justice on the obligations of States in respect of climate change*. (2023), A/RES/77/276.

UN General Assembly: *Resolution on the human right to a clean, healthy and sustainable environment*. (2022), A/76/L.75.

UN Human Rights Committee (HRC): *General Comment no. 12 on article 1 of the International Convention on Civil and Political Rights*. (1984),

UN Human Rights Committee (HRC): *General Comment no. 16 on article 17 of the International Convention on Civil and Political Rights*. (1988)

UN Human Rights Committee (HRC): *General Comment no. 23 on article 27 of the International Convention on Civil and Political Rights*. (1994), CCPR/C/21/Rev.1/Add.5.

UN Human Rights Committee (HRC): *General Comment no. 36 on article 6 of the International Convention on Civil and Political Rights*. (2019), CCPR/C/GC/36.

UN Office of the United Nations High Commissioner for Human Rights (OHCHR): *Report of the Special Rapporteur on the rights of indigenous peoples*. (2017), A/HRC/36/46.

UN Permanent Forum on Indigenous Issues (UNPFII): *Report on the twenty-first session*,

25 April–6 May 2022, (2022),
E/2022/43-E/C.19/2022/11.

United Nations Framework Convention on Climate Change (UNFCCC): *Outcome of the First Global Stocktake*. (2023), FCCC/PA/CMA/2023/L.17.

United Nations Framework Convention on Climate Change (UNFCCC): *Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021*. (2022), FCCC/PA/CMA/2021/10/Add.1.

United Nations Framework Convention on Climate Change (UNFCCC): *Sharm el-Sheikh Implementation Plan*. (2022), FCCC/PA/CMA/2022/L.21.

United Nations Framework Convention on Climate Change (UNFCCC): Subsidiary Body for Scientific and Technological Advice: *Technical Dialogue of the First Global Stocktake*. 2023, FCCC/SB/2023/9

Decisions from other national courts

Commune de Grande Synthe, Conseil d'Etat: décision no. 427301. Decision delivered 19 November 2020. Available on: <https://climatecasechart.com/non-us-case/commune-de-grande-synthe-v-france/>.

Massachusetts v. EPA, 549 U.S. 497 (Supreme Court of the United States), Judgement delivered 2 April 2007. Available

on: <https://supreme.justia.com/cases/federal/us/549/497/>.

Neubauer v. Germany, 1 BvR 2656/18 (the Federal Constitutional Court of Germany). Judgement delivered 24 March 2021. Available on: 1 BvR 2656/18.

Notre Affaire à Tous et al. v. France, no. 1904967, 1904968, 1904972, 1904976/4-1 (Administrative Court of Paris), Judgement delivered 3 February 2021. Available on: <https://climatecasechart.com/non-us-case/notre-affaire-a-tous-and-others-v-france/>.

Pabai Pabai v Commonwealth of Australia, VID622/2021. (Federal Court of Australia). Pending case. Information available on: <https://fedcourt.gov.au/services/access-to-files-and-transcripts/online-files/pabai-v-australia>.

Royal Dutch Shell, ECLI:N:RBDHA:2021:5339 (The Hague District Court), Judgement delivered 26 May 2021. Available on: <https://www.foei.org/wp-content/uploads/2021/08/Verdict-climate-case-milieudefensie-shell-26-may-2021.pdf>.

Urgenda Foundation v. the Netherlands, ECLI:NL:HR:2019:2007 (the Supreme Court of the Netherlands). Judgement delivered 20 December 2019. Available on: <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:HR:2019:2007>.

VZW Klimaatzaak v. Belgium et al., 2021/AR/15gs, 2022/AR/737, 2022/AR/891, (Court of Appeal Brussels) Pending case.

Information available: <https://climatecasechart.com/non-us-case/vzw-kli-maatzaak-v-kingdom-of-belgium-et-al/>.

Waratah Coal Pty Ltd v Youth Verdict et al., MRA050-20 (MLA 70454), EPA051-20 (EPML 00571313), /Land Court of Queensland). Judgement delivered on 25 November 2022. Available on: <https://www.queenslandjudgments.com.au/caselaw/qlc/2022/21>.

Books

Horstkotte, T. et al., "Pastures under pressure. Effects of other land users and the environment" in *Reindeer Husbandry and Global Environmental Change*, Horstkotte, T. et al. (eds.) (Routledge, 2022).

Johnsen, Kathrine I. et al., "Leaving no one behind – sustainable development of Sámi reindeer husbandry in Norway" In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

Marina Tonkopeeva et al., "Framing Adaptation to Rapid Change in the Arctic" In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

Rooi, W.j et al., "Loss of Reindeer Grazing Land in Finnmark, Norway, and Effects on Biodiversity: GLOBIO3 as Decision Support Tool at Arctic Local Level" In *Reindeer Husbandry: Adaptation and Resilience to a Changing Arctic*, Svein D. Mathiesen et al. (eds.) (Springer Polar Sciences, 2022).

Sands, P., Peel, J., Fabra, A., & MacKenzie, R. *Principles of International Environmental Law* (4th ed.). (Cambridge University Press, 2018).

The Steering Committee for Human Rights (CDDH), *Manual on Human Rights and the Environment*, 3rd edition. (Council of Europe, 2022).

Articles

Bergquist, M., Nilsson, A., Harring, N. & Jagers, S. C. (2022). Meta-analyses of fifteen determinants of public opinion about climate change taxes and laws. *Nature climate change*, 12(3).

Boers, N. & Rypdal, M. (2021), "Critical slowing down suggests that the western Greenland Ice Sheet is close to a tipping point," *Proc. Natl. Acad. Sci.* Vol. 118, No. 21.

Callaghan, T.V. et al. (2011). «Multiple Effects of Changes in Arctic Snow Cover". *AMBIO* Vol 40, p. 32-45.

Eilertsen, S.M. et al. (2022), "Fôring av reinsdyr – og fôringsrelaterte sykdommer". *NIBIO POP*, Vol. 8, No. 4.

Eira, I.M.G. et al. (2013), "Traditional Sámi snow terminology and physical snow classification—two ways of knowing" *Cold Regions Science and Technology*. Vol 85.

Forbes, B.C. et al. (2016) «Sea ice, rain-on-snow and tundra reindeer nomadism in Arctic Russia". *Biology Letters* Vol 12, Issue 11.

- Forster, P.M. et al. (2023) "Indicators of Global Climate Change 2022: annual update of large-scale indicators of the state of the climate system and human influence". *Earth System Science Data*. Vol. 15, Issue 6.
- Garnett, S.T. et al. (2018) "A spatial overview of the global importance of indigenous lands for conservation", *Nature Sustainability*. Vol 1, No. 7, p. 369-374.
- Gisnås, K. et al. (2013), "CryoGRID 1.0: Permafrost Distribution in Norway estimated by a Spatial Numerical Model" *Permafrost Periglacial Processes* Vol 24, No. 1.
- Gisnås, K. et al. (2016) "Permafrost Map for Norway, Sweden and Finland" *Permafrost and Periglacial Processes* Vol 28, Issue 2.
- Godwin, S.C. et al. (2021) "Sea-louse abundance on salmon farms in relation to parasite-control policy and climate change" *ICES Journal of Marine Science* Vol 78, No. 1, p. 377-387.
- Hansen, B.B. et al. (2013) "Climate Events Synchronize the Dynamics of a Resident Vertebrate Community in the High Arctic". *Science* Vol 339, Issue 6117.
- Hansen, K.L. et al. (2016). "Discrimination amongst Arctic Indigenous Sami and Non-Sami Populations in Norway: The SAMINOR 2 Questionnaire Study". *Journal of Northern studies* Vol. 10, No 2.
- Hasser, S. et al. (2004). "Fatal accidents and suicide among reindeer herding Sami in Sweden". *International Journal of Circumpolar Health* 63.
- Hein, C.L., Öhlund, G. & Englund, G. (2012) "Future Distribution of Arctic Char *Salvelinus alpinus* in Sweden under Climate Change: Effects of Temperature, Lake Size and Species Interactions". *AMBIO* Vol 41, No. 3.
- Hickman, C. et al. (2021). "Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey". *The Lancet*. Vol 5, Issue 12.
- Husson, B. et al. (2022), "Successive extreme climatic events lead to immediate, large-scale, and diverse responses from fish in the Arctic" *Global Change Biology* Vol 28, No. 11.
- Islam, S.N & Winkel, J. (2017) "Climate Change and Social Inequality". *UN Department of Economic & Social Affairs (UNDESA). Working Paper No. 152*.
- Jaakkola, J.J.K., Juntunen, S. & Näkkäläjärvi, K. (2018) "The Holistic Effects of Climate Change on the Culture, Well-Being, and Health of the Saami, the Only Indigenous People in the European Union". *Current Environmental Health Reports* 5.
- Kessler, A., Goris, N. & Lauvset, S.K. (2022). "Observation-based Sea surface temperature trends in Atlantic large marine ecosystems" *Progress in Oceanography*. Vol 208.

- Kvalø, K. et al. (2019) "Weight underestimation linked to anxiety and depression in a cross-sectional study of overweight individuals in a Sami and non-Sami Norwegian population: the SAMINOR Study", *BMJ Open* 19.
- Kvamsdal, S.F. et al. (2022). "Multidisciplinary perspectives on living marine resources in the Arctic". *Polar Research*. Vol 41.
- Lee, S.E. et al. (2000) "Regional effects of climate change on reindeer: a case study of the Muotkatunturi region in Finnish Lapland". *Polar Research*. Vol 19, Issue 1, p. 99-105.
- Lennox, R.J. et al. (2023) "Prospects for the future of pink salmon in three oceans: From the native Pacific to the novel Arctic and Atlantic" *Fish and Fisheries* Vol 24, No. 5, p. 759-776.
- Liu, Z., Deng, Z., Davis, S & Ciais, P. (2023) "Monitoring global carbon emissions in 2022". *Nature Reviews Earth & Environment* 4.
- Löf, A. (2013). "Examining limits and barriers to climate change adaptation in an Indigenous reindeer herding community". *Climate and Development*, Vol 5, No. 4, p. 328-339.
- Ma, Y. et al. (2019), "Potential for Hydroclimatically Driven Shifts in Infectious Disease Outbreaks: The Case of Tularemia in High-Latitude Regions" *International Journal of Environmental Research and Public Health* Vol 16, No. 19.
- Mallory, C.D., & Boyce, M.S. (2018). "Observed and predicted effects of climate change on Arctic caribou and reindeer." *Environmental Reviews* 26.
- McCrystall, M.R. et al. (2021) "New climate models reveal faster and larger increases in Arctic precipitation than previously projected." *Nature Communications*. Vol 12.
- McKay, D.I.A. et. al (2022). "Exceeding 1.5°C global warming could trigger multiple climate tipping points". *Science*. Vol 377, Issue 6611.
- Middelton, J. et al. (2020). "Indigenous mental health in a changing climate: a systematic scoping review of the global literature". *Environmental Research Letters*. Vol 15, No 5.
- Mienna, C.S. & Axelsson, P. (2019) "Somatic health in the Indigenous Sami population - a systematic review", *International Journal of Circumpolar Health*, Vol 78, No. 1
- Miner, K.R. et al. (2021), "Emergent biogeochemical risks from Arctic permafrost degradation" *Nature Climate Change* Vol 11, p. 808-819.
- Moen J. (2008) "Climate change: effects on the ecological basis for reindeer husbandry in Sweden." *Ambio*, Vol 37, No. 4.

- Mooney, P.A. & Li, L. (2021) "Near future changes to rain-on-snow events in Norway". *Environmental Research Letters*. Vol 16.
- Naseribafrouei, A. et al. (2019) "Estimated 8-year cumulative incidence of diabetes mellitus among Sami and non-Sami inhabitants of Northern Norway - The SAMINOR Study". *BMC Endocr Discord* Vol 24, Issue 19.
- Niittynen, P. & Luoto, M. (2018), "The importance of snow in species distribution models of arctic vegetation". *Ecography*, Vol 41.
- Niittynen, P., Heikkinen, R.K. & Luoto, M. (2018), «Snow cover is a neglected driver of Arctic biodiversity loss». *Nature Climate Change*. Vol 8.
- Nilsen, I.R. et al. (2021), "Projected changes in days with zero-crossings for Norway" *International Journal of Climatology*, Vol 41, No. 4.
- Nordlander, L. (2022), "Litigating climate change in the Arctic: the potential of Sámi human rights claims". *Journal of Human Rights and the Environment*, Vol. 13 No. 2, p. 416-440.
- Petzold, J. et al. (2020) "Indigenous knowledge on climate change adaptation: a global evidence map of academic literature". *Environmental Research Letters*, Vol. 15.
- Putkonen, J., & Roe, G. (2003). "Rain-on-snow events impact soil temperatures and affect ungulate survival." *Geophysical Research Letters*. Vol 30, No. 4.
- Rajamani, L. et al. (2021) "National 'fair shares' in reducing greenhouse gas emissions within the principled framework of international environmental law", *Climate Policy*. Vol 21, Issue 8, p. 983-1004.
- Rantanen, M., Karpechko, A.Y., Lipponen, A. et al. (2022) "The Arctic has warmed nearly four times faster than the globe since 1979." *Communications Earth & Environment* Vol 3, Issue 168.
- Rixen, C. et al. (2022), "Winters are changing: snow effects on Arctic and alpine tundra ecosystems" *Arctic Science*, Vol 8, No. 3, p. 572-608.
- Romanello, M. et al. (2022). "The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels". *The Lancet*. Vol. 400, Issue 10363, p. 1619-1654.
- Sandø A.B. et al. (2020) "Climate Change and New Potential Spawning Sites for Northeast Arctic cod." *Frontiers in Marine Science*. Vol 7, Issue 28.
- Sandvik, A.D. et al. (2021) "The effect of a warmer climate on the salmon lice infection pressure from Norwegian aquaculture" *ICES Journal of Marine Science* Vol 78, No. 5, p. 1849-1859.
- Sawatzky, A. et al. (2020), ""The best scientists are the people that's out there": Inu-

it-led integrated environment and health monitoring to respond to climate change in the Circumpolar North". *Climatic Change*, Vol. 160.

Schlingmann, A. et al. (2021), "Global patterns of adaptation to climate change by Indigenous Peoples and local communities. A systematic review." *Current Opinion in Environmental Sustainability*, Vol. 51.

Selroos J. et al. (2019) "Permafrost Thaw with Thermokarst Wetland-Lake and Socio-Health Risks: Dependence on Local Soil Conditions under Large-Scale Warming" *Water*. Vol 11, No. 3.

Smalås, A. et al. (2023). "Increased importance of cool-water fish at high latitudes emerges from individual-level responses to warming". *Ecology and Evolution*. Vol 13, Issue 6.

Stafford, K.M. et al. (2022). "Northward range expansion of subarctic upper trophic level animals into the Pacific Arctic region". *Oceanography* Vol 35, No 2, p. 158-166.

Steffen, W. et al. (2018) "Trajectories of the Earth System in the Anthropocene". *PNAS*. Vol. 115, No. 33.

Stoessel, M., Moen, J. & Lindborg, R. (2022), "Mapping cumulative pressures on the grazing lands of northern Fennoscandia", Scientific Report Vol. 12, No. 16044.

Sundby, S. & Nakken, O. (2008) "Spatial shifts in spawning habitats of Arcto-Norwe-

gian cod related to multidecadal climate oscillations and climate change" *ICES Journal of Marine Science* Vol 65, Issue 6, p. 953-962.

Svenning, M. et al. (2022). "Temporal changes in the relative abundance of anadromous Arctic charr, brown trout, and Atlantic salmon in northern Europe: Do they reflect changing climates?" *Freshwater Biology*. Vol 67, Issue. 1, p. 64-77.

Tryland, M. et al. (2019). «Infectious Disease Outbreak Associated With Supplementary Feeding of Semi-domesticated Reindeer», *Frontiers in Veterinary Science*, Vol 6.

Turunen, M. et al. (2009), "Does climate change influence the availability and quality of reindeer forage plants?" *Polar Biology*, Vol 32, No. 6, p. 813-832.

Tyler, N.J.C. et al. (2021). "The Shrinking Resource Base of Pastoralism: Saami Reindeer Husbandry in a Climate Change". *Frontiers in Sustainable Food Systems* 4.

Uboni, A., Åhman, B. & Moen, J. (2020). «Can management buffer pasture loss and fragmentation for Sami reindeer herding in Sweden?" *Pastoralism: Research, Policy and Practice*. Vol 10, No 23.

Voigt, C. (2021), «The Climate Judgment of the Norwegian Supreme Court: Aligning the Law with Politics», *Journal of Environmental Law*, Vol. 33, Issue 3.

Wibye, J.V. (2022) "Beyond Acts and Omissions — Distinguishing Positive and Negative Duties at the European Court of Human Rights". *Human Rights Review*. Vol 23, No. 4, p. 479-502.

Willox, A. et al. (2014). "Examining relationships between climate change and mental health in the Circumpolar North". *Reg Environ Change*. Vol 15, p. 169-182.

Wu, E. et al. (2022), "Permafrost as a potential pathogen reservoir" *One Earth* Vol 5, No. 4.

Wunderling, N. et al. (2023) "Global warming overshoots increase risks of climate tipping cascades in a network model." *Nature Climate Change* 13, p. 75-82.

Reports

Amnesty International Norge: *Negative holdninger og stereotypier om samer på Facebook*. (2023)

Arctic Monitoring and Assessment Programme (AMAP): *Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area*. (2017).

Arctic Monitoring and Assessment Programme (AMAP): *AMAP Arctic Climate Change Update 2021: Key Trends and Impacts*. (2021).

Arctic Council, Stockholm Environment Institute & Stockholm Resilience Centre: *Resilience Interim Report 2013*. (2013).

Bartlett, J. et al. *Carbon storage in Norwegian ecosystems*. Norwegian Institute for Nature Research (NINA), Rapport 1774b. (2020).

Bongo, A.K.S, Stenfjell, J.M. & Logstein, B. *Helse, miljø og sikkerhet i reindrift. Funn fra kartlegging blant reindriftsutøvere*. Institutt for rural- og regionalforskning (RURALIS), Rapport nr. 11/2022. (2022).

DNV: *Energy Transition Outlook 2023. A global and regional forecast to 2050*. (2023).

EFTA Surveillance Authority (ESA): *Climate Progress Report 2023*. (2023).

European Network of National Human Rights Institutions (ENNHRI): *Climate Change and Human Rights in the European Context*. (2021).

Future Earth, The Earth League, (WCRP): *10 New Insights in Climate Science 2023/2024*. (2023).

Hansen, I. et al. *Kartlegging av forskning på reindriftsområdet - kunnskapsgrunnlag og forskningsbehov*. Norwegian Institute of Bioeconomy Research (NIBIO), Rapport nr. 7/187/2021. (2021).

Hanssen-Bauer, I. et al., *Klima i Norge 2100. Kunnskapsgrunnlag for klimatilpasning oppdatert i 2015*. The Norwegian Centre for Climate Services (NCCS), Rapport nr. 2/2015. (2015).

Horstkotte, T. et al. at the Umeå University: *Supplementary feeding in reindeer husbandry: Results from a workshop with reindeer herders and researchers from Norway, Sweden and Finland.* (2020).

Intergovernmental Panel on Climate Change (IPPC): *Climate Change 2022: Impacts, Adaptation and Vulnerability.* (2022).

Intergovernmental Panel on Climate Change (IPPC): *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* (2021)

Intergovernmental Panel on Climate Change (IPPC): *Climate Change 2022: Mitigation of Climate Change.* (2022)

Intergovernmental Panel on Climate Change (IPPC): *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.* (2018)

Intergovernmental Panel on Climate Change (IPPC): *Special Report on the Ocean and Cryosphere in a Changing Climate.* (2022).

International Energy Agency (IEA): *Net Zero by 2050. A Roadmap for the Global Energy Sector.* (2021)

International Energy Agency (IEA): *The role of critical minerals in clean energy transitions* (2021).

International Energy Agency (IEA): *World Energy Investment 2023.* (2023)

International Energy Agency (IEA): *World Energy Outlook 2022.* (2022).

International Institute for Sustainable Development (IISD): *Navigation Energy Transitions. Mapping the road to 1.5°C.* (2022)

Jakobsen, S.B, et al., *Forslag til nasjonal ramme for vindkraft.* Oslo: The Norwegian Water Resources and Energy Directorate (NVE), NR 12-2019. (2019).

Jørgensen, G.H.M. et al. *Helse, miljø og sikkerhet i reindriften – en case studie.* Norwegian Institute of Bioeconomy Research (NIBIO), Rapport nr. 5/46/2019. (2019).

Kristiansen, T. et al. *Klimapåvirkning på viktige kystvannsarter.* The Norwegian Institute for Water Research (NIVA), Rapport L. NR. 7773-2022. (2022).

Landbruksdirektoratet: *For styrket beredskap i reindriften. Rapport fra arbeidsgruppe.* (2022). Rapport nr. 43/2022.

Norwegian National Human Rights Institution (NIM) & National contact point for responsible business conduct Norway: *Næringslivets ansvar for negative konsekvenser for grunnleggende menneskerettigheter – eksempler.* (2023).

Norwegian National Human Rights Institution (NIM): *Climate and Human Rights*. (2021).

Norwegian National Human Rights Institution (NIM): *Holdninger til samer og nasjonale minoriteter i Norge*. (2022)

Norwegian National Human Rights Institution (NIM): *Human Rights Protection against Interference in Traditional Sámi Areas*. (2022)

Norwegian Scientific Committee for Food and Environment (VKM): *Assessment of the risk to Norwegian biodiversity and aquaculture from pink salmon (*Oncorhynchus gorbuscha*)*. VKM Report 2020:01 (2020).

OECD: *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector*. (2017).

OECD: *OECD Guidelines for Multinational Enterprises on Responsible Business Conduct*. (2023).

Ottersen, G. et al. *Observed and expected future impacts of climate change on marine environment and ecosystems in the Nordic region*. Nordiske klimaScenarioer (NorScen)/The Institute of Marine Research (IMR), Rapport nr. 10/23. (2023).

Riseth, J.Å. & Tømmervik, H. *Klimautfordringer og arealforvaltning for reindrifta i Norge. Kunnskapsstatus og forslag til tiltak – Eksempler fra Troms*. Northern Research

Institute (NORUT), Rapport nr. 6/2017. (2017).

SWECO: *Syntesrapport. En sammanställning av fyra samebyars pilotprosjekt med klimat- och sårbarhetsanalys samt handlingsplan för klimatanpassing*. (2019).

The Institute of Marine Research (IMR): *Risikoanalyse for de norske havområdene om direkte og indirekte virkninger av klimaendringer på marine økosystemer under ulike utslippsscenarioer*. (2022).

The Norwegian Petroleum Directorate (NPD): *Resource report 2022*. (2022).

The Saami Council & The Sámi Parliament: *Climate Change in Sápmi – an overview and a Path Forward. Report 2023*. (2023).

Thema Consulting Group: *Elektrifisering av olje- og gasssektoren – har det globalt klima-effekt?*. (2022). Rapport nr. 2022-23.

World Health Organization (WHO): *COP26 special report on climate change and health: the health argument for climate action*. (2021).

Websites

The Norwegian Government: «Tiltakspakke for reindrift og energi», <https://www.regjeringen.no/no/aktuelt/tiltakspakke-for-reindrift-og-energi/id3019596/>.

International Energy Agency (IEA): «Climate Change», <https://www.iea.org/topics/climate-change>.

Stainforth, T. & Brzezinski, B., Institute for European Environmental Policy: "More than half of all CO2 emissions since 1751 emitted in the last 30 years", <https://ieep.eu/news/more-than-half-of-all-co2-emissions-since-1751-emitted-in-the-last-30-years/>.

Norwegian Environment Agency: «Veileder: Produksjon og distribusjon av fornybar energi.». <https://www.miljodirektoratet.no/ansvarsomrader/klima/for-myndigheter/kutte-utslipp-av-klimagasser/klima-og-energitiltak/fornybar-energi/produksjon-og-distribusjon-av-fornybar-energi/>.

State of the Environment Norway: "Norske utslipp og opptak av klimagasser". <https://miljostatus.miljodirektoratet.no/tema/klima/norske-utslipp-av-klimagasser/>.

The Norwegian Government: «Press release NOU 2023: 25 The transition to low emissions – climate policy choices towards 2050». https://files.nettsteder.regjeringen.no/wpuploads01/sites/479/2023/10/Pressemelding_engelsk.pdf.

The Norwegian Government: "Hurdalsplattformen. For en regjering utgått fra Arbeiderpartiet og Senterpartiet 2021-2025". <https://www.regjeringen.no/contentassets/cb0adb6c6fee428caa81bd5b339501b0/no/pdfs/hurdalsplattformen.pdf>.

The Norwegian Offshore Directorate (NPD): "Sokkelåret". <https://www.sodir.no/aktuelt/publikasjoner/rapporter/sokkelaret/sokkelaret-2022/>.

Adomaitis, N. for Reuters: "Norway's oil production seen rising 5% in 2024". <https://www.nasdaq.com/articles/norways-oil-production-seen-rising-5-in-2024-0>.

Tilnull.no: "Hvor mye av energibruken er fornybar?". <https://www.tilnull.no/energi-bruk/>.

Statistics Norway: "Betydelig nedgang i strømforbruket". <https://www.ssb.no/energi-og-industri/energi/statistikk/elektrisitet/artikler/betydelig-nedgang-i-stromforbruket-i-2022>.

The Norwegian Water Resources and Energy Directorate (NVE): "Høringssvar fra NVE – NOU 2023:3 Mer av alt – Raskere – Olje- og energidepartementet". <https://www.regjeringen.no/no/dokumenter/offentlig-horing-av-nou-2023-3-mer-av-alt-raskere/id2961483/Download/?vedleggId=824f7e40-aba8-45b3-a454-0ca629768130>.

Faktisk.no: «Åtte spørsmål og svar om elektrifisering av sokkelen». <https://www.faktisk.no/artikler/z5xev/atte-sporsmal-og-svar-om-elektrifisering-av-sokkelen>.

Johnsen, K.I. et al. for Forskersonen.no: «Reindriften må tilpasse seg klimaendringer, men det er vanskelig med dagens forvaltning». <https://www.forskersonen.no/klimatilpasning-kronikk-meninger/reindriften-ma-tilpasse-seg-klimaendringer-men-det-er-vanskelig-med-dagens-forvaltning/2140145>.

The European Space Agency: "Permafrost thaw could release bacteria and viruses". https://www.esa.int/Applications/Observing_the_Earth/Permafrost_thaw_could_release_bacteria_and_viruses.

The Guardian: "Anthrax outbreak triggered by climate change kills boy in Arctic Circle". <https://www.theguardian.com/world/2016/aug/01/anthrax-outbreak-climate-change-arctic-circle-russia>.

Norwegian Meteorological Institute, Cryo: "Permafrost real-time monitoring". <https://cryo.met.no/en/permafrost>.

Tjoflot, G.N. for titan.ui.no: «Permafrost in the Arctic can thaw faster than presumed». <https://www.titan.uio.no/english/2020/permafrost-arctic-can-thaw-faster-presumed.html>.

Intergovernmental Panel on Climate Change (IPPC): "IPCC FACTSHEET. How does the IPCC approve reports?". https://www.ipcc.ch/site/assets/uploads/2021/07/AR6_FS_approve.pdf.

Norwegian National Human Rights Institution (NIM): "Utredning om Grunnloven § 112 og plan for utbygging og drift av petroleumsforekomster". <https://www.nhri.no/2022/utredning-om-grunnloven-%c2%a7-112-og-plan-for-utbygging-og-drift-av-petroleumsforekomster/>.

Statistics Norway: «Utbygging får konsekvenser for reinbeiteområder.» [https://www.ssb.no/natur-og-miljo/artikler-og-pub-](https://www.ssb.no/natur-og-miljo/artikler-og-publikasjoner/utbygging-far-konsekvenser-for-reinbeiteomradet)

[likasjoner/utbygging-far-konsekvenser-for-reinbeiteomradet](#).

The Consumer Authority (CA): «Klima, miljø og menneskerettigheter». <https://www.forbrukertilsynet.no/vi-jobber-med/apenhet-sloven/klima-miljo-og-menneskerettigheter>.

The European Council: "Corporate sustainability due diligence: Council and Parliament strike deal to protect environment and human rights". <https://www.consilium.europa.eu/en/press/press-releases/2023/12/14/corporate-sustainability-due-diligence-council-and-parliament-strike-deal-to-protect-environment-and-human-rights/>.

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