

Issue #05—February 2022

# BUSINESS INDEX NORTH

– A periodic report with insight to business activity and opportunities in the Arctic

Assessment of sustainable  
development in Northern Norway



## Contributing authors and organizations

---

**Alexandra Middleton**  
Postdoctoral Researcher,  
University of Oulu  
alexandra.middleton@oulu.fi

**Erlend Bullvåg**  
Associate Professor,  
Nord University Business School  
erlend.bullvag@nord.no

**Elena Hoff**  
Advisor,  
KPB  
eh@kpb.no

**Sissel Ovesen**  
Senior Advisor  
KPB  
so@kpb.no

**Signe Kilskar**  
Advisor,  
KPB  
sk@kpb.no

**Kristian Rydland Antonsen**  
Senior advisor,  
KPB  
ka@kpb.no

### Project partners

Consortium partners responsible for R&D and technical work related to the production of BIN report:



Expert partners contributing to strategic development of the BIN project:



Basic funding provided by:



## Acknowledgements

---

We gratefully acknowledge the basic funding provided by Troms and Finnmark County Council (through the Regional Arctic 2030 program), and The bank of Northern Norway (Sparebank 1 Nord-Norge) (through the program Samfunnsløftet).

We are also grateful to the Norwegian Ministry of Foreign Affairs (Arctic 2030 program) and Nordland County Council (DA Nordland program) for funding the BIN project in its initial stage 2016-20.

We would like to thank our strategic partners for contributing to the development of the BIN project: The Arctic Economic Council, MGIMO University, Akvaplan-niva, Center for High North Logistics.

## Contacts

---

Chair of the BIN Project Board

**Erlend Bullvåg**, PhD,

Associate Professor at Nord University Business School

Erlend.Bullvag@nord.no

+47 906 49 591

BIN project coordinator

**Andrey Mineev**, PhD

Researcher at the High North Center for Business,

Nord University Business School

Andrey.Mineev@nord.no

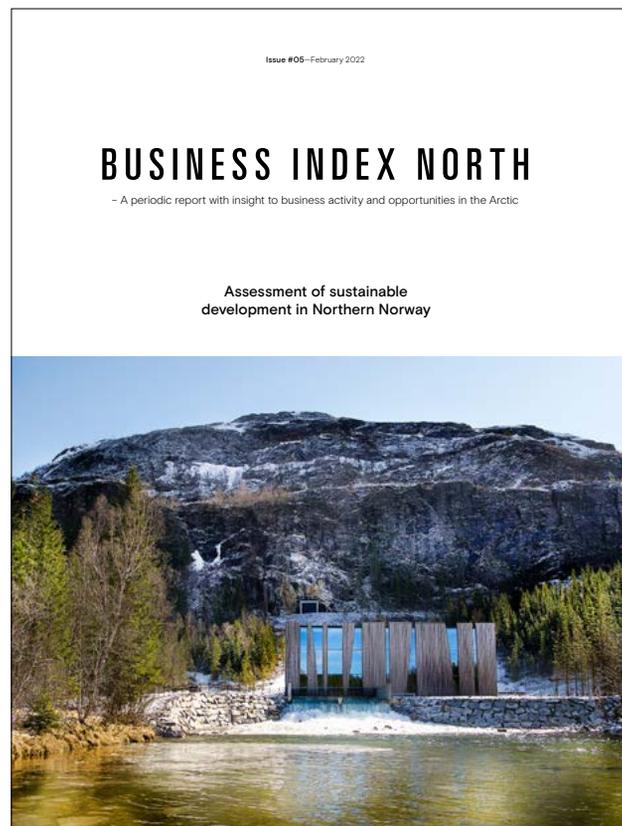
+47 957 26 128

# What is BIN?

Business Index North (BIN) is a project that contributes to sustainable development and value creation in the Arctic. The overall goal is to set up a recurring, knowledge-based, systematic information tool for stakeholders such as businesses, academics, governments, and regional authorities, as well as media, in the Arctic states. The coordinator of the BIN project is the High North Center for Business and Governance at Nord University Business School (Norway).

This is the fifth “Business Index North” periodic analytical report focusing on sustainable development in Northern Norway – Troms and Finnmark, and Nordland. The report is developed in the frame of the project “Business Index North and Scenarios for Northern Norway” financed by Troms and Finnmark County Council (through the Regional Arctic 2030 program), and The bank of Northern Norway (Sparebank 1 Nord-Norge) (through the program Samfunnsløftet).

Previous BIN reports addressed sustainability on an Arctic scale and included Norwegian regions (Finnmark Fylkeskommune, Troms Fylkeskommune and Nordland Fylkeskommune), Swedish regions (Norrbottens Län and Västerbottens Län), Finnish regions (Lapin Maakunta, Pohjois-Pohjanmaan Maakunta, Kainuun Maakunta), and North-West Russian regions (Murmansk Oblast’, Arkhangelsk Oblast’, the Republic of Karelia, the Nenets Autonomous District, the Komi Republic, and the Yamal-Nenets Autonomous District). The results demonstrate differences in sustainability measured by the Sustainable Development Goals indicators, especially in the Nordic and Russian regions. Please refer to [businessindexnorth.com](https://businessindexnorth.com) to explore our reports.



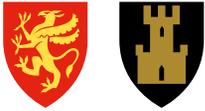
**BIN area**

Northern regions contribute to 8.9% of total Norway's population and occupy 30% of land area



	Population in thousands	Density of population per sq. km
<b>Norway</b>	<b>5328.21</b>	<b>17.51</b>
Nordland	243.39	6.75
Troms	167.20	6.72
Finnmark	75.87	1.66

## Counties in focus



### Troms and Finnmark County

On January 1, 2020 as the result of a regional reform the County of Finnmark and the County of Troms were merged into one county. In this report, we consider each of the counties separately through all years under analysis if data are available. In some instances, the only available data were for Troms and Finnmark County.

Finnmark is the most northern county in Norway with a land area 45,756 sq. kilometers. It occupies 13% of the land area of the whole of Norway. The county had a population of 74,684 in 2021. It is the least densely populated Norwegian county with two people per sq. kilometer.

Troms County with its land area of 25, 170 sq. kilometers occupies 7% of the land area in the whole of Norway and is home to 167,484 people. The population density is seven per sq. kilometre, which is half of Norway's overall average of 15 people per sq. kilometer. Troms and Finnmark County comprises 39 municipalities.

On 28 October 2021, the Norwegian government confirmed that Troms and Finnmark will become two separate counties again. The goal is that the demerger will take place as soon as possible.



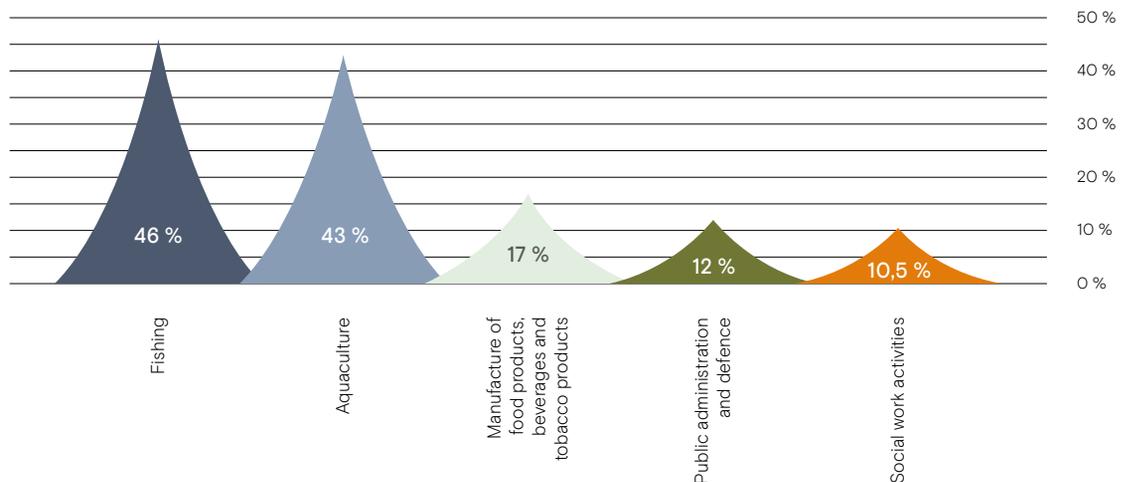
### Nordland County

Nordland County has a land area of 35,760 sq. kilometers occupies 10% of the total land area of Norway and is home to 240,345 people. The population density is the same as in Troms County with seven people per square meter. The county comprises 41 municipalities.

Taken together the three counties (regions) include 80 municipalities (out of 356 in Norway) and contribute to 7% of Norway's GVA\*. The most significant contribution per industry is from fishing and aquaculture, with 46% and 43% respectively of the Norwegian total. Public administration, defense and social work in these three northern counties are among the largest Gross Value Added (GVA) contributors on the national level.

Note: County and region are used interchangeably in this report

Figure 0.1 — Share of Finnmark, Troms and Nordland GVA in Norway's total GVA, 2019



# Executive summary

The northernmost regions of Norway, home to nearly half a million people, represent a unique combination of diverse inland and coastal communities with substantial economic potential. These regions are undergoing rapid transformation in demographic, social, and economic spheres. Assessment of how Finnmark, Nordland and Troms are progressing towards achieving of SDGs affords a detailed understanding of the challenges to be addressed on the governmental, regional, and municipal levels.

These Northern regions demonstrate significant economic potential, unprecedented economic growth, and an abundance of electricity produced from renewable sources. Results show that while excelling in economic development, the northernmost regions of Norway are underperforming on the human and social dimensions of sustainable development. Inability to re-invest capital in education, health, gender equality, and community wellbeing presents a challenge that needs to be addressed. Poor performance on innovation indicators and infrastructure spending (land improvements, construction of roads, railways, private residential dwellings etc.) pose future challenges for creating knowledge driven society in the High North. Moreover, the environmental dimension suffers from a slower pace of CO2 emissions reductions in northern regions than in Norway on average. Growing inequality and lower GDP per inhabitant in these northern regions affect the attractiveness of the High North for people and businesses. The success of the northern regions will depend on ability to balance all pillars of development by making progress in achieving 17 SDGs<sup>1</sup>.

## Arctic People



Demographic changes affect the northern Norwegian regions to a much greater extent than the rest of Norway. Population growth in the northern regions has averaged out at 2.8% during the period 2011–2021 while in Norway it was 8.7%. In the next 15 years, by 2037, the population in the northern regions is expected to grow by 2.2%, a third of the rate of Norway as a whole, 7.3%. By 2037 the share of young adults aged 19–35 years is expected to decrease by 13.8% in the northern regions, compared to a 5% decrease in the country as a whole.

From 2011 to 2019 the share of people living on less than 60% of the country's disposable income has increased both in Norway and in the Arctic regions as a whole. While on average the Arctic regions in Norway have a slightly lower percentage of people at risk of poverty, data on the municipal level show great differences between municipalities.

The northern regions contribute to food security worldwide by being a net exported of fish and fish products. During the period 2011–2020, all regions of northern Norway saw growth in the value

of the catch of fish. Numbers of reindeer herded have decreased following the agricultural and food policy of 2011 focusing on reducing reindeer numbers.

Death rates due to cancer, cardiovascular diseases, and diabetes have significantly improved in the northern regions, which, however, have a higher prevalence of overweight and obese population than the national average. In achieving SDG3, the positive trend in preventing deaths from cancer, cardiovascular diseases, and diabetes has been counteracted by an increase in the prevalence of overweight and obesity and a deterioration in mental health.

Despite the growth in tertiary education attainment rates in Norway and its northern counties during the period 2011–2020, Nordland and Finnmark lagged behind the country total by seven percentage points in 2020, while in Troms the rates were similar to those in the rest of the country. The northern regions have had much higher dropout rates from upper secondary education, especially in the population of male young adults, at 17.4%, compared to the country average of 11.3%. In Finnmark, every fifth male student and every sixth female student dropped out of upper secondary education in the period 2014–2020.

Employment rates have shown a downward trend among both males and females with a persistent gender gap in employment rates for females.

## Arctic Society



In all the northern regions demonstrate road safety has improved. While voter turnout in national parliamentary elections is high, low turnout in the municipal council elections in the northern regions requires raising awareness on voting rights and improving knowledge of democratic participation in the life of the local community. Voter turnout in elections to the Sámi Parliament improved in five districts out of seven from 2009 to 2021.

## Arctic Sustainable Economy



The three northern regions collectively contributed 17.7% of all electricity produced in Norway. The surplus of electricity produced increased from 4,786 GWh in 2010 to 5,586 GWh in 2019. Of all electricity produced 92% was from renewable sources.

<sup>1</sup> See Appendix I for 5 pillar Framework for SDG analysis in the Arctic.

The northern regions exhibited a strong economic growth of 55% compared to the country total of 37.1% during the period 2010–2019, with the highest growth in fisheries and aquaculture. The Gross Value Added per 1,000 employees grew by 23% during the period 2010–2019 in the northern regions grew 39%, nearly double the national average.

While the northern regions are collectively lagging behind the rest of the country in share of business establishments engaging in R&D, there is a positive trend and the speed of catching up is high, especially in Finnmark. The increase in Gini coefficients from 2010 to 2019 represents increasing inequality both in Norway and in its northern regions.

During the period 2011–2019 the northern regions saw an increase in newer cars with lower emissions and more electric cars, leading to falling emissions per capita (tonnes of CO2 equivalent).

### Arctic Environment



From 2015 to 2020 substantial progress was achieved in access to clean water, especially in Finnmark, with 99.9% of inhabitants having access to clean water. Overall, the northern regions outperform Norway as a whole in providing access to clean water.

From 2009 to 2019 Norway reduced overall CO2 equivalent emissions per 1,000 capita by 18% while the northern regions of Finnmark, Troms, and Nordland on average reduced their emissions by 5%.

Due to a very low level of high-grade purification treatment systems in the north, discharge of phosphorus and nitrogen is much higher in the northern regions.

Finnmark and Troms on average transferred land to other uses during the period 2011–2020 at double the national rate, which was 4.28 acres per 1,000 capita. In 2020, land area transfers were necessitated by transport and technical infrastructure 44%, commercial buildings, and businesses 21%.

### Partnership



The indicators of macroeconomic development in the northern regions, GDP per inhabitant and Gross Capital and Gross Fixed Capital Formation (GFCF), which includes spending on land improvements, plant, machinery, and equipment purchases; the construction of roads, railways, private residential dwellings, and commercial and industrial buildings lag behind the total for Norway. During the period 2010–2018 GDP per capita grew by 8% in Norway as a whole and by 23% in the northern regions. In 2020 the northern regions had a GDP per inhabitant 32% lower than the Norwegian average.

As result of the COVID-19 pandemic, the rise in unemployment was shortlived in the northern regions, lasting for three months February–April in 2020 and levelling off completely by November 2021.

Despite high growth in GVA, the northern regions lag behind the country as a whole in GFCF by 30%, which in the long run may impede economic growth in northern Norwegian regions.

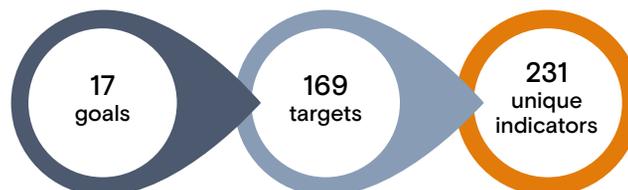
[Build your own graphs about sustainable development in Northern Norway:](#)



## What are SDGs?

The United Nations Sustainable Development Goals (SDGs) were introduced in 2015 as a roadmap to achieve a better and more sustainable future for all. Altogether 17 SDGs address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace, and justice. The 17 Goals are all interconnected, and in order to leave no-one behind and they define global priorities and aspirations for 2030.

Each goal has specific targets and indicators that are used to monitor progress towards the achievement of the goal. Targets are clear, concise, time-bound, and measurable. Understanding how SDGs are achieved at the Arctic level is crucial for future development.



# Contribution of the report

In this report, we use the UN SDG framework with a selected set of targets and indicators most relevant to the Norwegian Arctic regions (for more details see Appendices I and II). When selecting indicators, we used criteria of relevance and availability of indicators on the regional and municipal level.

This report highlights achievement of the SGD indicators selected. Municipality-level analysis adds a new layer and provides in-depth insight on the challenges of meeting SDGs at municipal level

## Report approach

This report only contains targeted analyses of performance in the selected UN SDGs in northern Norway over the last ten years or longer. Data is available on a larger set of SDG indicators online in a user-friendly format. Users can build regional profiles, select years of interest and build graphs. [See more on our website:](#)



Scan the QR code to see online graphs

## Norway's SDGs performance on the global level

The Sustainable Development Report<sup>2</sup> provides rankings of the UN Member States. Countries are ranked by their overall score. The overall score measures a country's total progress towards achieving all 17 SDGs. The score can be interpreted as a percentage of SDG achievement. A score of 100 indicates that all SDGs have been achieved. Norway ranked seventh out of 165 in 2021 with an overall score of 81.98 and in Europe fifth out of 31 countries.

According to the Sustainable Development report in Norway

The following SDGs are achieved: 1, 3, 5, 7, 10, 17



Moderate improvement: 8, 9, 11, 16



Significant and Major Challenges: 4, 6, 12, 13, 14, 15



## How to read this report

Selected SDGs indicators are accessed in regards to achieving SDGs. It is important to note that the report only highlights selected indicators as part of each SDGs. Hence, the findings are **only indicative** for the used indicators, the following signs mean:



Negative trend



Moderate or no improvement



Positive trend

<sup>2</sup> <https://dashboards.sdgindex.org/>



## Contents

What is BIN? <sup>04</sup> / Executive Summary <sup>07</sup> /  
Arctic People <sup>12</sup> / Arctic Society <sup>32</sup> /  
Sustainable Economy in the Arctic <sup>38</sup> /  
Arctic Environment <sup>46</sup> / Arctic Partnerships <sup>52</sup> /  
Summary Tables <sup>56</sup>

# Arctic People

People are the future of the High North. Sustainable development on this pillar means economic opportunity, food security, maintained health, access to education, and reduced gender inequality.



[Build your own graphs about people](#)



Segla peak on Senja Island.  
Photo Reiner Schaufler / [www.nordnorge.com](http://www.nordnorge.com)



## Demographic Indicators

Figure 1.1 – Population change, index Dec 2011=100, 2011-2021

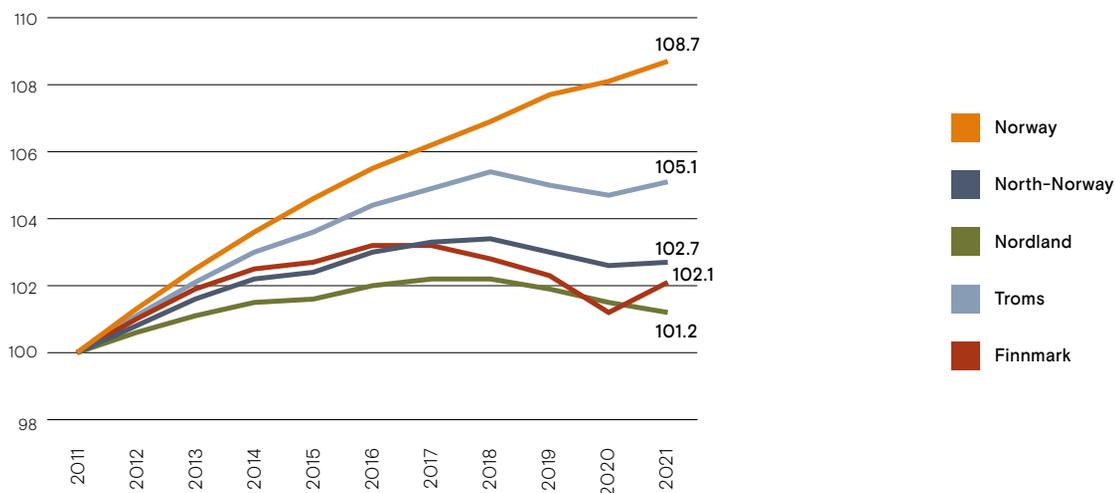
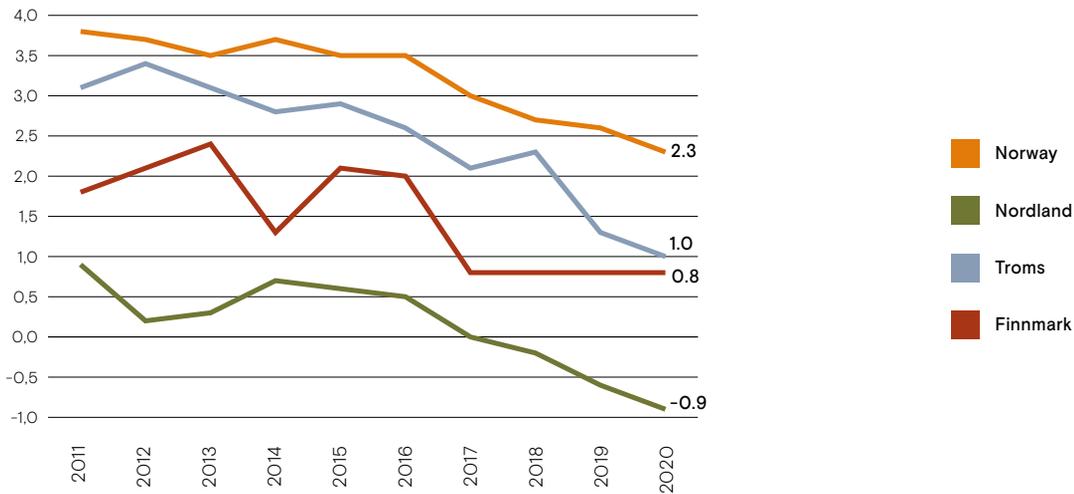


Figure 1.1 demonstrates population change 2011-2021 in the three northern regions compared to the total of Norway expressed as an index. The population in Norway continued to grow with a cumulative growth of 8.7% during

the period 2011-2021, whereas in the North the growth was substantially lower, especially in Nordland (1.2%) and Finnmark (2.1%), while the county of Troms saw a higher growth at 5.1%.

Figure 1.2 — Natural Population Change (NPC), per 1,000 capita, 2010–2020



Population profile depends on two factors, Natural Population Change (NPC)<sup>3</sup> and net migration (NM)<sup>4</sup>. Next trends in NPC and NM are analyzed in each county. NPC per 1,000 has been on the decline in Norway as in northern regions (see Figure 1.2). In Nordland County, NPC per 1,000 population had positive values in 15 municipalities out of 41 in 2011 and only in 9 in 2020, with the greatest increases in Bodø and Træna. NPC is likely to be positive in an urban university center city like Bodø and negative in places with

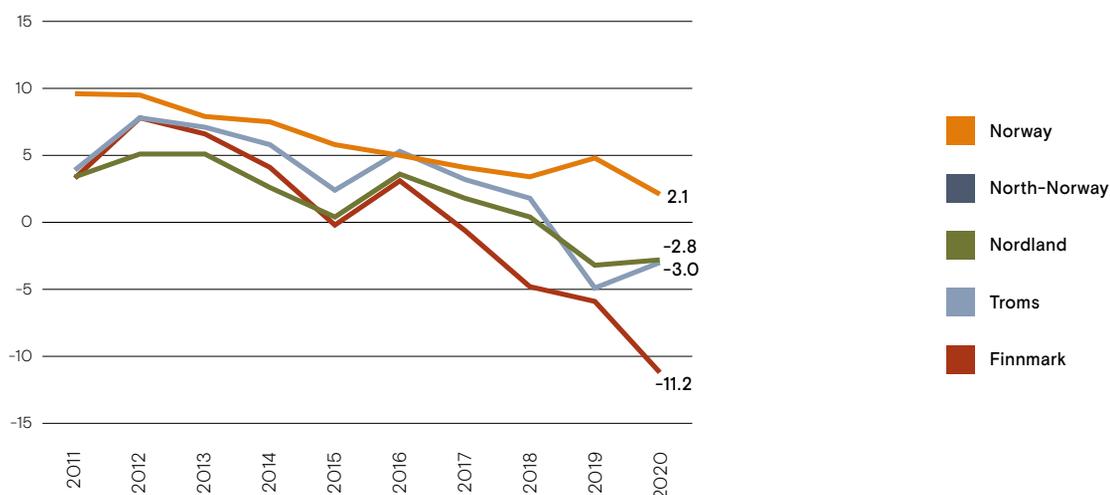
a rapidly ageing population like Bø, where, for instance in 2020, there were 17 births and 47 deaths. Natural population change (NPC) in the county of Finnmark was positive in seven municipalities out of 18 during 2011 and in five in 2020. Alta municipality had the biggest natural population change followed by Kautokeino, Hammerfest, and Vadsø. The pattern of natural population change shows positive trends around urban areas such as Alta (1,275 people), Hammerfest (420 people). Negative trends in NPC were observed in the

municipalities of Loppa, Vardø, and Nordkapp. NPC is dependent on the age structure of society, in municipalities with rapidly ageing populations negative trends are observed. For instance, the median age in Vardø was 39.6 in 2000 and 45.7 in 2020. In Troms County, NPC per 1,000 had positive values in six municipalities out of 23 in 2010 and in three in 2020. The municipalities of Tromsø, Bardu, and Harstad were the gainers due to NPC, while Ibestad and Dyrøy saw the biggest losses.

<sup>3</sup> Population change is the difference in the size of a population between the end and the beginning of a given time period (usually one year). Eurostat definition.

<sup>4</sup> Net migration is the number of immigrants minus the number of emigrants, plus statistical adjustment. Eurostat definition.

Figure 1.3 – Net Migration (NM) per 1000 capita, 2010–2020



Net migration analysis is useful for understanding how regions are able to sustain their population by attracting people from outside their borders. Norway on average had NM 2.1 per 1.000 capita in 2020. In northern Norway all counties had negative numbers - Nordland and Troms (-3) and Finnmark (-11.2). In Finnmark in absolute numbers the greatest decrease due to NM was in Vardø and Nordkapp, increases due to NM were

observed in Gamvik, Nesseby, and Båtsfjord. Strong labour market attractivity in fisheries and recruitment and integration of migrant workers is one explanation for the positive trend in Gamvik. In Troms, NM was positive in Lavangen, Skånland, and Tromsø, the biggest decreases occurred in Lyngen, Kvæfjord, and Kvænangen. In Nordland NM increases were seen in Herøy, Vågan, and Vestvågøy while the biggest decreases occurred in Røst,

Hattfjelldal, and Træna. Municipalities with attractive business opportunities and diversified labor market were successful in increasing population by NM. With the current trends with a growing number of elderly people and negative net migration the small island municipality of Røst is projected to become by 2050 the municipality with the oldest population in Norway, where every third person will be over 70 years old<sup>5</sup>.

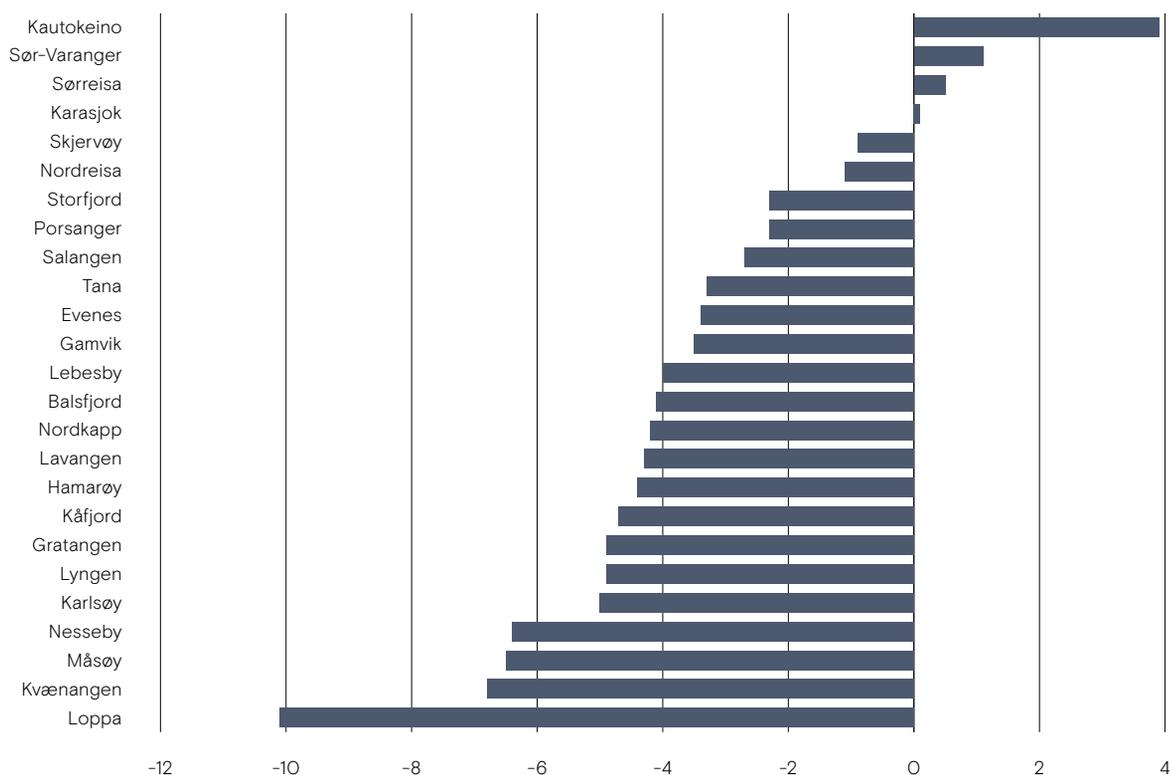
<sup>5</sup> Thonhaugen, M. & Rønning, O. (2020). Ligger an til å bli eldst i landet:

– Eldre er en ressurs [https://www.nrk.no/nordland/ssb-tall\\_-i-rost-i-lofoten-vil-en-av-tre-vaere-over-70-ar-innen-ar-2050-1.15126146](https://www.nrk.no/nordland/ssb-tall_-i-rost-i-lofoten-vil-en-av-tre-vaere-over-70-ar-innen-ar-2050-1.15126146)

## Indigenous Peoples Population

The report makes some assumptions in order to make it possible to use data on Indigenous Peoples. Assumptions are made on the basis of the Forskningsrådet (Research Council of Norway) and the Sametinget (Sámi Parliament) methods for finding statistics suitable to estimate for Sámi population in northern Norway.

Figure 1.4 — Average NPC per 1,000 capita in STN area, 2011–2020

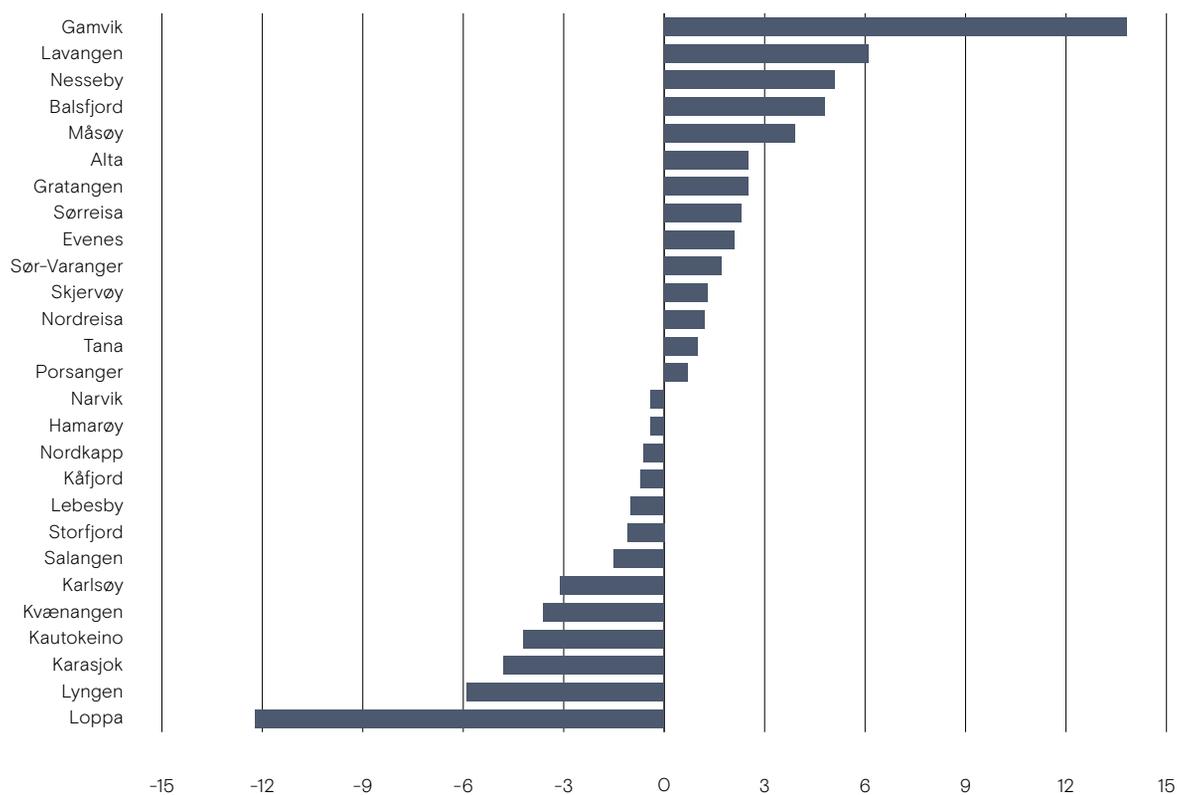


We have defined municipalities where Sámi live. For the list of chosen Sámi municipalities see Appendix III. Finnmark is represented by 11 municipalities, Troms by 12, and Nordland by

2. In the period observed, from 2011 to 2020, total population decrease was 245. Figure 1.4 illustrates population change due to NPC per 1,000 capita, while in 2011 NPC was positive

in one-third of municipalities in the STN area, in 2020 only three municipalities had positive NPC.

Figure 1.5 — Average Net Migration 2011–2020 STN area



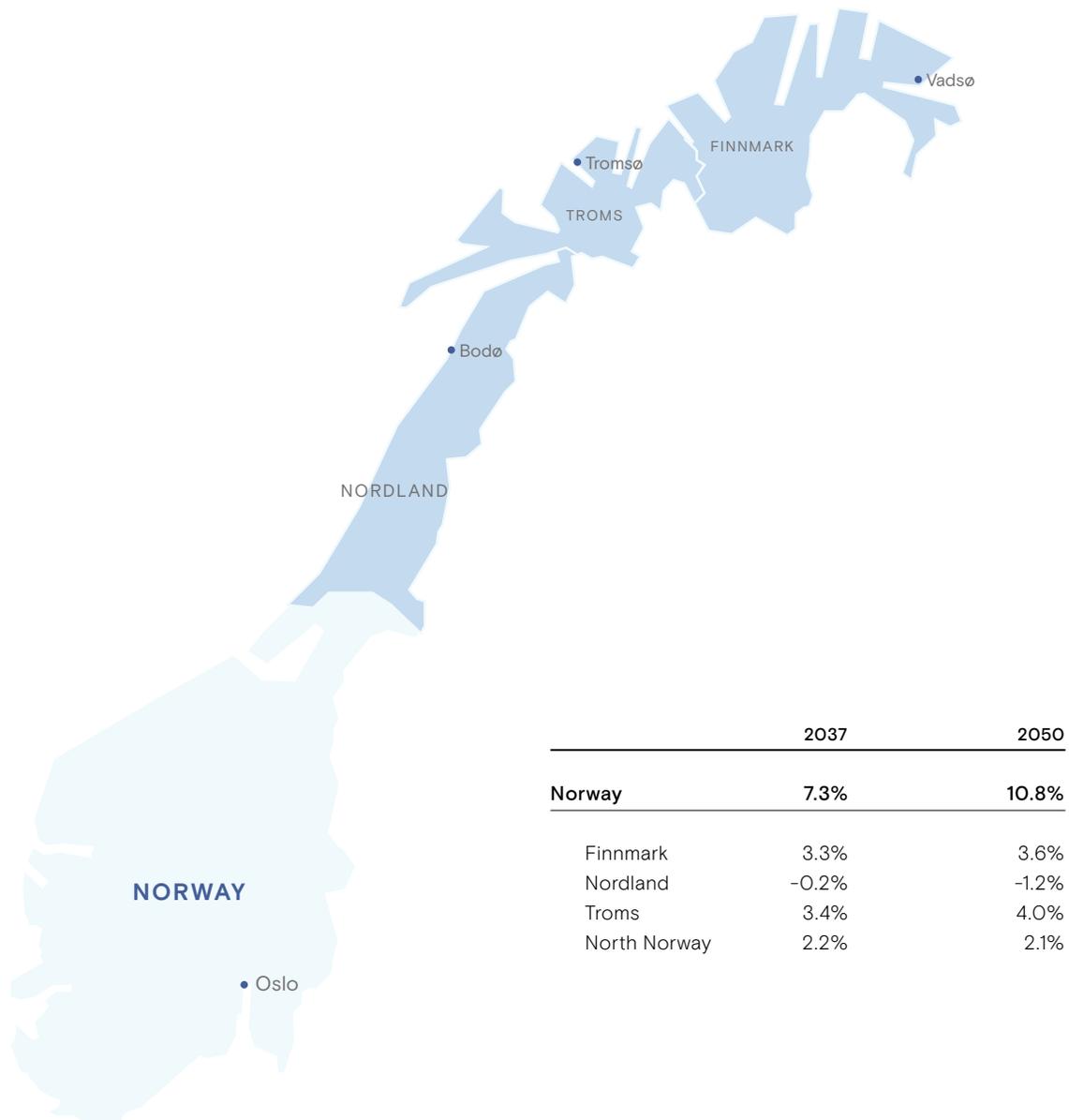
NM in STN area demonstrates flipping patterns, whereby in 2011 in 75% of municipalities in STN area NM was positive while in 2020 it was positive in only 33% of municipalities.

Figure 1.5 shows average NM per 1,000 inhabitants in 2010. Collectively changes in NCP and NM demonstrate that population in the STN area can only be sustained by

migration from outside. The most attractive places for migration appear to be coastal municipalities of Lavangen, Gamvik, Nesseby, and Balsfjord.

## Demographic outlook for 2037 and 2050

In 15 years, by 2037, the population in Finnmark, Troms, and Nordland is expected to grow by 2.2%, a third of the speed of Norway as a whole, 7.3% (See Map 1). By 2050 the gap in growth is expected to increase further, with 2% in the northern regions compared to 10.8% in Norway as a whole. Additionally, we study the population of young adults aged 19–35 years, because young adults finish school, begin to hold full-time jobs, and establish families. By 2037 the share of 19 to 35-year-olds is expected to decrease by 13.8% in the northern regions compared to a 5% decrease in the Norway as a whole





## SDG 1 No Poverty

This goal is aimed to end poverty in all its forms everywhere. In developed countries like Norway, one of the most appropriate poverty indicators is the at-risk-of-poverty rate, representing the share of people with disposable income (after social transfer) equivalent to less than 60% of the national median equivalised disposable income after social transfers. Income that is far below the median level means that a person does not have enough material resources to fully participate in the country's accepted daily life.

Figure 1.6 – Persons in private households with less than 60% median income measured by EU scale, 2010–2019

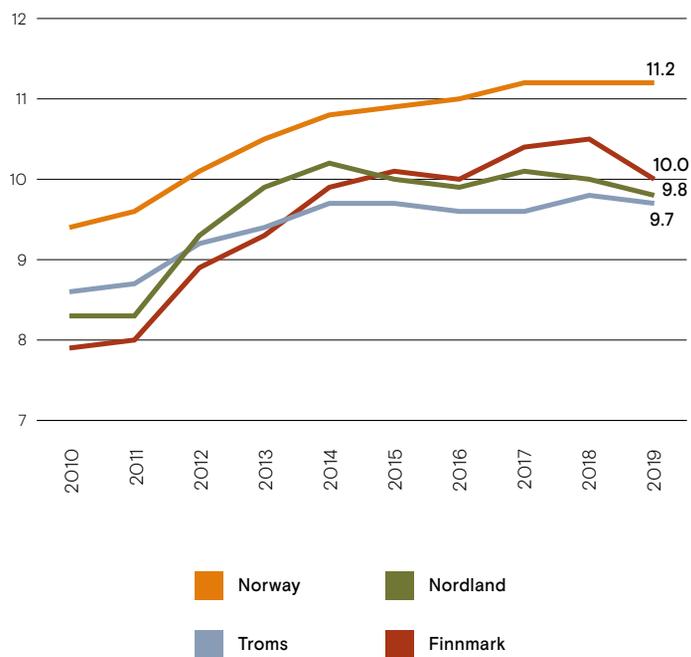
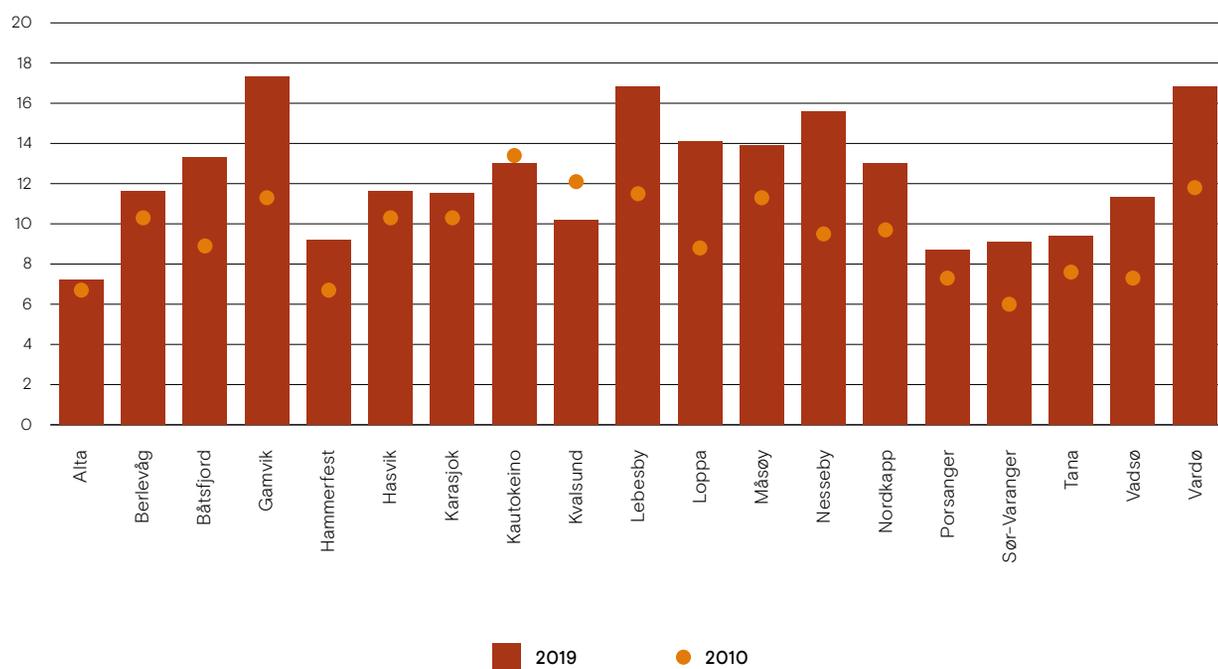


Figure 1.6 demonstrates that the share of people living on less than below 60% of the country's average disposable income has grown both in Norway and in the Arctic counties of Finnmark, Troms, and Nordland.

Figure 1.7 — Persons in private households with less than 60% median income in the municipalities in Finnmark measured by EU scale, 2010–2019



While on average the Arctic counties in Norway have a slightly lower percentage of people at risk of poverty, there are very large discrepancies on the municipal level. Data on the municipal level shows a great discrepancy between municipalities. Some muni-

cipalities perform significantly better than the national total, while others have very high shares of population living at risk of poverty. In 2019, in Finnmark county, the gap between the best-performing municipality, Alta (7.2) and the worst-performing municipality,

Gamvik (17.3) was 11.1%. In 68% of municipalities, poverty risk is higher than the country average of 11.2% (see Figure 1.7). From 2010 to 2019 poverty levels increased in all municipalities except Kvalsund.

Figure 1.8 – Persons in private households with less than 60% median income in the municipalities in Troms measured by EU scale, 2010–2019

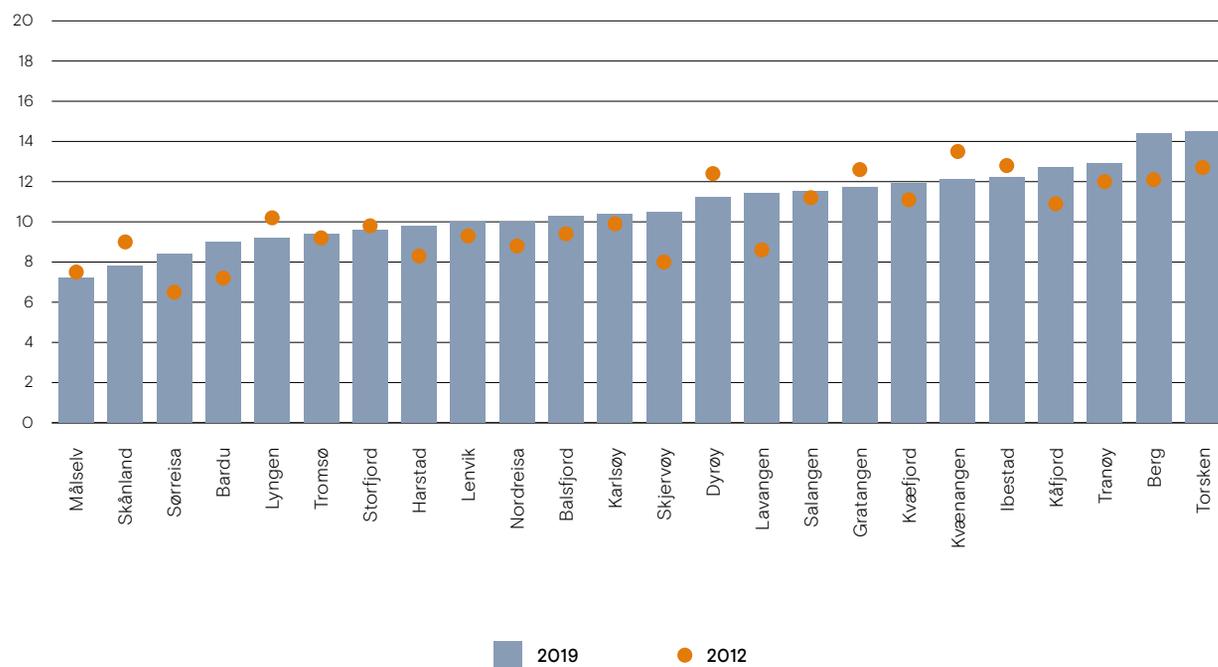


Figure 1.8 demonstrates that in 2019 in Troms County the poverty gap between the municipality with least poverty and that with most

poverty was 7.3%. In 42% of municipalities, the risk is higher than the country average of 11.2%. From 2010–2019 the situation only im-

proved in six municipalities and deteriorated in the rest.

Figure 1.9 — Persons in private households with less than 60% median income in the municipalities in Nordland measured by EU scale, 2010–2019

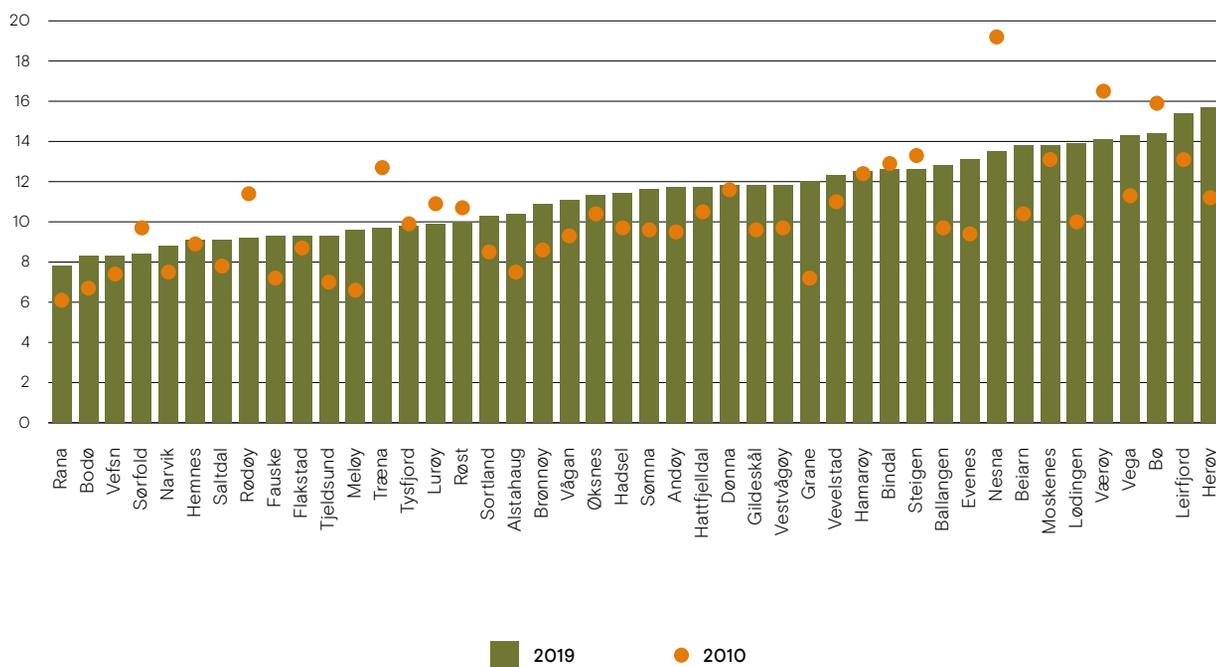


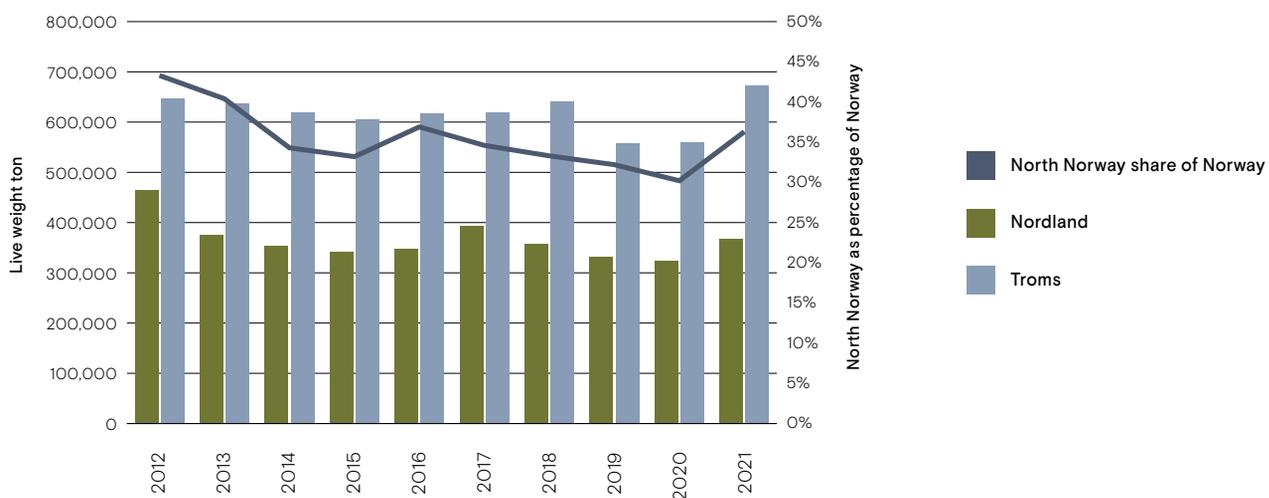
Figure 1.9 shows that in Nordland the poverty gap was 7.9% in 2019. In 2019, in 53% of municipalities the risk is higher than the country average of 11.2. All municipalities saw a deterioration in the level of poverty from 2010 to 2019.



## SDG 2 Zero Hunger

Food security in the Arctic regions is dependent on the ability of the regions to produce food and to contribute to food security worldwide by being a net fish and fish products exporter. Ability to produce food is measured by two indicators: fish caught and reindeer herd stock.

Figure 1.10 – Fishery. Catch in North-Norway 2012–2021



The largest fish species by quantity caught in 2020 were cod, Norwegian spring-spawning herring, saithe, and haddock. Highest volumes of fish were caught in Troms County, Tromsø (139,875) and Senja (4,652), in Nordland County, Verøy (71,762) and in Finnmark, Båtsfjord (52,768) and Nordkapp (28,297). A fleet of small vessels is used for

fishing with 77% live weight caught by vessels under 21 m. Development of live weight of fish caught during 2011–2020 was positive in Nordland with 28% growth and negative in Troms and Finnmark with a 7.2% decline. Norway is committed to preventing overfishing and enforces scientifically established total allowable catches (TACs) for the main

species of commercial interest<sup>6</sup>. By practising sustainable fishing, SDG2 is related to SDG (14) life below water. During 2011–2020, all northern Norway regions saw growth in value of catch (See Figure 1.10). Nordland saw a growth of 49.9% followed by Troms and Finnmark 66.7%, while in the total of Norway the growth was 42.7%.

<sup>6</sup> OECD (2021). Fisheries and Aquaculture in Norway.

[https://www.oecd.org/agriculture/topics/fisheries-and-aquaculture/documents/report\\_cn\\_fish\\_nor.pdf](https://www.oecd.org/agriculture/topics/fisheries-and-aquaculture/documents/report_cn_fish_nor.pdf)

Figure 1.11 — Aquaculture, share of national production and growth in the production 2011–2020 (salmon and rainbow trout for food)

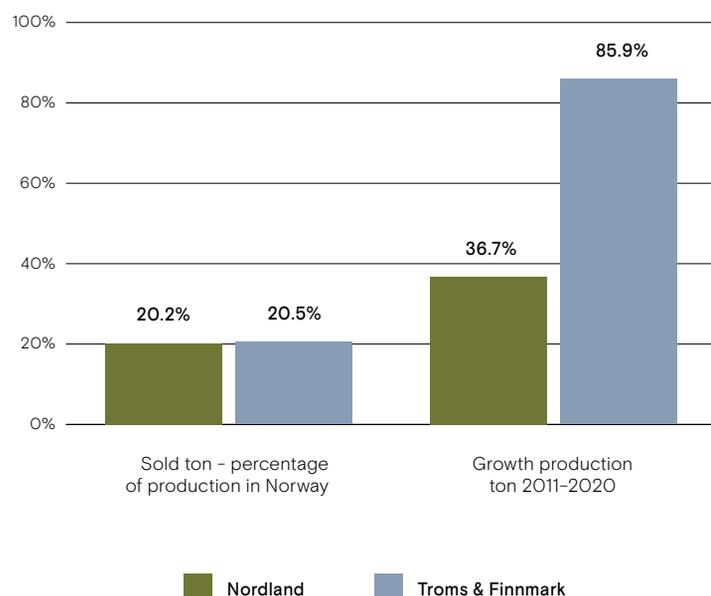
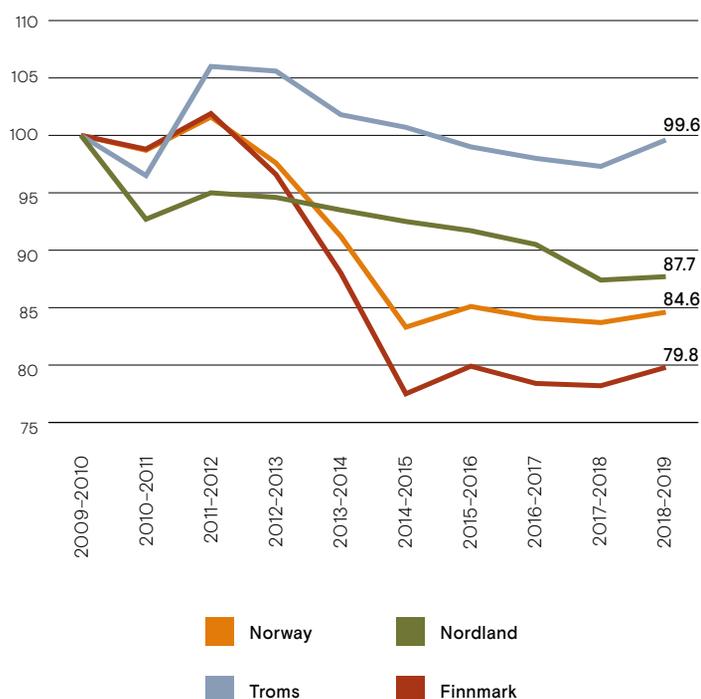


Figure 1.11 shows that the aquaculture sector has a very significant role in northern regions, collectively Nordland and Troms & Finnmark contribute 40.7% of salmon and rainbow trout for food, the growth in production from 2011 to 2020 was 86% in Nordland and 37% in Troms & Finnmark. The dramatic increase in exports of salmon to China since 2018 is due to the lift on the exports ban from the regions of Sor-Trondelag, Nordland and Troms, hence contributing to rapid growth in production<sup>7</sup>.

Figure 1.12 — Change number of reindeer in spring herd, index 2009–2010 = 100



The Sámi reindeer husbandry in Norway is administratively divided into six reindeer grazing areas. In 2018–2019 the northern regions of Finnmark, Nordland and Troms accounted for 86% of all reindeer out of a total of 202,969 reindeer in Norway. Figure 1.12 illustrates the number of reindeer in Finnmark, Nordland, and Troms in the spring herd expressed as an index. In 2009–2010 in Finnmark, Nordland, and Troms there were 215,177 reindeer, with 87% in Finnmark and 7% and 6% in Nordland and Troms respectively. By 2018–2019 the reindeer count in the three northern regions decreased by 18% to 175,391. One reason for this reduced number of reindeer is the Agricultural and food policy of 2011, emphasizing the need to reduce reindeer numbers as the number one priority for ensuring sustainable reindeer husbandry<sup>8</sup>. In 2013, reduction plans were decided on behalf of most herding districts in Finnmark<sup>9</sup>. Views on the need to reduce the number of reindeer in herd have differed between the authorities and some Sámi reindeer herders hoping for more autonomy in reindeer husbandry<sup>10</sup>. Other factors to be considered when evaluating the decrease in reindeer numbers are conflicting land use (e.g., mining, wind power projects), climate change, and loss of traditional knowledge.

<sup>7</sup> Xiaoji, R. (2018). Norway sees dramatic increase in salmon expo. [http://europe.chinadaily.com.cn/epaper/2018-07/20/content\\_36611894.htm](http://europe.chinadaily.com.cn/epaper/2018-07/20/content_36611894.htm) rts

<sup>8</sup> Meld. St. 9 (2011–2012). Landbruks- og matpolitikken. <https://www.regjeringen.no/no/dokumenter/meld-st-9-20112012/id664980/>

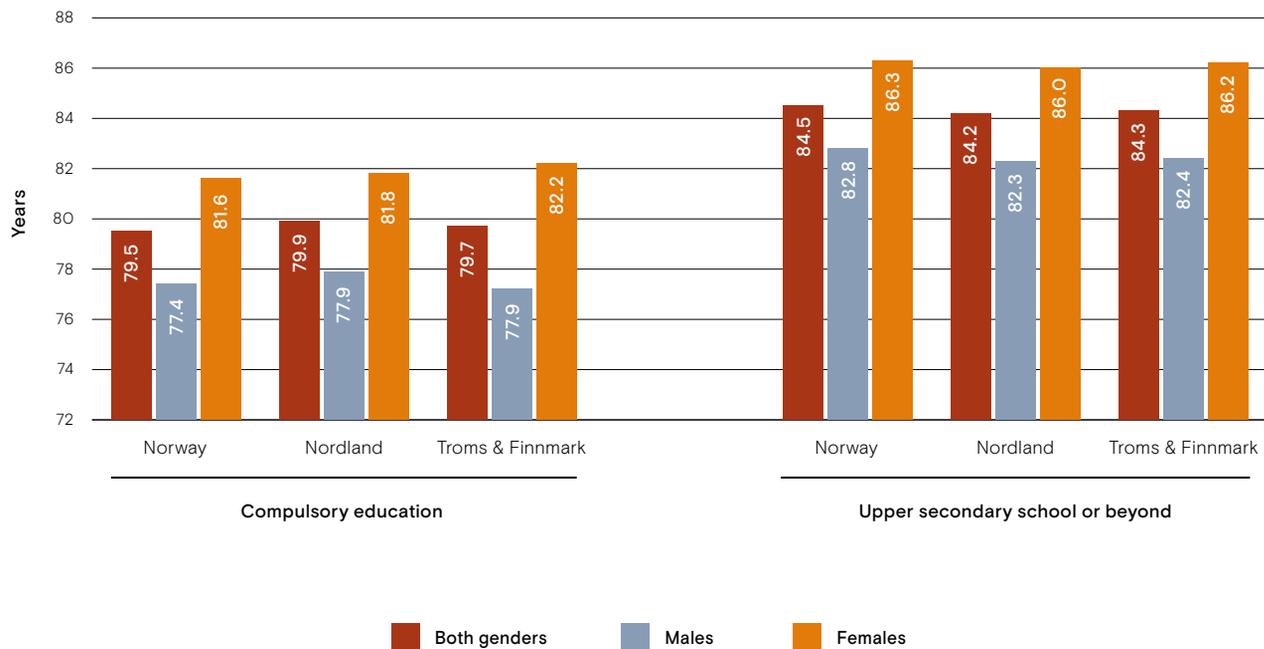
<sup>9</sup> Johansen (2014). The paradox of reindeer pasture management in Finnmark, Norway. <https://www.arcticinfo.eu/en/features/112-the-paradox-of-reindeer-pasture-management-in-finnmark-norway>

<sup>10</sup> Grande, R. (2020). The Norwegian government ordered massive slaughterings of reindeer. Indigenous Sámi reindeer herders disagreed but were not heard. NMBU, Norwegian University of Life Sciences.



## SDG 3 Good Health and Well-Being

Figure 1.13 — Life Expectancy, people born in 2012–2018

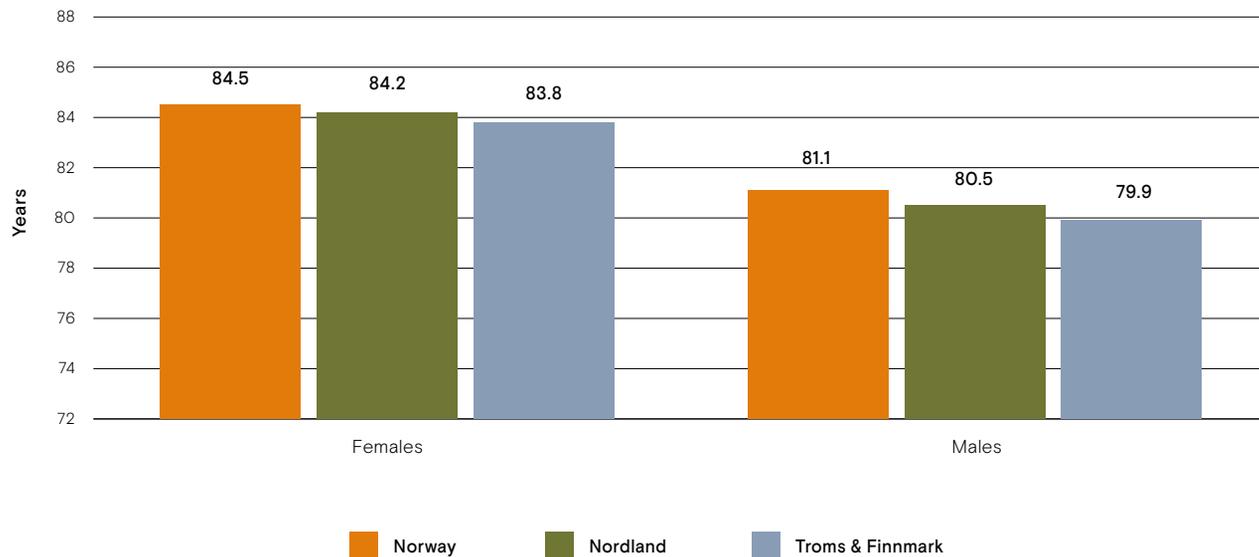


Life expectancy and level of educational attainment are strongly correlated. Figure 1.13 shows life expectancy for people born in 2012–2018 by gender and by level of education (compulsory, upper secondary, and

beyond). The results demonstrate that there is no difference in life expectancy by region. Males with compulsory education are expected to live till 77.4 in Norway, while females have a life expectancy five years longer at

79.5. The gain in life expectancy with upper secondary education is on average five years for both males and females.

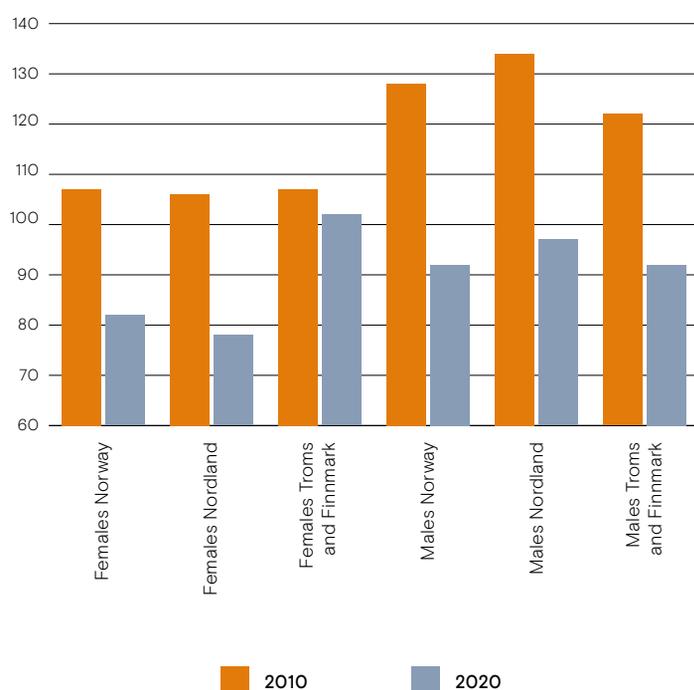
Figure 1.14 — Life expectancy, age group born in 2016–2020



The latest data show a slight gap, widening for males born in 2016–2020 in Troms & Finnmark compared to Norway as a whole, with a life ex-

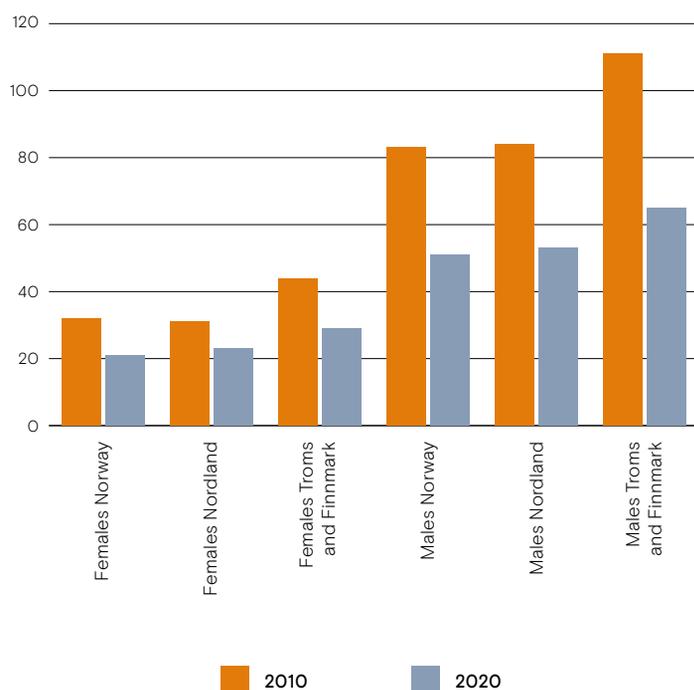
pectancy reduced by 1.2 years. For females, the gap is 0.7 years (see Figure 1.14).

Figure 1.15 – Deaths due to cancer, per 100,000 persons, 0–74 years age standardized, 2010 and 2020



Cancer is a major public health concern in Norway, with 11,049 deaths in 2018. A total of 34,979 new cancer cases were reported in 2019, of which 53.5% were among men and 46.5% were among women.<sup>11</sup> Figure 1.15 illustrates that death due to cancer is more common among males than females. Survival rates for people diagnosed with cancer are improving, likewise the treatments. Deaths due to cancer in Norway decreased by 23% in total for females and by 28% for males. In Nordland deaths due to cancer per 100,000 decreased by 26% for females and by 28% for males. In Troms and Finnmark, while deaths due to cancer have decreased significantly decreased among males from 122 per 100,000 persons in 2010 to 92 in 2020, the same does not hold for females, with a marginal decrease from 107 to 102, thereby deserving specific attention.

Figure 1.16 – Deaths due to cardiovascular diseases, per 100,000 persons, 0–74 years age standardized, 2010 and 2020

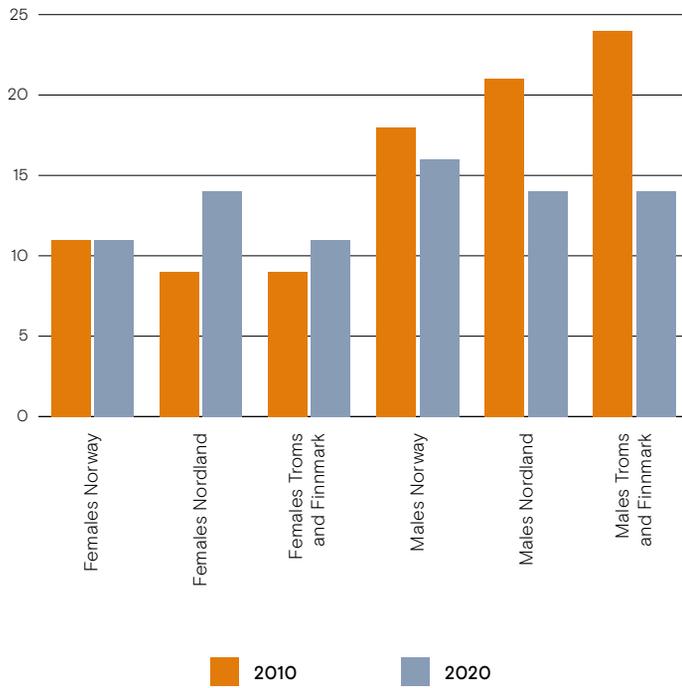


Cardiovascular diseases have long been amongst the major causes of death among all age groups combined. Figure 1.16 shows that in Norway in all age groups deaths due to cardiovascular diseases occur more in men (51 per 100,000 in 2020) than in women (21 per 100,000 in 2020). In the last ten years, a sharp decline in mortality due to cardiovascular diseases can be attributed to a decrease in smoking and improvements in treatment<sup>12</sup>. Historically, northern Norway especially, Troms & Finnmark, has had higher cardiovascular mortality than the national average, this gap remained in 2020 compared to the national average of 51 deaths in males per 100,000, and to 65 in Troms & Finnmark. Disparities in educational attainment contribute to higher death rates, thus among those with less education, a higher proportion experience myocardial infarction than among those with higher level of education.

<sup>11</sup> Cancer Registry of Norway (2019). Cancer in Norway 2019. [https://www.kreftregisteret.no/globalassets/cancer-in-norway/2019/cin\\_report.pdf](https://www.kreftregisteret.no/globalassets/cancer-in-norway/2019/cin_report.pdf)

<sup>12</sup> Ariansen, et al. (2020). Cardiovascular disease in Norway. Norwegian Institute of Public Health. <https://www.fhi.no/en/op/hin/health-disease/cardiovascular-disease-in-norway---/>

Figure 1.17 — Deaths due to diabetes, per 100,000 persons, all age groups 2010 and 2020



Diabetes is one of the most common chronic diseases in Norway, 1 in 20 Norwegians have been diagnosed with diabetes (245,000 individuals). Of these, estimates show that 28,000 have type 1 diabetes and 216,000 have type 2 diabetes<sup>13</sup>. Figure 1.17 shows that death due to diabetes is more prevalent in males than females. During the period 2010–2020 deaths due to diabetes decreased in males in the regions of Nordland and Troms Finnmark to 14 per 100,000 persons, which is slightly lower than the country’s average of 16. Deaths due to diabetes in females, on the contrary, increased in the northern regions, for instance in Nordland from nine per 100,000 in 2010 to 14 in 2020. Factors predisposing to type 2 diabetes include overweight and obesity, physical inactivity, diet, smoking and previous gestational diabetes. People with a body mass index (BMI) around 30 were at 20 times higher risk of developing type 2 diabetes over 11 years compared with those of normal weight<sup>14</sup>.

Figure 1.18 — Overweight or obese, BMI above 25, age group–25–79, % standardized, 2015 and 2019

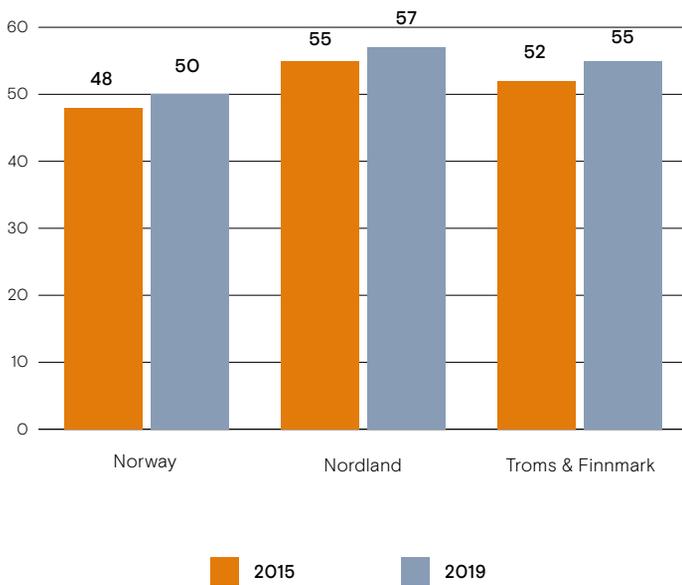


Figure 1.18 shows the percentage of people in the age group 25–79 that are classified as overweight or obese. The data comes from Northhealth based on self-reported cases. Overweight is a body mass index (BMI) between 25 and 30 kg/m<sup>2</sup>. Obesity is a BMI of 30 kg/m<sup>2</sup> or above. Obesity is primarily associated with an increased health risk. High BMI contributes to approximately 2,400 annual deaths in Norway and many cases of cardiovascular disease, diabetes, and other chronic diseases<sup>15</sup>. During the COVID-19 pandemic, obesity was identified as a risk factor for hospitalization and death, particularly among adults aged <65 years<sup>16</sup>. The northern regions have a higher prevalence of overweight and obese population than the national average of 50% in 2019. Since 2015 there has been an increase in Nordland of two percentage points reaching 57% and in Troms & Finnmark an increase of three percentage points, reaching 55%. Research suggests that interventions at the community level (e.g., facilitating physical activity in schools and the local community, and reducing access to nutrient-poor foods) can have a wider reach and be more effective than individual intervention.

<sup>13</sup> Stene L, et al. (2017). Diabetes in Norway. Norwegian Institute of Public Health. <https://www.fhi.no/en/op/hin/health-disease/diabetes-in-norway---public-health/>

<sup>14</sup> Ibid II

<sup>15</sup> Meyer, et al. (2017). Overweight and obesity in Norway. Norwegian Institute of Public Health. <https://www.fhi.no/en/op/hin/health-disease/overweight-and-obesity-in-norway---/>

<sup>16</sup> Kompaniyets, et al. (2021). Body mass index and risk for COVID-19–related hospitalization, intensive care unit admission, invasive mechanical ventilation, and death—United States, March–December 2020. *Morbidity and Mortality Weekly Report*, 70(10), 355.

**Figure 1.19 – Number of individuals in contact with a physician or emergency care services (primary care) for mental symptoms and disorders per 1,000 capita per year, 2010–2020**



Deteriorating mental health is affecting an increasing number of people in Norway. Figure 1.19 shows that the number of individuals in contact with a physician or emergency care services has been on the rise in Norway with a 20% increase, followed by Troms & Finnmark with a 25%, and Nordland with a 26% increase. Nordland saw the highest rate of individuals seeking help for mental health problems.



## SDG 4 Quality Education

**Figure 1.20 – Tertiary education attainment, 2011 and 2020**

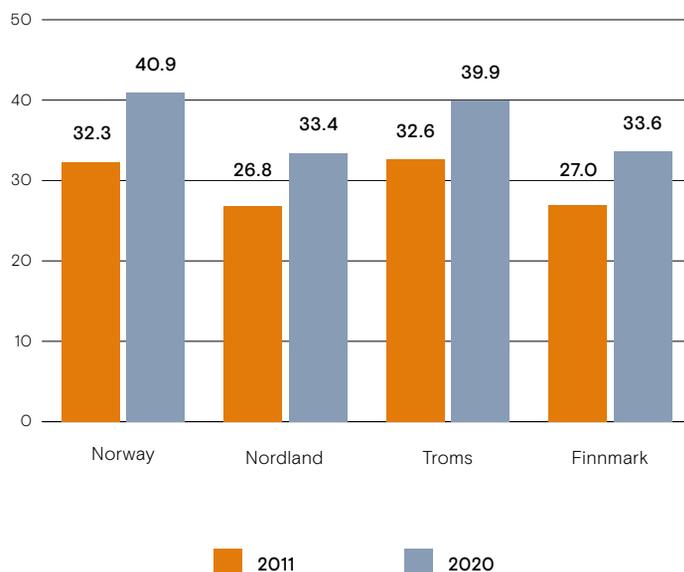
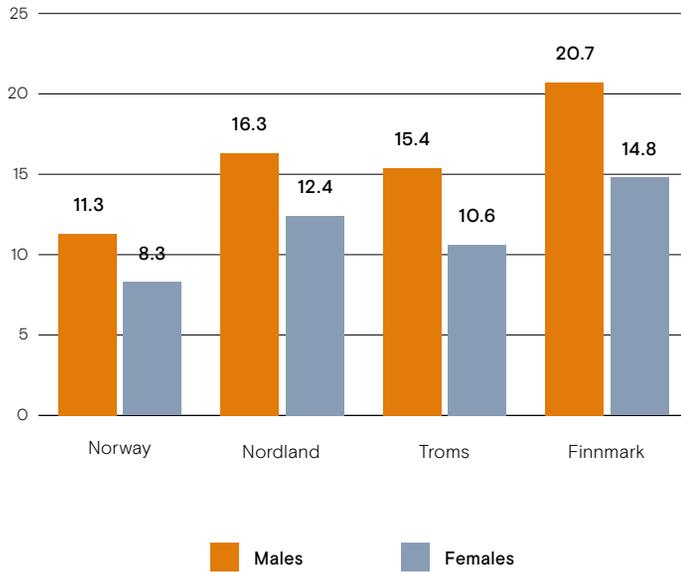


Figure 1.20 demonstrates tertiary education attainment including both education lasting less than four years and more than four years. Despite the growth in tertiary education attainment rates in Norway and its northern counties during the period 2011–2020, Nordland and Finnmark were lagging behind the total of Norway by seven percentage points in 2020. Troms County had tertiary attainment rates similar to the country average in 2011 and 2020.

Figure 1.21 — Dropped out before or during the last year of upper secondary education, 2014–2020



Upper secondary education continues to be the basic level of education expected of young adults to contribute effectively to society. Those without post-secondary education are at a disadvantage on the labor market. In 2020, the unemployment rate for young individuals without upper secondary education was nearly double that of those with a higher level of education<sup>17</sup>. In Norway, compulsory education starts at the age of 6 and lasts for 10 years. Young individuals who have finished primary and lower secondary school or a comparable program are entitled to three years of upper secondary education (typically meant for young adults aged 16–19). Upper secondary education is organized in programs that qualify students to apply for higher education or vocational programs at the upper secondary level. Young men are more likely than young women to lack an upper secondary qualification on average across OECD countries. In Norway in total, every tenth person (both genders) dropped out before or within the last year of upper secondary education. The northern counties of Finnmark, Nordland, and Troms have much higher rates of dropout from upper secondary education, especially in the population of male young adults (see Figure 1.21). In Finnmark, every fifth male student and every sixth female student dropped out of upper secondary education in the period 2014–2020. In Nordland 16.3% of males and 12.4% of females and in Troms 15.4% and 10.6% respectively did not complete their upper secondary education. Research has shown that gender, socio-economic status, and country of origin all contribute to the likelihood of not obtaining an upper secondary qualification. These factors need to be included in the action plan to address deteriorating upper secondary education rates as part of achieving SDG 4.

<sup>17</sup> OECD Education at Glance 2021. <https://www.oecd-ilibrary.org/docserver/b35a14e5-en.pdf?expires=1640090670&id=id&accname=guest&checksum=494BAC5D81542598939953F4BC1D2C22>



## SDG 5 Gender Equality

Gender equality is addressed by analyzing indicators of women's participation in the labor force.

Figure 1.22 – Employment rates, 2012 and 2021

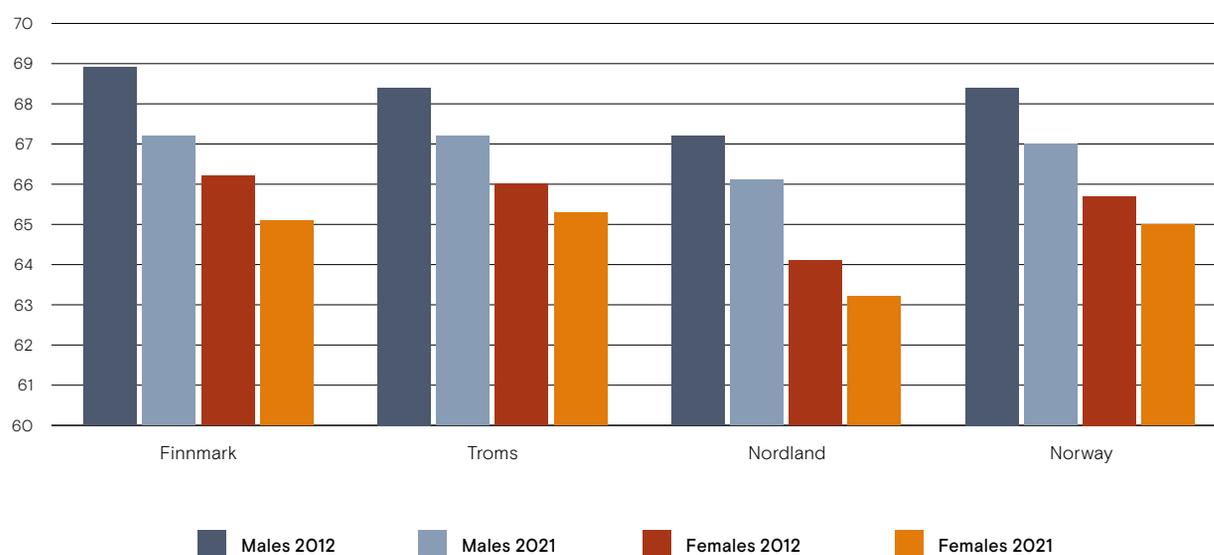


Figure 1.22 illustrates the change in employment rates from 2012 to 2021. Employment rates have shown a downward trend for both males and females with a persistent gender gap in employment rates. In Norway total employment rates in 2021 stood at 67% for males and 65% for females. In northern Norway, the average employment rate was 64.5% for females and 66.8% for males. The

lowest employment rate for females was observed in Nordland at 63.1% in 2021. The negative effect of the COVID-19 pandemic on female employment has been documented worldwide. Women have suffered disproportionate employment and loss of income as a result of their over-representation in the hardest-hit industries, such as accommodation and hospitality services and manufac-

turing. Inequalities in the workplace between men and women, which have deteriorated due to the COVID-19 epidemic, will persist in the foreseeable future<sup>18</sup>. At the municipality level employment rates below 60% for females were observed in 14 municipalities in 2012 and in 21 in 2021, with the lowest employment rates in Ibestad (55.1), Lavangen (55.4) and Bindal (55.9).

<sup>18</sup> ILO Policy Brief (2021). Building Forward Fairer: Women's rights to work and at work at the core of the COVID-19 recovery. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms\\_814499.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_814499.pdf)

# Arctic Society

This pillar includes sustainable cities and communities and peace, justice, and strong institutions that are essential for functioning and sustainable societies.



[Build your own graphs on regional society indicators](#)

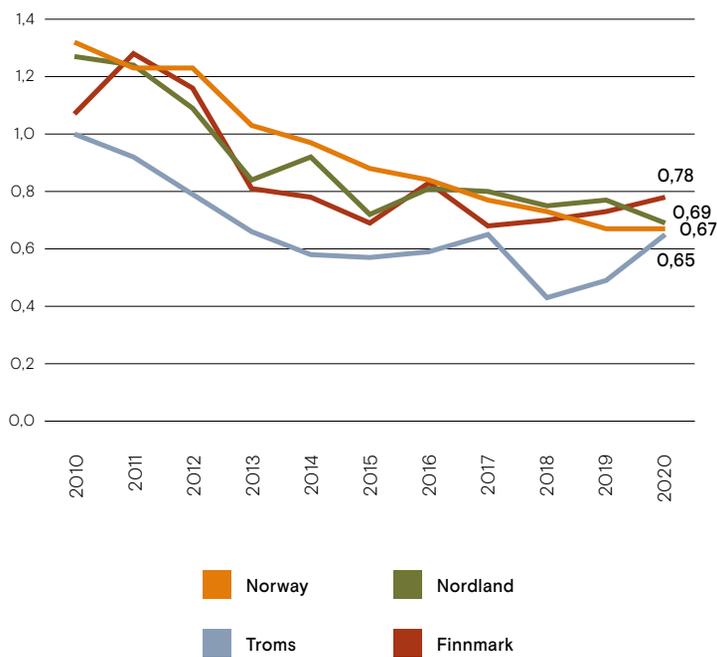


Bodo city at night.  
Photo: Shutterstock / Tord Kristian Larsen



## SDG 11 Sustainable cities and communities

Figure 2.1 – Killed or injured in road traffic accidents per 1000 capita, 2010–2020

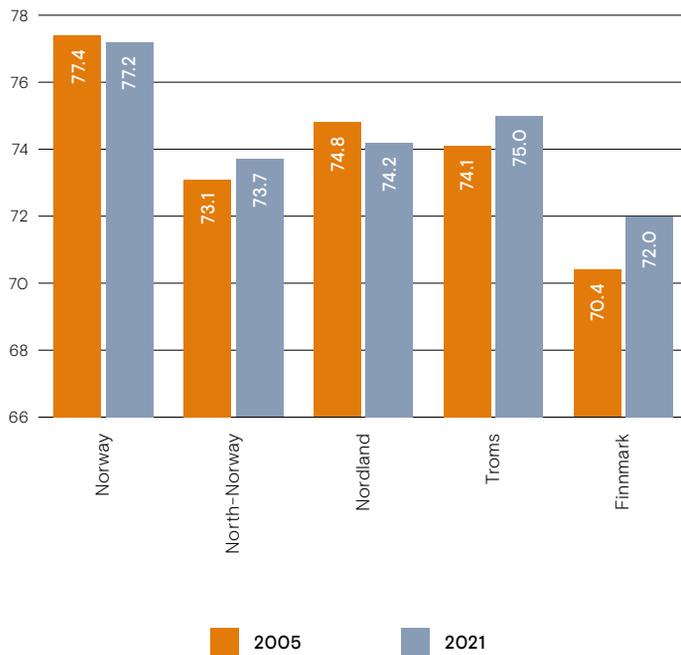


Road safety is measured by the indicators for those injured in road traffic accidents per 1,000 capita (see Figure 2.1). All northern Norwegian counties demonstrate a low rate, on average one person per 1,000 seriously injured or killed and the trend is downwards, indicating improved road safety. On the municipal level, some municipalities have a rather high rate of people seriously injured and killed in road traffic accidents Sørfold seven people per 1,000 and Hamarøy seven people per 1,000 requiring further road safety improvement assessments.



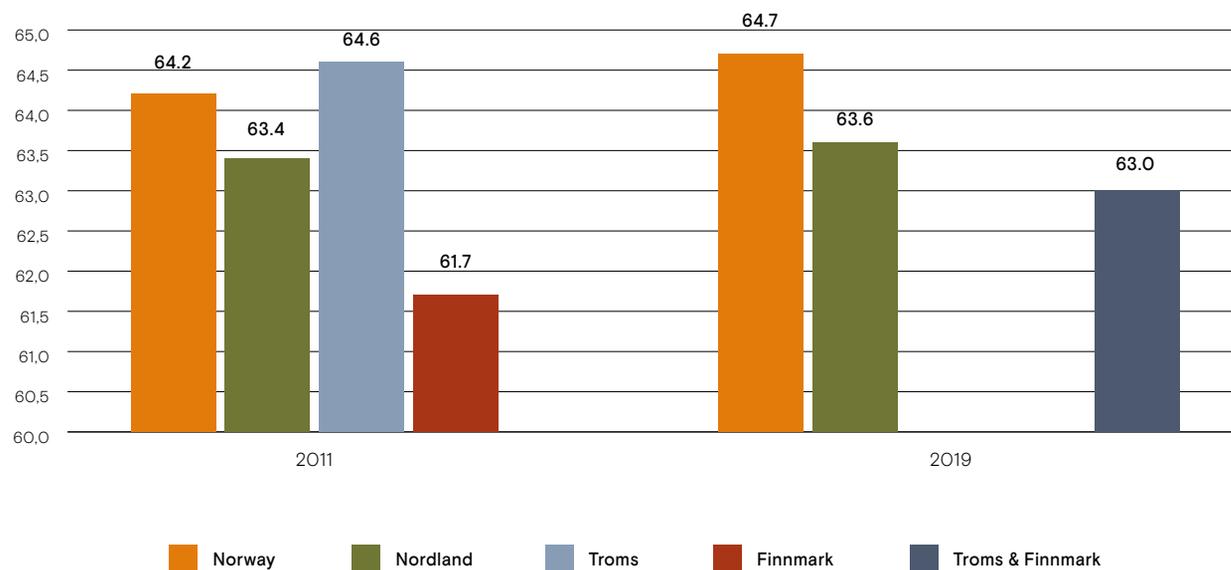
## SDG 16 Peace, justice, and strong institutions

Figure 2.2 — Participation rate in parlamentary elections, 2005 and 2021



Interest in politics is an important factor for social cohesion. A high voter turnout is a sign that a country’s political system enjoys a high degree of participation. Voting in national parliamentary elections is one indicator of people’s participation in their community’s national life<sup>19</sup>. In Norway, parliamentary elections (stortingsvalg) are held every fourth year. In parliamentary elections, only Norwegian citizens who have reached the age of 18 years by the end of the election year, and who are or have previously been registered as residents in Norway, are entitled to vote. Figure 2.2 illustrates that in Norway the total participation rate of the voting-age population who actually voted in parliamentary elections remained high at 77%. The northern regions lagged in 2005 by as much as seven percentage points, e.g., in Finnmark, this indicator was at 70%. The change from 2005 to 2021 was very marginal in the northern regions. In 2021, the northern Norwegian regions lagged behind the national average of 77.2% by 3.5 percentage points.

Figure 2.3 – Participation rate in municipal elections, 2007 and 2019

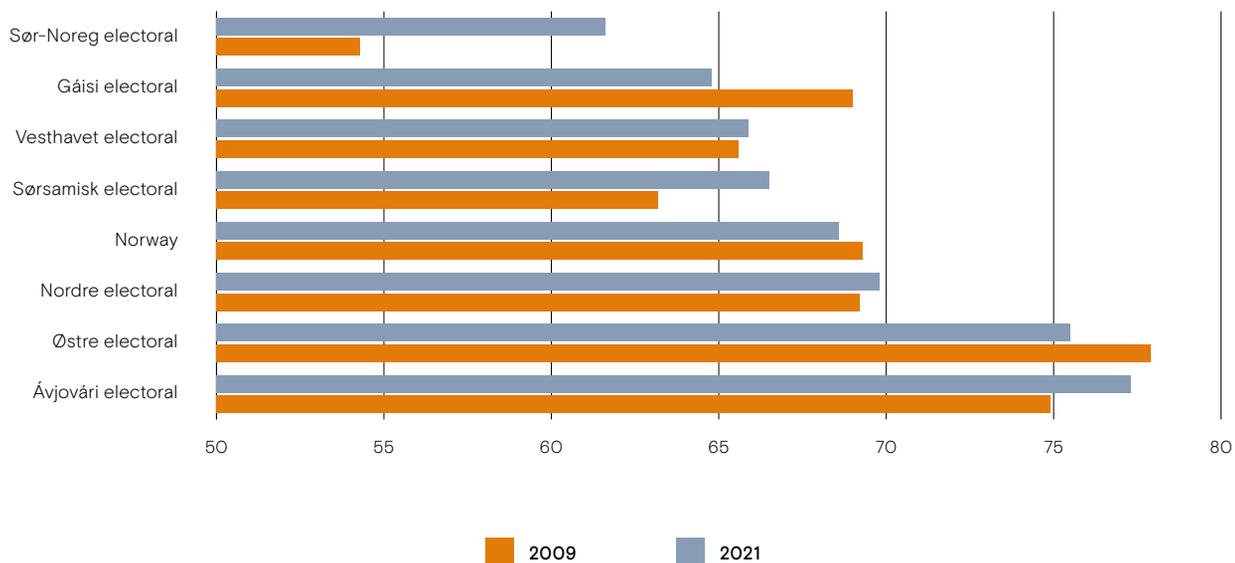


Municipal elections are important to the everyday life of the local community because members of the municipal councils make decisions on local matters such as kindergartens, child welfare, planning and land matters, education at primary and lower levels, health and care services, cultural initiatives, etc. Municipal elections (kommunestyrevalg) are also held every fourth year, in the middle of the parliamentary term. Apart from Norwegian

citizens, Nordic citizens residing in Norway and other foreign nationals who have reached 18 years of age by the end of the election year, and who have been registered as residents in Norway or three consecutive years before the election date, also have the right to vote. The participation rate in municipal elections is much lower than in parliamentary elections. In 2007 the participation rate averaged 64.4% for Norway as a whole and 64.7% in 2019 (see

Figure 2.3). In the northern regions, the participation rate was at its lowest level in 2007 for the county of Finnmark at 61%. After the merging of Finnmark and Troms, the participation rate was 63% in 2019. The low voter turnout in Norway as a whole and the even lower turnout in the northern regions requires raising awareness on voting rights and awareness raising about democratic participation in the life of the local community.

Figure 2.4 — Percentage voter turnout for Sámi Parliament elections, by constituency, 2011 and 2021



Elections to the Sámi parliament are held every four years in Norway at the same time as the parliamentary elections. Every Sámi person on the Sámi Parliament (Sametinget) electoral role has the right to vote. There are

seven constituencies that cover the entire country<sup>20</sup>. A total of 39 representatives are elected from across the entire country. Voter turnout improved in five districts out of seven from 2009 to 2021 (see Figure 2.4). In 2021,

in two constituencies turnout was higher than in Norway as a whole (68.6%), i.e., in Ávjovári electoral district and Østre electoral district, both located in Finnmark, the respective rates were 77.9% and 75.5%.



# Sustainable Economy in the Arctic

This chapter deals with energy, business activities, and innovative potential. It moreover addresses levels of inequality at the regional level.



[Build your own graphs about sustainable economy](#)

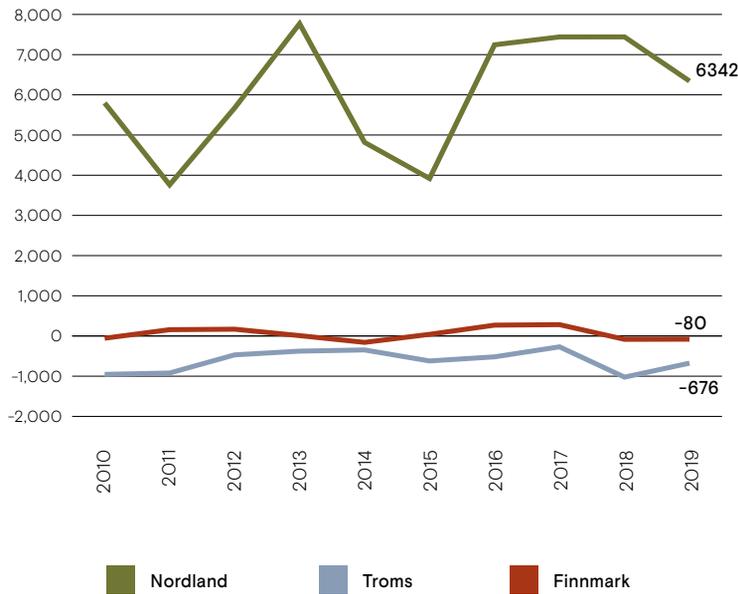


Mo Industrial park.  
Photo: MIP



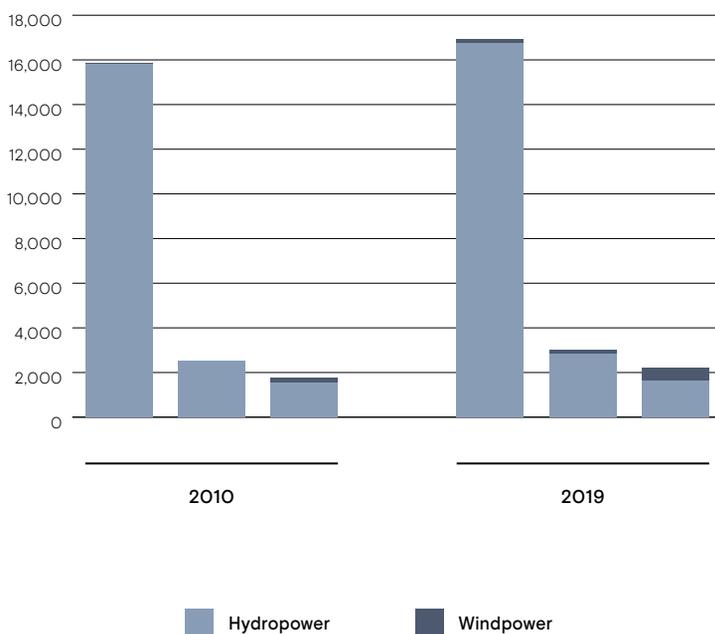
## SDG 7 Affordable and Green Energy

Figure 3.1 – Net electricity balance (production minus consumption), GWh, 2010–2019

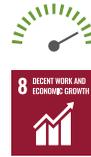


The three northern regions collectively contributed 17.7% of all electricity produced in Norway, Nordland (12.5%), Troma (2.3%) and Finnmark (2.8%). Figure 3.1 demonstrates that the northern regions have a substantial surplus of electricity produced measured as net balance (production minus consumption) in 2010 surplus equaling 4,786 GWh and in 2019 this reached 5,586 GWh. On the regional level, the county of Nordland was a net contributor to the electricity surplus, while Finnmark and Troma consumed more electricity than they produced.

Figure 3.2 – Production of electric power by type, 2010 and 2019

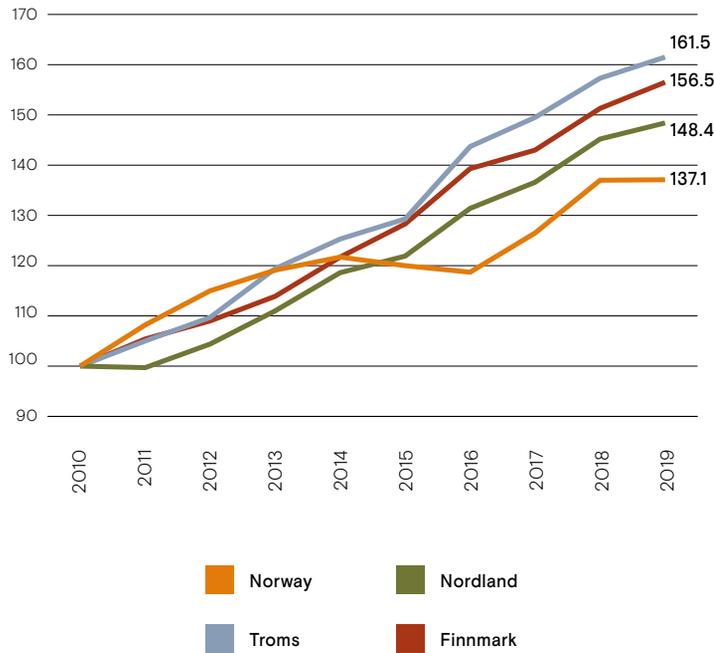


Electricity produced was dominated by renewable energy sources in 2010: hydropower 92% and wind 1% combined contributing 93% of all electricity, in 2019 the share of hydropower energy declined to 88% and wind increased to 4% totalling 92% of all electricity produced from renewable sources (see Figure 3.2).



### SDG 8 Decent Work and Economic Growth

Figure 3.3 — Gross value added expressed as index for all industries, index 2010=100, 2010-2019.



Gross Value Added (GVA) is the value of goods and services produced by an industry, sector, manufacturer, area or region in an economy. Figure 3.3 shows GVA expressed as an index for all industries. Overall, the northern counties exhibited strong economic growth of 55% compared to the national total of 37.1%. Since 2010 the Troms has had the largest growth in GVA with 61.5% growth, followed by Finnmark with 56.5%, and Nordland with 48.4%. In 2010 the top five industries in Nordland, Troms, and Finnmark contributing to total Norway’s GVA were aquaculture (37.8%), fisheries (37.4%), electricity, gas, steam, and air-conditioning supply (16.8%), public administration and defence (12.7%), manufacture of rubber and plastic products, and other non-metallic mineral products (11.7%). In 2019 the top five industries were fisheries (45.6%), aquaculture (43.2%), manufacture of food products, beverages, and tobacco products (17%), electricity, gas, steam, and air-conditioning supply (15.4%), public administration and defence (11.5%). From 2010 to 2019 the highest growth occurred in the fishing and aquaculture industries. In 2019, manufacturing of food products emerged as one of the top five contributing industries to gross value added.

Figure 3.4 — Gross Value Added per 1,000 employees, all industries (NOK), 2010-2019

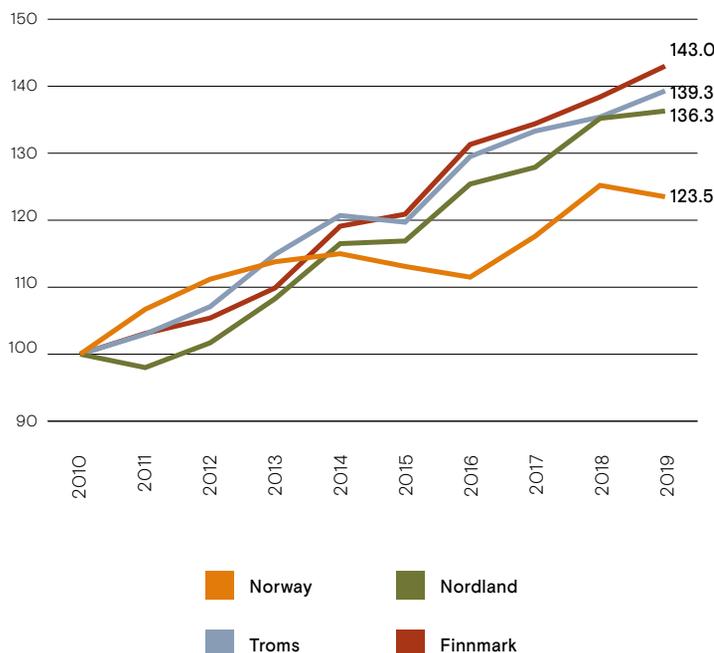
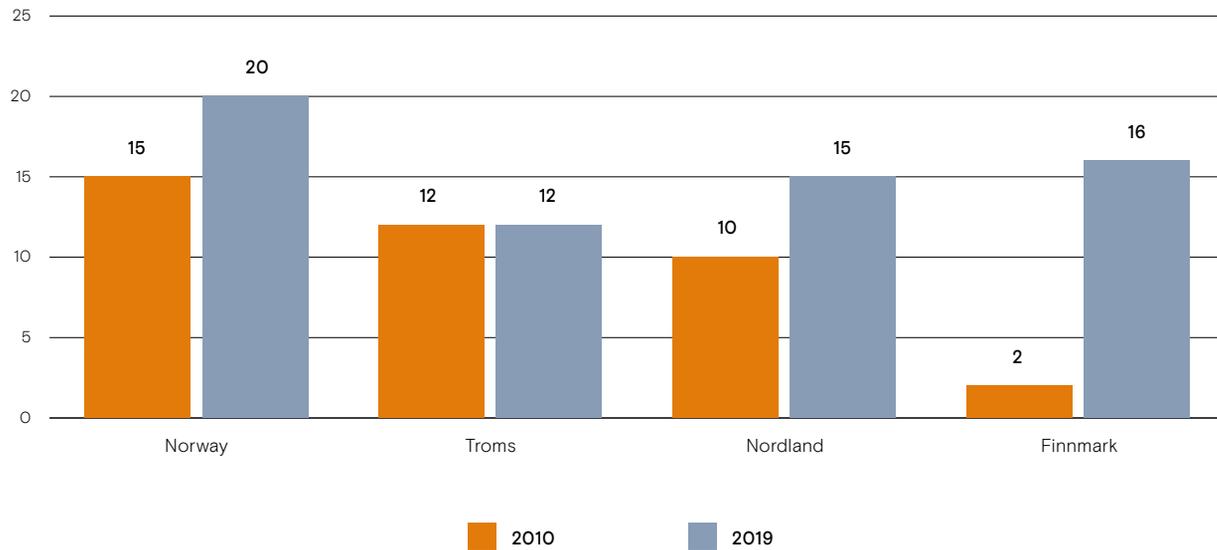


Figure 3.4 demonstrates Gross Value Added per 1,000 employees in both Norway as a whole and in the northern counties. This indicator measures labor productivity, which is critical to increasing economic growth in the long run. Gross Value Added per 1,000 employees grew by 23% in Norway as a whole compared to nearly double that in northern counties with an average 39% growth during the period 2010-2019.



## SDG 9 Industry, Innovation, and Infrastructure

Figure 3.5 – Share of business establishments engaging in R&D by region, 2010 and 2019



R&D is defined as systematic creative work aimed at increasing the knowledge base and utilizing that body of knowledge to develop new applications. The primary criterion for R&D activities is the presence of a significant degree of novelty; normal building and planning efforts that adhere to established protocols are not considered research and development. Figure 3.5 illustrates the share of business establishments performing R&D by

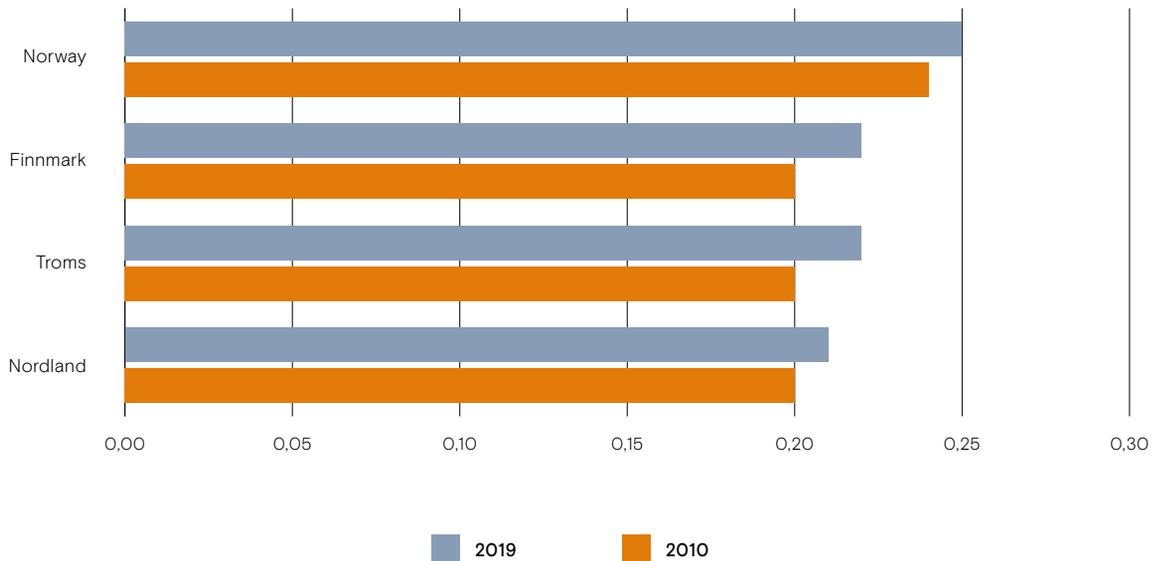
region. In 2010, 15% of all business establishments in Norway reported engaging in R&D, in the northern Norwegian regions the share was much lower Finnmark (2%), Troms (12%), and Nordland (12%). By 2019, Finnmark had a significant growth in businesses engaging in R&D reaching 16%, small growth occurred in Nordland with a three percentage point increase to 15% and no change in Troms. While the northern regions collectively lag behind

Norway as a whole on these indicators, there is a positive trend and the speed of catching up, especially in Finnmark, is noteworthy. On the other hand, the number of R&D staff per 10,000 remains considerably lower in the northern regions. Investments in R&D are important for spillover effects to create a knowledge economy and ensure the diversification of the industrial structure in the North.



### SDG 10 Reduced Inequalities

Figure 3.6 — Gini coefficients, 2010 and 2019

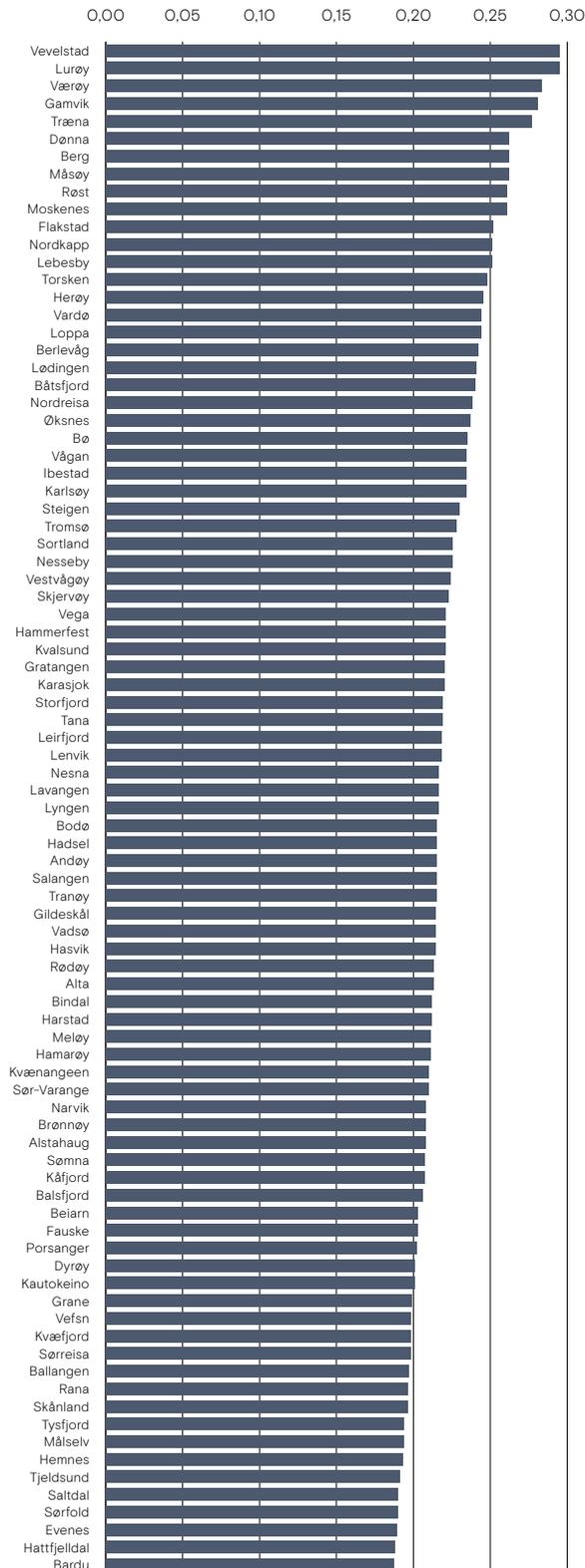


The Gini coefficient measures the distribution of income in a society. The value of the coefficient can range from 0 to 100, where 0 means total equality and everyone receives exactly the same income, and 100 means total inequality. The higher the coefficient of 0, the more unequal the distribution of income in a society. In a country with a Gini

coefficient of 0, the Gini coefficient is known as an important indicator of the socio-economic development of a country. Proper distribution of income is a prerequisite for increased quality of life, social justice, and for higher-income countries - innovativeness, economic development, and high labor productivity. In 2019 the Norwegian regions of

Nordland (0.21), Troms (0.22) and Finnmark (0.22) had Gini coefficients lower than in Norway overall, at 0.25. The increase in Gini coefficients from 2010 to 2019 represents growing inequality both in Norway and in the northern regions (see Figure 3.6). Gini coefficients are measured using equivalized total disposable income.

Figure 3.7 – Gini coefficient of income distribution at municipal level, 2019



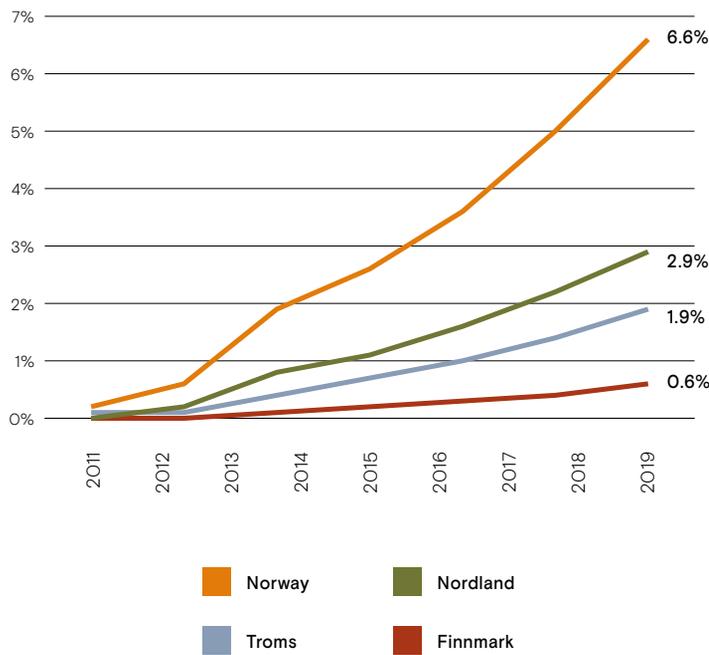
A more detailed investigation on municipal level demonstrates even greater inequality imbalances within the regions (see Figure 3.7). The gap between the municipality with the lowest income inequality and the highest income is high at 0.11. Some municipalities have a Gini coefficient as high as 0.30 e.g., Vevelstad and Lurøy. At the same time, there exists a cluster of municipalities where the Gini coefficients are lower than 0.19, (Tysfjord, Målselv, Hemnes, Tjeldsund, Saltedal, Sørfold, Evenes, Hattfjelldal, Bardu). Some factors that globally influence the rise in inequality are skill-biased technological change and increases in labour force participation by low-skilled workers. Studies confirm a positive relationship between income inequality and average years of schooling<sup>21</sup>. It is important to address underlying factors that are creating increased inequality at the municipal level. Gini-coefficients can be analysed in conjunction with SDG4 Quality Education and especially paying attention to indicator drop-out rates from upper secondary education.

<sup>21</sup> Coady, D., & Dizioli, A. (2018). Income inequality and education revisited: persistence, endogeneity and heterogeneity. *Applied Economics*, 50(25), 2747–2761.



## SDG 12 Responsible production and consumption

Figure 3.8 — Share of electric cars, 2011–2019



The Norwegian Parliament has set a national objective for all new automobiles sold in Norway to be zero-emission by 2025 (electric or hydrogen). Norway is one of the leading countries in increasing its fleet of electric cars with 65% of all new cars sold in 2021 being electric. The strong tax incentives relying on the progressive taxation system make most electric vehicles models cheaper to buy than similar petrol models, even if the import price for electric vehicles is much higher<sup>23</sup>. Figure 3.8 demonstrates the trend in the share of electric cars from 2011 to 2019. In Norway overall in 2019 the share amounted to 6.6% while starting at nearly zero in 2011. In the northern regions growth has been slower but has shown steady progress, in Nordland the share of electric cars was 2.9% in 2019, followed by Troms (1.9%), and Finnmark (0.6%). The rather low figures in Finnmark may reflect the insufficient charging network before 2020. Since the first half of 2020, 23 new fast-charging stations have been built in Troms and Finnmark transforming it from one of the country’s worst charging areas to currently having the best charging network in Norway<sup>24</sup>. During 2011 the northern regions saw an increase in newer cars with lower emissions and more electric cars leading to falling emissions per capita (tonnes of CO2 equivalent). In 2019, Nordland emissions of CO2 equivalent stood at 1.03 compared to Norway as a whole at 1.3.

<sup>22</sup> Haugneland, P., Lorentzen, E., Bu, C., & Hauge, E. (2017, October). Put a price on carbon to fund EV incentives—Norwegian EV policy success. In EVS30 symposium, Stuttgart.

<sup>23</sup> Thoronsen, M. (2020). Endelig bygges ladenettverket i Troms og Finnmark. [https://elbil-no.translate.google/endelig-bygges-ladenettverket-i-troms-og-finnmark/?\\_x\\_tr\\_sl=no&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en-US&\\_x\\_tr\\_pto=op,wapp](https://elbil-no.translate.google/endelig-bygges-ladenettverket-i-troms-og-finnmark/?_x_tr_sl=no&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=op,wapp)

Figure 3.9 – Household waste per capita, 2015–2020

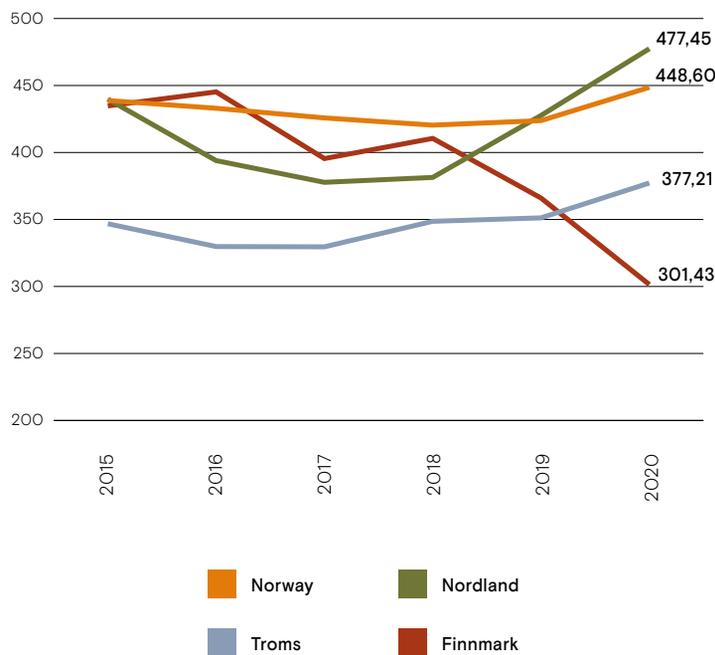
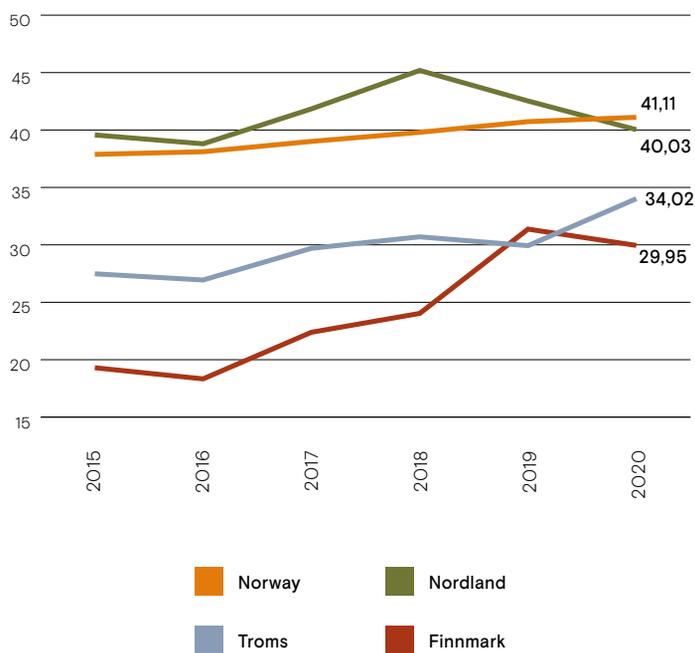


Figure 3.9 shows municipal waste generation by county expressed in kilograms per capita covering the period 2015 to 2020. In 2015 in Norway, waste generation per capita was 438 kg and increased by 10 kg to 448 kg in 2020. The northern regions demonstrated varying patterns, Finnmark had reduced waste per capita by 30% from 2015 to 2020, while in Nordland waste per capita (477 kg) in 2020 exceeded that in Norway as a whole. The differences are due to differences in consumption habits and economic wealth, as well as how municipal waste is collected and managed. For the sake of comparison, in the EU, waste per capita equalled 505 kg in 2020<sup>24</sup>.

Figure 3.10 – Share of household waste delivered for recycling, 2015–2020



Responsible waste management implies recycling of collected waste for recycling. In 2015 Norway as a whole 37.8% of waste was recycled compared to 41% in 2020 (see Figure 3.10). The lowest rate was observed in Finnmark in 2015 with 19.3% of waste delivered for recycling. At the same time Finnmark saw the highest growth of 56% in five years, reaching 29% of waste delivered for recycling. A survey conducted in 2017 identified large discrepancies in the quality of waste management schemes across municipalities in Finnmark<sup>25</sup>. Nordland saw no improvement in the rate of recycling which was already around the national average while Troms saw a slight improvement from 27% to 34% in five years. Challenges to accelerating municipal waste recycling may be associated with household attitudes to recycling, remoteness, lack of infrastructural investments, and lack of innovation in recycling solutions.

<sup>24</sup> Municipal waste statistics [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal\\_waste\\_statistics#Municipal\\_waste\\_generation](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics#Municipal_waste_generation)

<sup>25</sup> Naturvernforbundet (2017). Halve Finnmark kildesorterer.

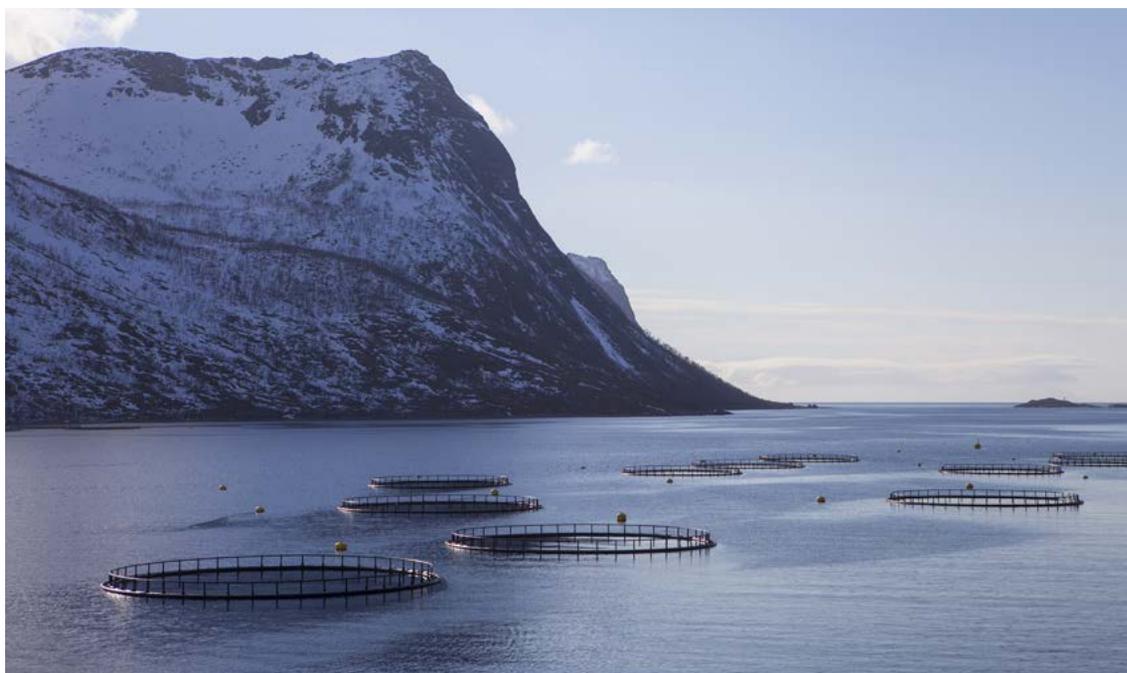
<https://naturvernforbundet.no/finnmark/plast-og-annet-soppel/halve-finnmark-kildesorterer-article37071-2629.html>

# Arctic Environment

This chapter concerns sustainable use of the oceans, seas, and marine resources, sustainable use of land, access to clean water and sanitation, and actions to combat climate change.



[Build your own graphs about environment](#)

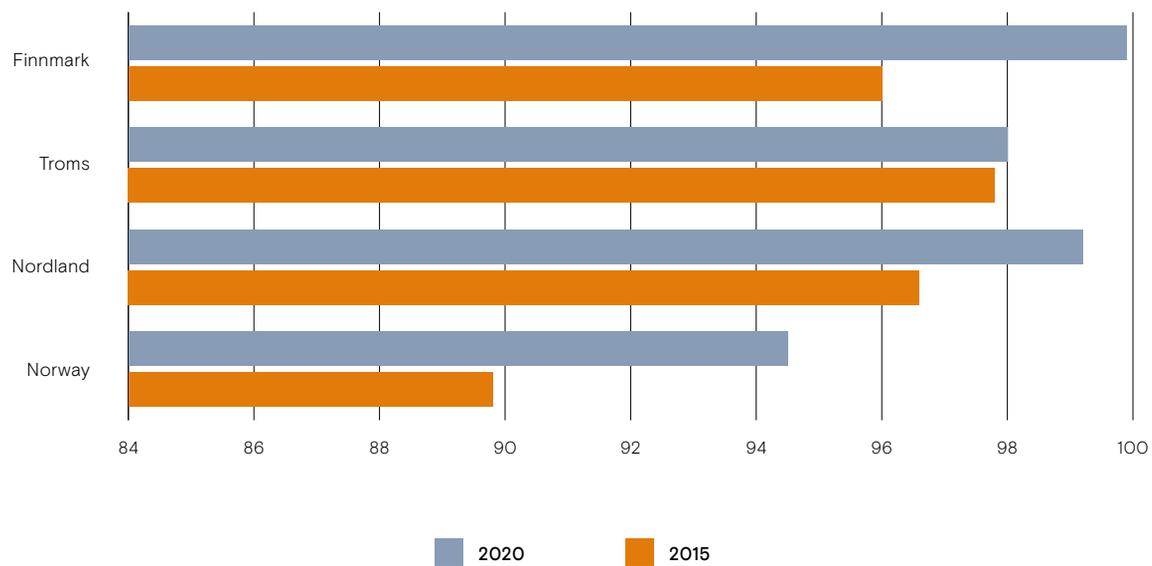


Fisk, laksegårder i Nord-Norge - Senja.  
Photo: Shutterstock / Arildina



## SDG 6 Clean Water and Sanitation

Figure 4.1 — Proportion of inhabitants connected to municipal water supply with groundwater or disinfected surface water as the main source, 2015 and 2020



SDG 6 seeks to ensure safe drinking water and sanitation for all, focusing on the sustainable management of water resources, wastewater, and ecosystems. Figure 4.1 shows the proportion of inhabitants connected to the

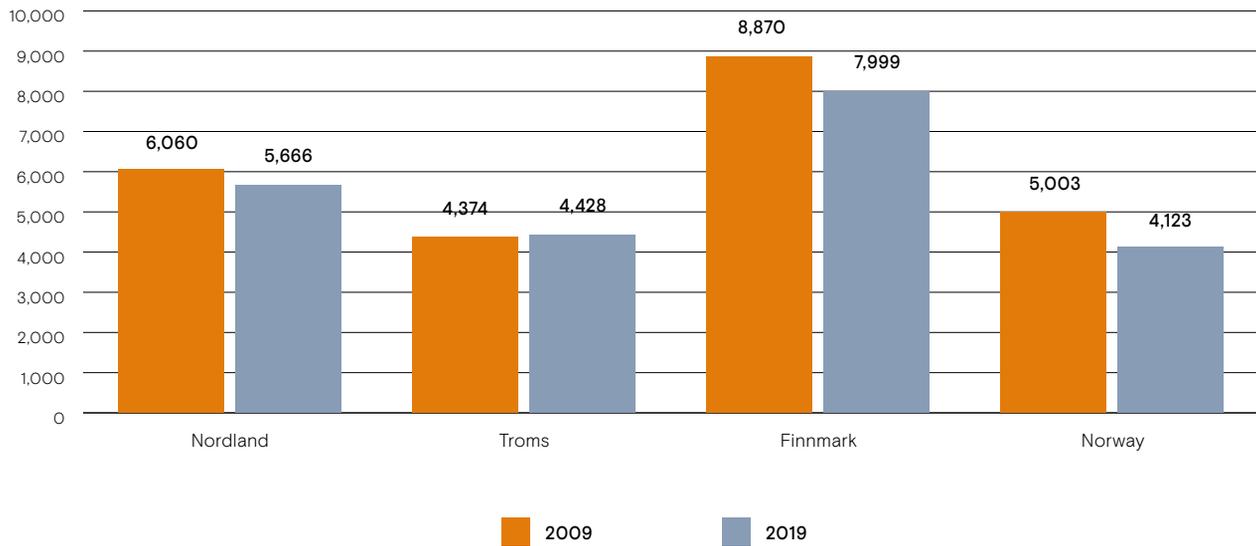
municipal water supply with groundwater or disinfected surface water as the main source. From 2015 to 2020 substantial progress was achieved on this indicator, especially in Finnmark, with 99.9% of inhabitants having

access to clean water. Overall, the northern regions outperform Norway as a whole in providing access to clean water.



## SDG 13 Climate Action

Figure 4.2 — CO2 equivalent emissions in tons per 1,000 capita (excl. industry and oil & gas), 2009 and 2019



In 2020, Norway submitted an enhanced climate target under the Paris Agreement: to reduce emissions by at least 50%, and to 55% by 2030 compared to 1990 levels. Figure 4.2 illustrates changes in CO2 equivalent emissions per 1,000 capita (excl. industry and

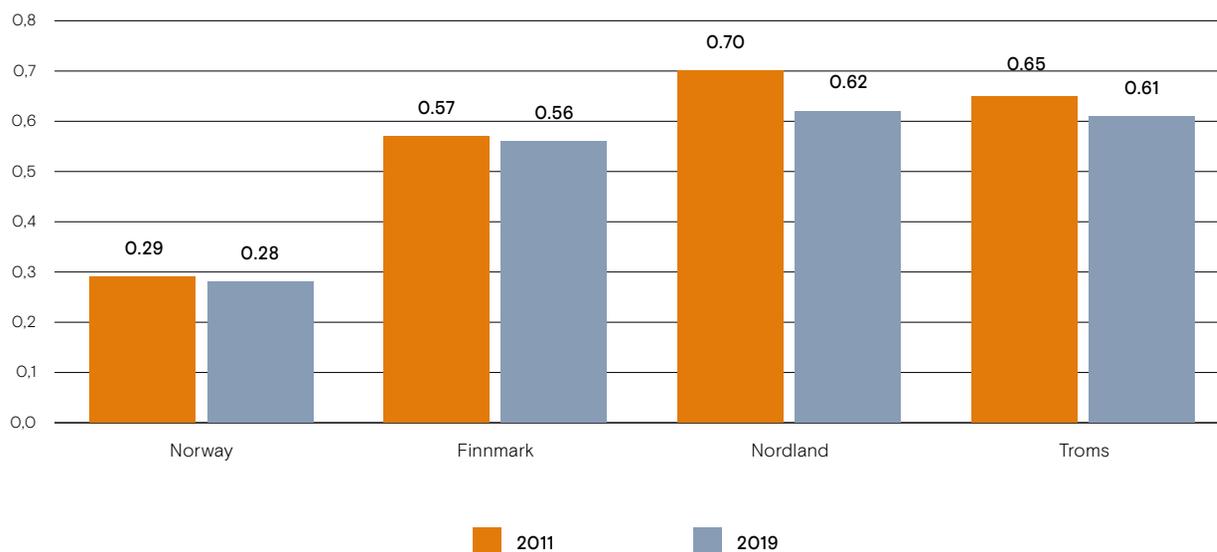
oil & gas). From 2009 to 2019 Norway as a whole reduced CO2 equivalent emissions per 1,000 capita by 18% from 5,003 tons to 4,123 tons while the northern regions of Finnmark, Troms, and Nordland on average reduced their emissions by 5%. In 2019, Finnmark's

emissions remained at 7,999 tons which is nearly double the national average. The slow pace of emissions reduction in Finnmark can be attributed to remoteness and low population density.



## SDG 14 Life below water

Figure 4.3.1 – Discharge of phosphorus (kg) per capita, 2011 and 2019



A greater amount of phosphorus and nitrogen discharged should be interpreted as a negative trend, meaning that nutrients from wastewater are not removed, leading to pressure on the environment and leading to eutrophication<sup>26</sup> problems. Figures 4.3.1 and 4.3.2 demonstrate that the discharge of phosphorus and nitrogen is much higher in the northern regions, i.e., in 2019 discharge

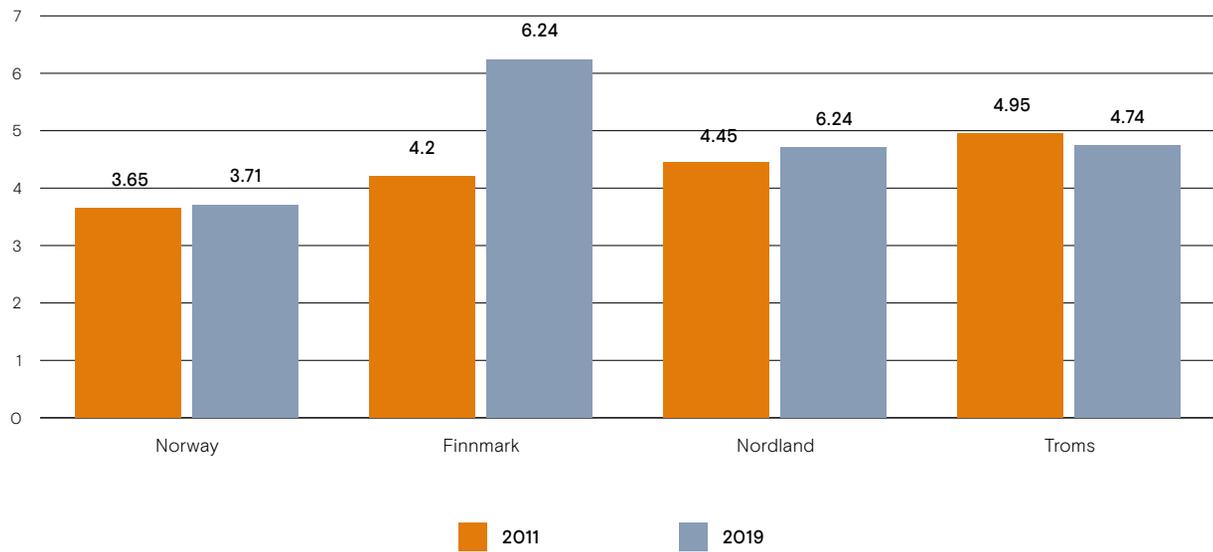
of phosphorus was nearly 100% higher in the northern regions than in the Norway as a whole. Discharge of nitrogen is also higher in the north, especially in Finnmark with 6.24 kg per capita compared to 3.71 kg in Norway as a whole. The reason for such high discharges of nutrients in the north is a very low level of high-grade purification treatment systems in the north compared to the south. According

to data on pollution in Norwegian coastal areas, the three northern regions contribute 35% of phosphorus and 25% of Norway's nitrogen discharge<sup>27</sup>. From 2010 to 2019 discharge of phosphorus increased by 51% in the northern regions compared to 25% in Norway as a whole, and discharge of nitrogen increased by 23% in northern regions compared to 16% in Norway in total.

<sup>26</sup> Eutrophication is the process by which an excess of nutrients – mainly phosphorus and nitrogen – leads to increased growth of plant material, particularly algal blooms, in an aquatic body resulting in a decrease in water quality. This can, in turn, cause death by hypoxia of aquatic organisms (Eurostat).

<sup>27</sup> Kildefordelte tilførsler av nitrogen og fosfor til norske kystområder i 2019. <https://www.miljodirektoratet.no/publikasjoner/2021/mars-2021/kildefordelte-tilforsler-av-nitrogen-og-fosfor-til-norske-kystomrader-i-2019--tabeller-figurer-og-kart/>

Figure 4.3.2 — Discharge of nitrogen (kg) per capita 2011 and 2019

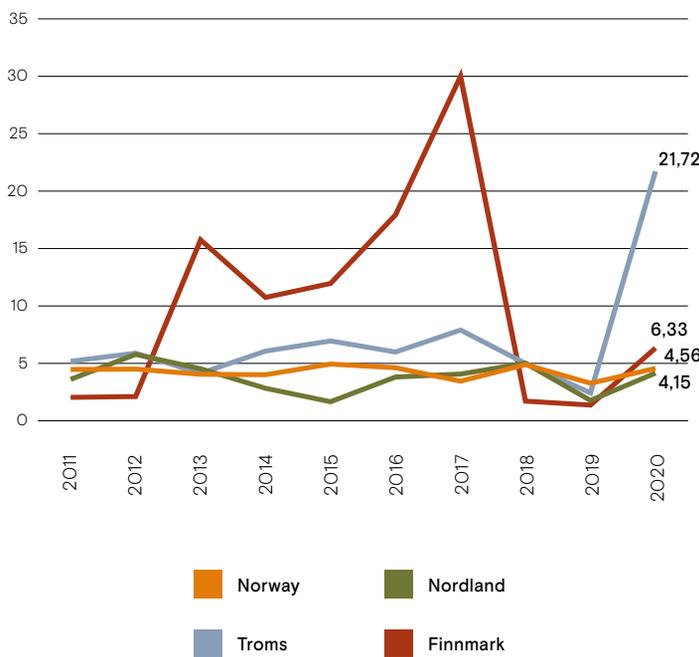




### SDG 15 Life on land

Life on Land aims to ‘protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Target 15.3 aims to ‘By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world’.

Figure 4.4 – Transferring of land area (cultivated and cultivable) acres per 1,000 capita, 2011–2020



Trends in land cover report land cover change based on a national assessment of the positive or negative aspects of transitions from one land cover type to another (see Figure 4.4). Figure 4.4 shows that during the period 2013–2017 Finnmark saw high levels of land transfer at an average of 17 acres per 1,000 while the country average was four acres during the same period. Overall, on average Nordland had 3.72, Finnmark 9.99 and Troms 7.13 acres per 1,000 transferred during the period 2011–2020, while the average for Norway was 4.28 acres. In 2020, land area transfers were determined by transport and technical infrastructure 44% (1,125 acres), commercial buildings and businesses 21% (530 acres), other buildings and facilities 16% (398 acres), and residential buildings including outdoor area 12% (313 acres). While the northern regions require improved transport and technical infrastructure, it should be ensured that the pace of land transfer is not conducive to land degradation and loss of biodiversity.

# Arctic Partnerships

This chapter analyzes indicators from the Macroeconomic Dashboard. These indicators are used for measuring achievement of the goal to enhance global macroeconomic stability, including through policy coordination and policy coherence. The Macroeconomic Dashboard features a set of indicators that have agreed international standards indicative of macroeconomic stability and growth in sustainability. The indicator selection builds on existing macroeconomic monitoring frameworks that are followed by countries and by international and regional agencies. A successful sustainable development agenda requires partnerships between governments, the private sector, and civil society.



[Build your own graphs on partnership indicators](#)

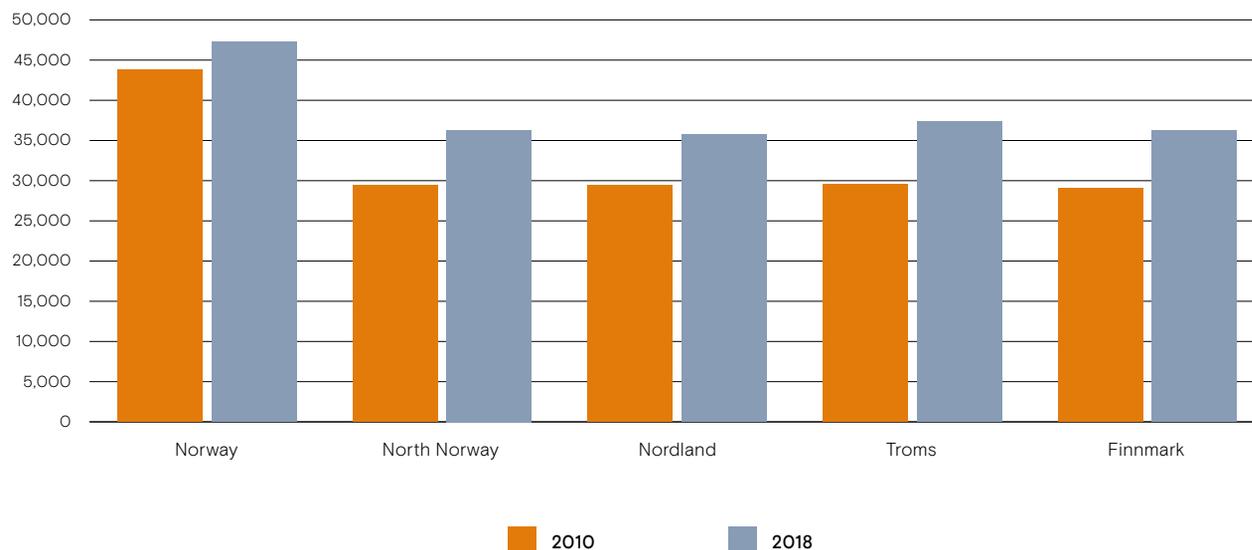


Photo: Salt



## SDG 17 Partnership for the Goals

Figure 5.1 — GDP per capita in PPS, 2010 and 2018



GDP (gross domestic product) is an indicator of the output of a country or a region. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries.

Calculations on a per capita basis enable comparison of economies and regions significantly different in absolute size per capita. In 2020 the northern regions had GDP per inhabitant of EUR 29 400, which is 32% lower than the Norwegian average of EUR 43,800 (see Figure 5.1). During the period 2010–2018 GDP per capita grew by 8% in Norway and by

23% in the northern regions. By 2018 the gap leveled out to 23%, reaching EUR 36,300 per capita in north Norway. Despite growth, the northern regions are lagging behind the national average. Levels of GDP per capita are dependent on the concentration of economic activity and commuting.

Figure 5.2 — Unemployment, % of workforce, January 2020–November 2021

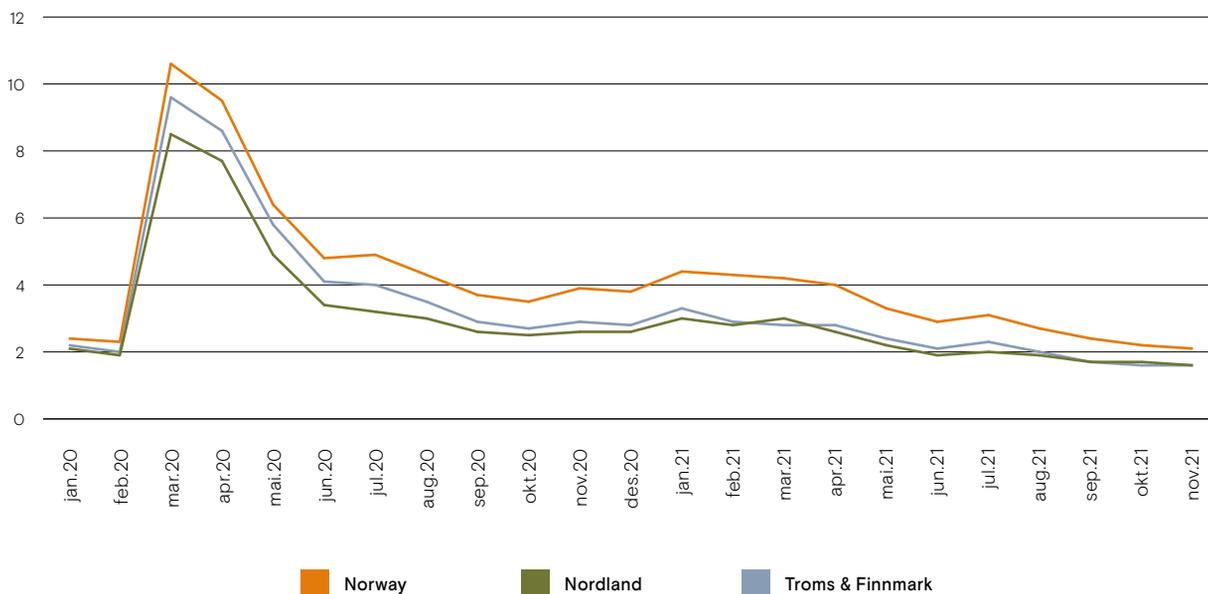
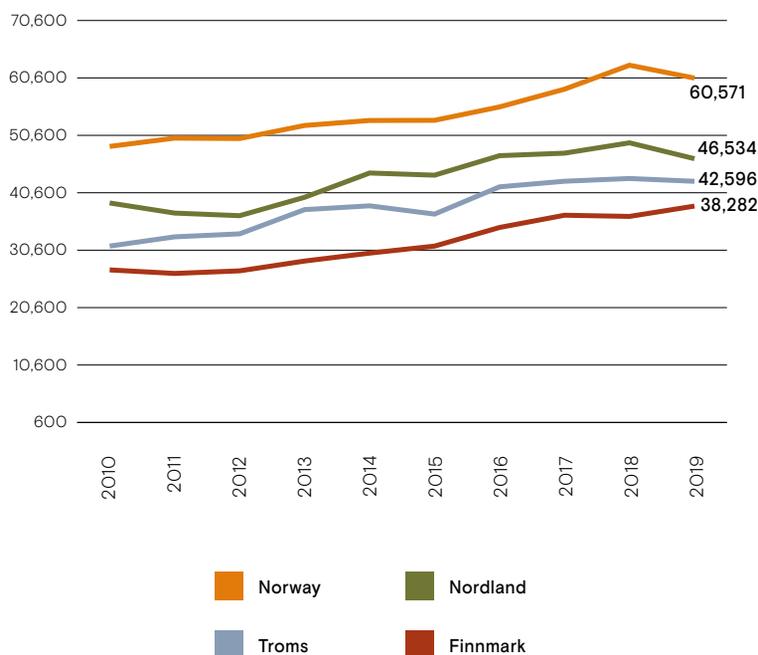


Figure 5.2 shows the impact of the COVID-19 pandemic on unemployment in Norway. The data demonstrate that the rise in unemployment was shortlived for the three months February–April in 2020 and completely lev-

elled off by November 2021 both in Norway as a whole and in the northern regions. This demonstrates the economic resilience of the labor market and the adequacy of state support measures.

Figure 5.3 — Gross fixed capital per 1,000 employee, all industries (Mill NOK), 2010–2019



The northern regions would have to invest more in GFCF to ensure sustainable economic growth in the future.

Gross fixed capital formation<sup>29</sup> (GFCF) measures the net increase in fixed capital. Gross fixed capital formation includes spending on land improvements, plant, machinery, and equipment purchases; the construction of roads, railways, private residential dwellings, and commercial and industrial buildings. Disposal of fixed assets is subtracted from the total. Figure 5.3 demonstrates that despite high growth in GVA, the northern regions are lagging behind the national total in GFCF by 30%, averaging 42.5 million NOK per employee compared to 60.6 in the total of Norway in 2019. The growth 2010–2019 was 11.9% in total of Norway and 10% in northern regions.

<sup>29</sup> <https://data.oecd.org/gdp/investment-gfcf.htm>

# Conclusions



Assessment of sustainable development in the northern Norwegian regions provides the following results. A positive trend is observed in four SDGs. The northern Norwegian regions have excellent access to clean water and sanitation and collectively are net exporters of electricity sourced from renewable sources. Positive economic growth has been observed for the last ten years and road safety improved as a sign of sustainable cities and communities.



In eight SDGs there has been no positive improvement, or improvement on some indicators has been counteracted by weaker performance on others. For instance, in SDG3 the positive trend in preventing deaths from cancer, cardiovascular diseases, and diabetes has been offset by an increase in the prevalence of overweight and obesity and a deterioration in mental health. The northern regions have gaps in R&D activities, responsible production, and consumption. Difficulties remain in reducing CO2 emissions, sustainable use of land, creating sustainable communities through democratic participation, and investment in infrastructure.



In five SDGs the northern regions experience the greatest difficulties. Challenges in maintaining a socially sustainable population base, combating poverty, and increasing educational attainment are all imminent in the High North. Widening gaps in income and gender inequalities is a worrying signal. Increasing pressure on water ecosystems also needs more attention.

The results provide a starting point for discussion at government, regional, and municipal level for planned actions to address the most pressing sustainable development challenges. Negative performance on SDGs related to northern people needs prompt action.

The COVID-19 pandemic has hindered achieving the SDGs by setting back development globally. The northern Norwegian regions

have been successful in keeping unemployment low and maintaining economic growth throughout the pandemic.

In order to be on track to achieve the goals by 2030, special attention needs to be paid to rebalancing the economy, nature, climate, and the wellbeing of the people in the High North. Policy choices need to address investments in health, education, social security, green and circular economy and infrastructure in the northern regions.

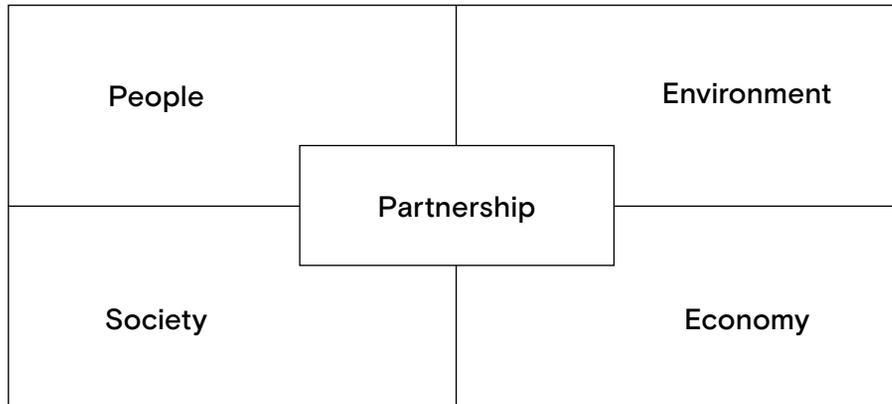
Appendix

## Five pillars of Arctic sustainability

In the report 17 SDGs are grouped into five pillars People, Society, Economy, Environment, and Partnership to represent development towards achieving SDGs in the Arctic.

The report includes SDGs targets and indicators based on their relevance for the Arctic regions and the availability of comparable data on the regional and municipal levels.

Additionally, the report includes demographic indicators and indicators related to Indigenous Peoples.



### Arctic People

This pillar focuses on people with the goals to end poverty, hunger, fight inequality, ensure healthy lives, knowledge & inclusion, and empowerment of women. Furthermore, we add demographic indicators that are not currently part of the SDG framework, but of high relevance to the Arctic.



### Arctic Society

This pillar includes sustainable cities and communities and peace, justice, and strong institutions that are essential for functioning and sustainable societies.



### Sustainable Economy in the Arctic

This pillar deals with sustainable business, affordable clean energy, finance and socio-economic development, responsible consumption and production all of which, in turn serve as input for reducing inequalities.



### Arctic Environment

This pillar focuses on the environment, water and sanitation, sustainable consumption, combating climate change, and includes marine and terrestrial ecosystems.



### Arctic Partnership

This pillar recognizes that the road to achieving SDGs requires new and existing working partnerships for sustainable development.



## Appendix II

## *The five-pillar approach: SDGs, targets, and indicators used*

This list contains SDGs grouped by pillars, targets, and indicators. Some indicators are not the same as those on the UN list, which is due to the localization of SDGs for the Arctic region. Hence some of the indicators are selected based on customization, relevance, and

data availability criteria. However, they represent the most comprehensive view of the achievement of SDGs and progress in the Arctic area based on the five-pillar approach.

Pillar	SDG	Target/s	Indicator/s	Data source
People	Demographic indicators	Socially sustainable communities	<ul style="list-style-type: none"> <li>- Population change</li> <li>- Net population change</li> <li>- Net migration</li> <li>- Population forecast by municipality</li> </ul>	Statistics Norway (Statistisk sentralbyrå, abbreviated to SSB)
	SDG1 No Poverty	<p><b>1.2</b> By 2030, reduce at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions</p> <p><b>1.B</b> Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions</p>	1.2.1 At-risk-of-poverty rate	SSB
	SDG2 Zero Hunger	<b>2.4</b> By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other natural disasters and that progressively improve land and soil quality	<p>2.4.1 Value of fish catch</p> <p>2.4.2 Number of reindeer in spring herd</p>	The Norwegian Directorate of Fisheries SSB
	SDG3 Good Health and Well-being	<b>3.8</b> Achieve universal health insurance, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable	<p>3.8.1 Life expectancy</p> <p>3.8.2 Deaths due to cancer per 100,000 persons, 0-74, age-standardized</p> <p>3.8.3 Deaths due to cardiovascular diseases, per 100,000 persons, 0-74 years age-standardised</p> <p>3.8.4 Deaths due to diabetes, per 100,000 persons, 0-74 years age-standardized</p> <p>3.8.5 Overweight or obese, BMI above 25, age group-25-79, %&lt;+++ standardized</p> <p>3.8.6 Number of individuals in contact with a physician or emergency care services (primary care) for mental symptoms and disorders per 1,000 capita</p>	SSB; Norwegian Institute of Public Health (NIPH) NIPH NIPH NIPH NIPH NIPH
	SDG4 Quality Education	<b>4.3</b> By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	<p>4.3.1 Population 25 – 64 aged with tertiary education (%)</p> <p>4.3.2 Dropped out before or within the last year of upper secondary education</p>	SSB SSB
	SDG5 Gender Equality	<b>5.5</b> Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1 Employment participation rate as % of labor force aged 15-64, by sex,	SSB

Pillar	SDG	Target/s	Indicator/s	Data source
Society	SDG 11 Sustainable cities and communities	<b>11.2</b> By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, people with disabilities and older people	11.2.1 Seriously injured and killed in traffic accidents per 1,000 capita	SSB
	SDG 16 Peace, Justice and Strong Institutions	<b>16.7</b> Ensure responsive, inclusive, participatory, and representative decision-making at all levels	16.7.1 Participation rate in parliamentary elections 16.7.2 Participation rate in municipal elections 16.7.3 Percentage voter turnout for Sámi Parliament Elections by Constituency	SSB
Economy	SDG 7 Affordable Clean Energy	<b>7.1</b> By 2030 ensure universal access to affordable, reliable, and modern energy services	7.1.1 Net electricity balance 7.1.2 Electricity production from wind and hydropower in TWh and as % of energy mix	SSB
	SDG8 Decent Work and Economic Growth	<b>8.1</b> Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries disabilities and equal pay for work of equal value	8.5.1 Gross value added expressed as index for all industries 8.5.2 Gross Value Added per 1,000 employees	SSB
	SDG9 Industry, Innovation and Infrastructure	9.1 Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. 9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	9.1.1 Share of business establishments performing R&D by region	SSB
	SDG 10 Reduced Inequalities	<b>10.2</b> By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	10.2.1 Gini coefficient	SSB
	SDG 12 Responsible Production and Consumption	12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.2.1 Share of electric cars 12.5.1 Household waste per capita 12.5.2 Share of household waste delivered for recycling	SSB
Environment	SDG 6 Clean Water and Sanitation	<b>6.1</b> By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 Proportion of inhabitants connected to municipal water supply with groundwater or disinfected surface water as main source	SSB
	SDG 13 Climate Action	<b>13.2</b> Integrate climate change measures into national policies, strategies and planning Indicators:	13.2.1 CO2 equivalent emissions per capita	Norwegian Environment Agency (Miljødirektoratet)
	SDG 14 Life below water	<b>14.1</b> By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.1.1 Discharge of phosphorus and nitrogen (kg) per capita	SSB
Partnership	SDG 17 Partnership	<b>17.13</b> Enhance global macroeconomic stability, including through policy coordination and policy coherence	17.12.1 Selected indicators from Macroeconomic dashboard	SSB, Eurostat

### Appendix III

The Sámi are Indigenous Peoples whose traditional territory (Sápmi) stretches across the northern and central parts of Norway, Sweden, and Finland, and the Kola Peninsula in Russia. In Norway information on citizens' ethnic backgrounds is not collected as part of population statistics, hence population statistics cannot be disaggregated for the Sámi people.

In this report we use a modified STN Area (The Area of the Sámi Parliament's Grant Scheme for Business Development) for a proxy of Sámi settlement areas in northern Norway. It should be noted that municipalities may include a substantial number of non-Sámi residents. See below the list of municipalities used for STN area used in this report.

#### Finmark

Gamvik  
Karasjok  
Kautokeino  
Lebesby  
Loppa  
Måsøy  
Nesseby  
Nordkapp  
Porsanger  
Sør-Varanger  
Tana

#### Troms

Balsfjord  
Gratangen  
Karlsøy  
Kvænangen  
Kåfjord  
Lavangen  
Lyngen  
Nordreisa  
Salangen  
Skjervøy  
Storfjord  
Sørreisa

#### Nordland

Evenes  
Hamarøy

Elections to Sámi Parliament	
Ávjovári electoral district	Finmark
Gáisi electoral district	Troms
Nordre electoral district	Troms/Finmark
Sør-Noreg electoral district	
Sørsamisk electoral district	Nordland/Trøndelag
Vesthavet electoral district	Nordland/Troms
Østre electoral district	Finmark







# BUSINESS INDEX NORTH

Business Index North (BIN) is a project that contributes to sustainable development and value creation in the Arctic. The overall goal is to set up a recurring, knowledge-based, systematic information tool for stakeholders. This is the fourth issue of the “Business Index North” analytical report and focuses on the BIN area, including the northern regions of Norway, Sweden, Finland, and Russia. In future issues of the report we would like to include Alaska and the Northern Territories of Canada, Iceland and Greenland.

The BIN project is implemented through an international network of universities, research organizations, businesses and public sector institutions. The main implementing partner is the High North Center for Business and Governance at Nord University Business School. Nordland County Council and the Norwegian Ministry of Foreign Affairs provide basic funding for the BIN project.

[www.businessindexnorth.com](http://www.businessindexnorth.com)