

A BEYOND-GDP VIEW OF NORDIC PERFORMANCE



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Preface

This report has been commissioned by the Nordic Working Group on Environment and Economics (NME). The report has been prepared by a consortium led by Demos Helsinki in cooperation with Norion Consult and IVL Swedish Environmental Research Institute. The study takes as a starting point the shortcomings with GDP as a measure and indicator of our wellbeing.

A literature study to identify the available welfare indicators is included in the report. Based on this screening three indicators were chosen for further analysis. The chosen indicators were: The Sustainable Development Index, Transitions Performance Index and Doughnut Economy Indicators. The performance of the Nordic countries was examined based on these three sustainability indicators. Somewhat surprisingly, the Nordics are not top performers with regard to sustainability in contrast to the generally outstanding performance when it comes to societal wellbeing. All Nordic countries face challenges in terms of reducing their ecological footprint.

Members of the Nordic Working Group for Environment and Economy have provided comments and inputs to the report during the work. The authors of the report are responsible for the content as well as the assessments and recommendations, which do not necessarily reflect the views and the positions of the governments in the Nordic countries.

The main results of the report have already been communicated at the COP 29 in Baku in November 2024.

November 2024

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Chair of the Nordic Working Group for Environment and Economics

Executive summary

The growing dissatisfaction with gross domestic product (GDP) as a measure of national welfare has sparked an interest in alternative metrics. The limitations of GDP in accounting for social, environmental, and distributional factors have been well-documented, highlighting the need for comprehensive approaches to welfare measurement. In response to this, Nordic countries, known for their progressive social policies, are poised to take a global lead in adopting alternative frameworks. This report aims to assess the performance of Denmark, Finland, Iceland, Norway, and Sweden through three key alternative metrics: the Sustainable Development Index (SDI), the Transition Performance Index (TPI), and Doughnut Economy Indicators.

Methodology

The research employed a structured literature review to identify a broad set of welfare metrics. After an initial evaluation of 38 indicators, three were selected based on their relevance and applicability to the Nordic countries: the SDI, TPI, and Doughnut Economy Indicators. These metrics were evaluated across thematic areas of sustainability, social inclusion, and wellbeing.

1. **Sustainable Development Index (SDI):** This metric integrates human development with ecological impact. It uses five key indicators—education, life expectancy, income, consumption-based CO2 emissions, and consumption based material footprint. The SDI is a composite measure that divides human development by ecological overshoot, making it particularly suited for assessing sustainability.
2. **Transition Performance Index (TPI):** Developed by the European Commission, the TPI evaluates countries across four dimensions—economic, social, environmental, and governance. Its aim is to measure progress towards sustainable and inclusive economies.
3. **Doughnut Economy Indicators:** This framework is based on ensuring that societies operate within planetary boundaries while also meeting basic social needs. The report utilised existing datasets to assess the performance of Nordic countries against both the ecological ceiling (also using consumption based data) and social foundations defined by the Doughnut model.

Overall, the Nordic countries generally perform well in terms of social outcomes but—when we look at environmental impacts from consumption rather than just territorially—face challenges in reducing their ecological footprints. While they all perform in the upper echelons of the TPI rankings, the SDI and Doughnut Economy Indicators demonstrate that every Nordic country is significantly overshooting the planetary boundaries required for ecological safety.

This report thus underscores the need for a more holistic approach to welfare measurement in the Nordic countries. While their social outcomes are laudable, ecological sustainability remains a critical challenge. The findings suggest the importance of integrating alternative welfare metrics, such as the SDI, TPI, and Doughnut Economy Indicators, into national policymaking to ensure a balanced approach to social and environmental sustainability. These indicators are salient to the Nordic countries as they contrast strong performance relative to European peers and measured by the yardstick of ongoing transition (TPI), with a sobering view of ecological boundary transgression which points to a complete lack of long-term sustainability of the welfare performance the region has become known for (SDI, Doughnut Indicators). This contrast should come as an urgent reality check to Nordic policymakers who may be otherwise convinced that the Nordics' ecological transition is proceeding effectively.

The report concludes with several findings and recommendations:

1. **Aligning Metrics:** There is a need for greater alignment and standardisation across alternative welfare metrics to ensure consistency and comparability.
2. **Governance Integration:** Without governance structures that integrate these alternative metrics, measurement alone will not lead to meaningful change.
3. **Ecological Focus:** Policymakers look to alternative ecological interventions to address the significant, consumption based environmental overshoot identified across all Nordic countries. Demand side policy frameworks such as sufficiency solutions are highlighted as promising.
4. **Leadership Potential:** The Nordic countries are well-positioned to lead the global shift towards a wellbeing economy, provided they can reconcile their economic policies with the ecological limits.

This report makes a case for an urgent recalibration of the metrics used to define success, advocating for a move beyond GDP to foster a more sustainable and inclusive future for the Nordic region.

Sammanfattning

De alltmer uppmärksammade bristerna med bruttonationalprodukten (BNP) som ett mått på nationell välfärd har väckt ett intresse för alternativa mått. BNP:s begränsningar när det gäller att ta hänsyn till sociala, miljömässiga och fördelningsmässiga faktorer har varit väldokumenterade, vilket understryker behovet av mer holistiska metoder för att mäta välfärd. Som svar på detta är de nordiska länderna, kända för sin progressiva socialpolitik, väl lämpade att ta en global ledarroll när det gäller att anta alternativa ramverk. Den här rapporten syftar till att bedöma hur väl Danmark, Finland, Island, Norge och Sverige presterar med avseende på tre alternativa mått: Sustainable Development Index (SDI), Transition Performance Index (TPI) och indikatorer kopplade till Donutekonomi (Doughnut Economics).

Metodik

I rapporten har en strukturerad litteraturöversikt använts för att identifiera en bred uppsättning välfärdsått. Efter en första utvärdering av 38 indikatorer valdes tre ut utifrån deras relevans och tillämpbarhet för de nordiska länderna: SDI, TPI och Donutekonomins indikatorer. Dessa måtvärden utvärderades utifrån tematiska områden som hållbarhet, social integration och välbefinnande.

1. **Sustainable Development Index (SDI):** Detta mått integrerar mänsklig utveckling med ekologisk påverkan. Den använder fem nyckelindikatorer – utbildning, förväntad livslängd, inkomst, CO₂-utsläpp och materiellt fotavtryck. SDI är ett sammansatt mått som dividerar mänsklig utveckling med ekologiskt överskridande, vilket gör den särskilt lämpad för att bedöma hållbarhet.
2. **Transition Performance Index (TPI):** TPI, som utvecklats av EU-kommissionen, utvärderar länder utifrån fyra dimensioner – ekonomisk, social, miljömässig och policy. Dess syfte är att mäta framsteg mot hållbara och inkluderande ekonomier.
3. **Donutekonomins indikatorer:** Detta ramverk bygger på att säkerställa att samhällen verkar inom planetära gränser samtidigt som de tillgodoser grundläggande sociala behov. Rapporten använde befintliga datauppsättningar för att bedöma de nordiska ländernas prestanda mot både det ekologiska taket och den sociala grunden som definieras av Donut-modellen.

Sammantaget presterar de nordiska länderna i allmänhet bra när det gäller social hållbarhet men står inför utmaningar när det gäller att minska sina ekologiska fotavtryck. Medan de alla presterar i de övre skikten av TPI-rankingen, visar SDI och Donutekonomins indikatorer att alla nordiska länder avsevärt överskrider de planetära gränserna som krävs för ekologisk hållbarhet.

Denna rapport understryker således behovet av ett mer holistiskt synsätt på välfärd i de nordiska länderna. Även om deras resultat beträffande social hållbarhet är lovvärda, är ekologisk hållbarhet fortfarande en betydande utmaning. Resultaten tyder på vikten av att integrera alternativa välfärdsått, såsom SDI, TPI och Donutekonomi, i nationell politik för att säkerställa en balanserad strategi för social och miljömässig hållbarhet.

Rapporten avslutas med följande resultat och rekommendationer:

1. **Standardiserade ått:** Det finns ett behov av större anpassning och standardisering över alternativa välfärdsått för att säkerställa konsekvens och jämförbarhet.
2. **Integrerad styrning:** Utan strukturer för att styra ekonomin som integrerar dessa alternativa ått, kommer mätning i sig inte att leda till meningsfull förändring.
3. **Ekologiskt fokus:** Politiker måste prioritera ekologiska insatser för att ta itu med det betydande överskridande av miljömässig hållbarhet som identifierats i alla nordiska länder.
4. **Potential för ledarskap:** De nordiska länderna är väl positionerade att leda den globala förändringen mot en välmående ekonomi, förutsatt att de kan förena sin ekonomiska politik med de ekologiska gränserna.

1. Introduction

The call for welfare metrics which go beyond gross domestic product (GDP) has never been stronger. September 2024 has seen the ratification of the UN Pact for the Future, which through Action 53 commits to “develop a framework on measures of progress on sustainable development to complement and go beyond gross domestic product” (United Nations, 2024d, p27). The EU also has its own beyond-GDP initiative, and the president of the European Commission herself, Ursula Von Der Leyen, delivered the following words while speaking at 2023’s Beyond Growth Conference:

“It was Robert Kennedy back in the 1960s who famously said that GDP ‘measures everything, except that which makes life worthwhile: the health of our children, or the joy of their play’. And I am sure had he given his speech today, Kennedy would have included the sound of birdsong and the joy of breathing clean air. Today, on a very fundamental level, we understand Kennedy’s wisdom. That economic growth is not an end in itself.” (European Commission, 2023)

But questions over the centrality of GDP in driving prosperity are not new, even within the institutional mainstream. 2008 saw the creation of the ‘Commission on the Measurement of Economic Performance and Social Progress’, bringing together some of the world’s leading economists in Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi to explore beyond-GDP approaches to measuring human progress (Stiglitz, Sen and Fitoussi, 2008). Even the Sustainable Development Goals themselves should be considered a significant milestone in recognising the full richness of what matters for the planet and its people.

The pursuit of alternative measures beyond GDP holds particular relevance for the Nordic countries, given their strong emphasis on social welfare, quality of life and environmental commitments. The Nordic model, characterised by a comprehensive welfare state and equitable social policies, aligns with the growing recognition that GDP alone does not capture the intricacies of societal well-being.

The Nordic countries have a history of pioneering progressive policies, and have already experimented in many cases with the use of alternative metrics. With our consistently high rankings in alternative indices as The World Happiness Report (Helliwell et al., 2024), the Nordic countries are well-positioned to lead the way in redefining success beyond traditional economic metrics. However, until now limited work exists analysing the Nordic countries collectively through the lens of beyond-GDP measures to understand their performance when evaluated differently and the policy implications of this. This report seeks to close this gap, and proceeds as follows:

The first section of the report situates the discourse on beyond-GDP metrics, offering an overview of the shortfalls of GDP and the different means of going beyond it. It uses the System of Environmental Economic Accounts (SEEA) as an example of extending the existing System of National Accounts (SNA) underpinning GDP, before discussing a number of frameworks sitting outside of these entirely such as the wellbeing and doughnut economy models.

The second section of the report provides an overview of the Nordic research, detailing the research methodology and summarising the three metrics which were selected for use: The Transitions Performance Index (TPI), the Sustainable Development Index (SDI) and the Doughnut Economy Indicators.

The third section undertakes a detailed, country level analysis of the 5 major Nordic countries of Denmark, Finland, Iceland, Norway and Sweden. Policy background relevant to the beyond-GDP analysis is provided, while performance according to each of the three metrics is discussed. The section finishes by comparing the performance of the Nordic countries to the EU average according to each metric.

2. Background and limits to GDP

Gross domestic product (GDP) was first presented in its original formulation by economist Simon Kuznets in 1937. It was standardised as we know it today in 1953 when the UN—with input of other influential economists such as John Maynard Keynes—created the System of National Accounts (SNA), of which GDP is the headline measure. Since its introduction the SNA has become the gold standard in economic measurement, and has played a crucial role in economic analysis, policy and international comparison. This initial work during the Great Depression and World War II laid the groundwork for modern national accounting systems (United Nations, 2024b).

However, GDP was never intended to be a measure of welfare. In fact, Kuznets explicitly warned against using it in this way (Jansen, Hoekstra et al., 2023). There have been a number of problems identified with the misapplication of GDP that we see today which ground the need to go beyond it. These are summarised below:

GDP fails to track ecological outcomes

A forest will only show up in GDP when it is cut down and sold, while a new coal mine can similarly show up as a huge economic boost. What's more, there is now fairly irrefutable evidence that GDP growth is destroying our environment, with little to no prospects of this changing anytime soon. Evidence of the decoupling of GDP growth from environmental destruction is highly limited, and is definitely not happening fast enough to meet the Paris Agreement (Parrique et al., 2019). These dynamics are pushing the planet further into ecological crisis and instability. Focusing on GDP masks the role of economic activity in catalysing the ecological crisis which threatens the stability of our societies, and economies themselves.

GDP fails to track much of what we consider to be socially (dis)valuable

Feminist economists have noted GDP's omission of vital socially reproductive work such as care work. And in the negative direction, socially undesirable expenditures—for example on cigarettes or pollution masks necessitated by worsening air quality—show up positively in GDP. To illustrate the sheer scale of what can be missed, one analysis of 30 countries across the globe—many within Europe—identifies that unpaid labour accounts for a staggering 35% of GDP on average (Bridgman et al., 2018).

GDP and GDP per capita are insensitive to distributional considerations

Olivier De Schutter, UN Special Rapporteur on extreme poverty and human rights, has noted that positive increases in GDP per capita can mask worsening conditions for the worst off due to rising inequality and social exclusion (De Schutter, 2024). GDP's aggregation of all consumption and output equally also means that one person's losing access to the fundamentals of life can be compensated by another's trivial consumption.

GDP is a poor measure of human wellbeing and its components

The so-called Easterlin Paradox, shows that while rich people within countries are happier than their poorer counterparts, over time aggregate happiness across a given country doesn't really increase with GDP. Now of course these observations largely apply to rich countries; at lower levels increased GDP does correlate positively across many measures of wellbeing however there appears to be a threshold effect, where past a certain point further increases in GDP don't seem to produce more welfare.

The same principle applies to what we might consider to be important determinants of wellbeing, such as health and education. While a higher GDP can mean more money to spend on these things, past a point they are far more a result of policy around how we choose to allocate our resources rather than the total resources in our society. Outliers on both ends of the spectrum illustrate this point. For example, the UAE has over 7 times the GDP per capita of Cuba, yet life expectancy at birth in the UAE is close to a staggering 6 years lower than in Cuba (Gapminder, n.d.). Similarly in education, based on harmonised scores from student attainment tests Vietnam has managed to achieve better learning outcomes than the USA despite being almost 6 times poorer in GDP per capita terms (Our World in Data, n.d.).

3. Going beyond GDP

Some alternative metrics have already been incorporated into the policy mainstream, most notably the Satellite Accounts and System of Environmental and Economic Accounting which sit alongside the SNA. These can prove instructive when exploring the role alternative metrics can play in policy.

However, there are many other metrics and frameworks which sit outside this official system entirely, with recent research identifying over 300 beyond-GDP metrics developed across the world (Jansen et al, 2024). The major challenge is to embed the most useful of these into official systems of measurement and governance so they can translate to policy impact.

The following sections discuss the SEEA as an extension of the official accounting infrastructure, and a number of influential frameworks outside the official systems comparing these dual approaches to alternative measurement.

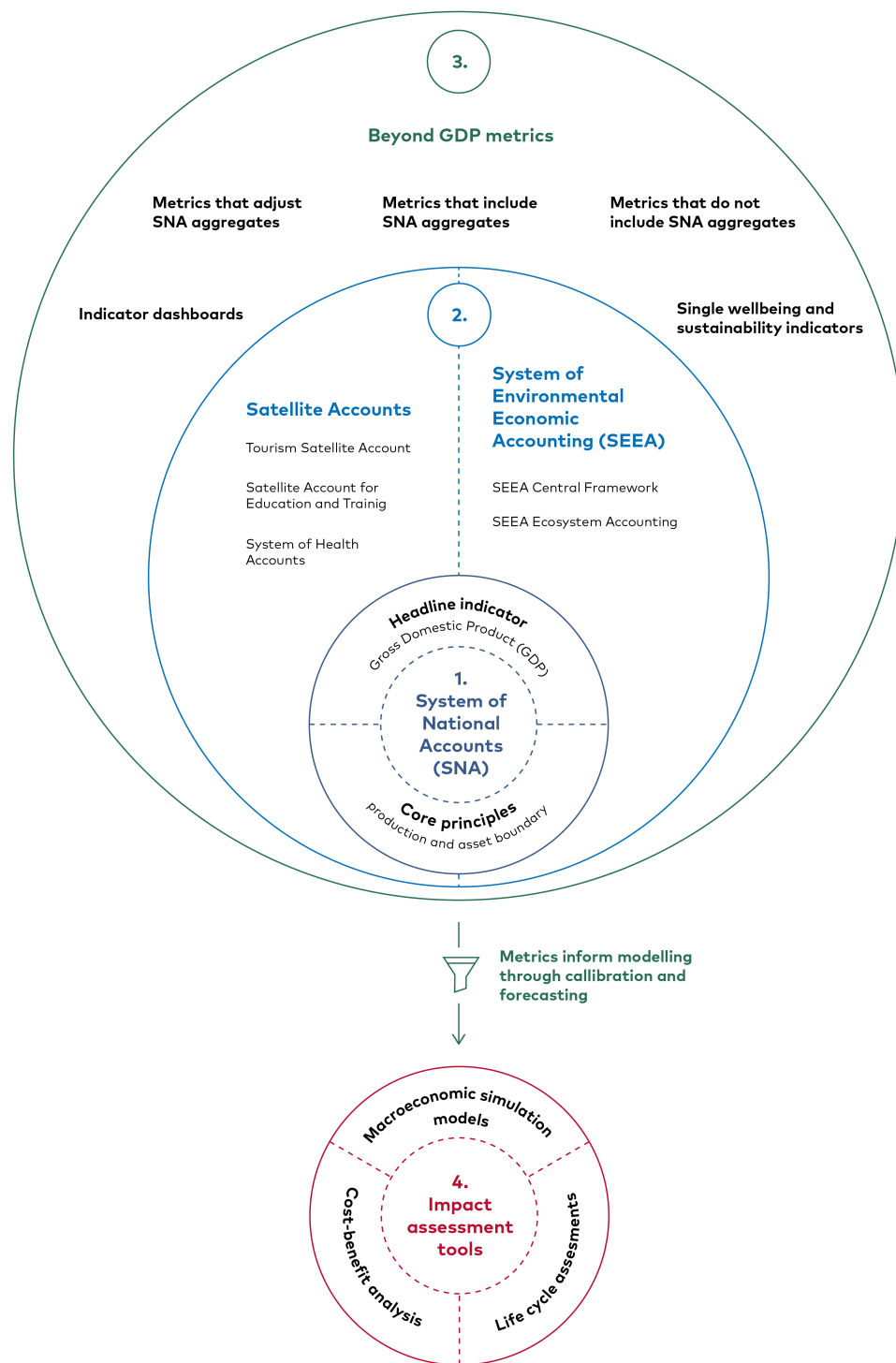


Figure 1: The relationship between established and alternative metrics.

Source: (ZOE Institute for Future-fit Economies, 2023).

3.1 Extending the SNA: System of Environmental-Economic Accounting Central Framework (SEEA-CF)

In March 2020, the UN Statistical Commission held its 51st session meeting, where it was decided to develop a roadmap for the revision of the 2008 SNA (System of National Accounts). During 2025, for the first time in SNA history the guideline/handbook will be revised and updated and will contain chapters related to wellbeing, distributional aspects, informal economy and much more (United Nations, 2024a).

In the final draft of the SNA 2025, it cites that "the SNA can be adapted and extended to organize data on the environmental and social dimensions of well-being and sustainability" (United Nations, 2024a). Examples such as the system of environmental-economic accounts (SEEA) is mentioned as an important source of information. However, it further highlights that SNA data can significantly contribute to the understanding of well-being and sustainability, it does not provide an inclusive framework that covers all the various aspects of well-being and sustainability. Rather it provides pieces of a larger puzzle.

Within the SNA 2025 update, it mentions that in future updates, the SNA framework remains open to new statistical developments related to the aspects of well-being. The updated handbook sheds light to the aspects of well-being with the figure 2 below.

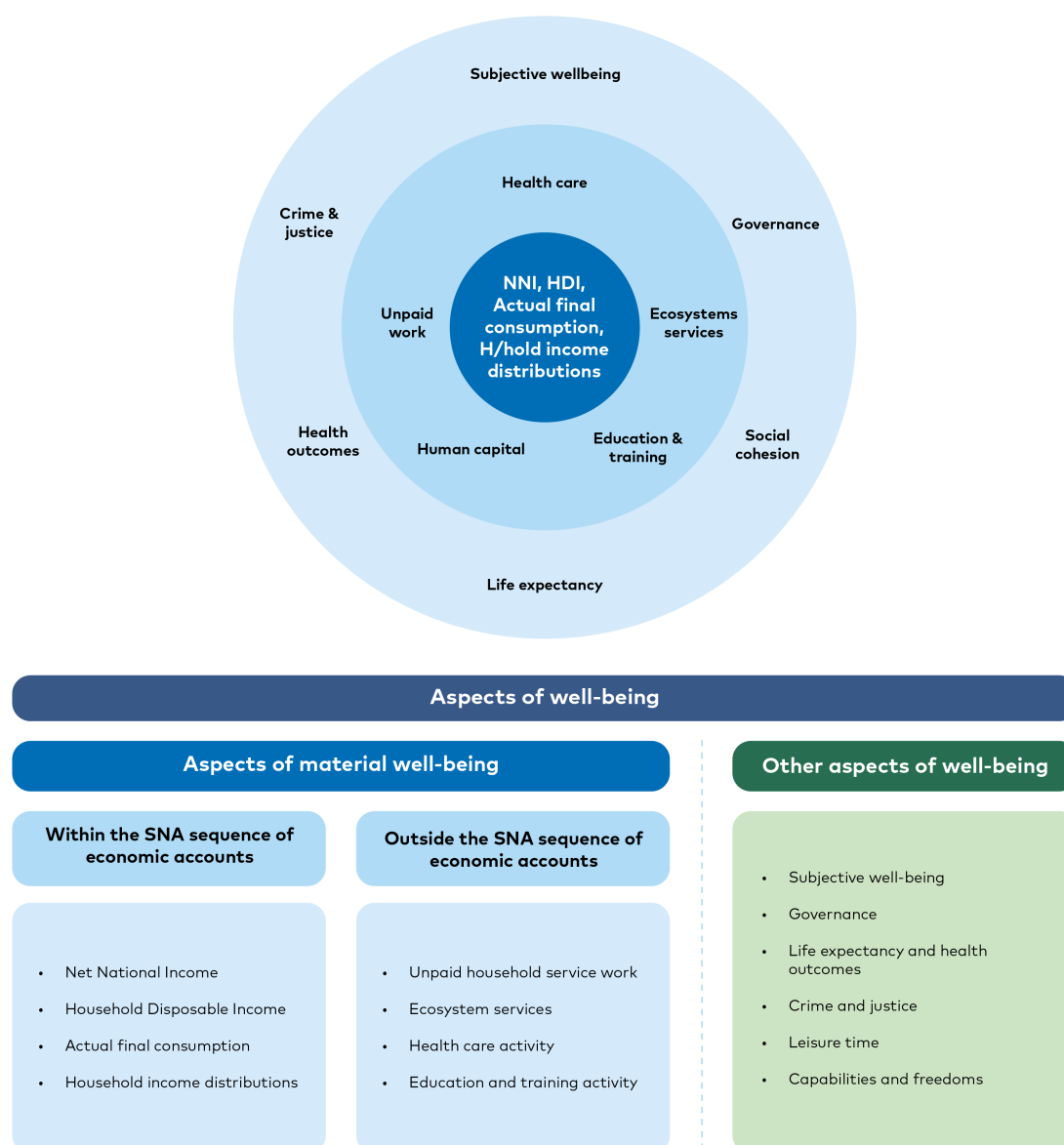


Figure 2: forms of wellbeing that may be considered in future SNA updates.

Source: https://mdgs.un.org/unsd/nationalaccount/SNAUpdate/2025/2025SNA_CH34_V11.pdf (United Nations, 2024a).

To measure the relationship between the economy and the environment and highlight the significance of natural capital for economic performance, reliable statistics are essential. The System of Environmental-Economic Accounts Central Framework (SEEA-CF) addresses this need by extending and supplementing traditional national accounts. SEEA-CF provides a crucial information source for analysing issues, assessing policy options, and implementing national policies. By using internationally agreed delimitations, definitions, and classifications, SEEA-CF logically illustrates the connections between economic activities and environmental impacts across industries and households (United Nations, 2024b).

Ecosystem accounting is one element of the broader framework of environmental accounting identified above. It is also one of the most developed measurement frameworks, building on the traditional SNA. More and more countries around the world have started to develop natural capital accounting and/or ecosystem accounting frameworks, and ecosystem accounting is thus instructive when considering the role of alternative metrics in policy more widely. Recent years have seen an uptick in research further developing the field of ecosystem accounting. For example, a five-year EU Horizon Europe project, Selina, was launched in 2023 to focus on the protection, restoration, and sustainable use of the environment. This initiative involves collaboration among 50 partner organisations from all 27 EU member states. It aims to set new standards for international cooperation to promote ecosystem services and biodiversity conservation and enhance ecosystem conditions. The research project contains a specific work package on Ecosystem Accounting, that aims to facilitate insights to how it can be used to support evidence-based public decision-making processes in a wide range of sectors such as urban and regional development, agriculture, energy, forest, green infrastructure and nature conservations (Selina, 2024).

Another long-term research project funded by the EU Horizon Europe, A-Track, was launched in the spring of 2024. This project focuses on accelerating actions for nature by businesses, financial institutions and governments. One of its aims is to mainstream and advance natural capital assessments and accounting across societies (A-track, 2024).

Ecosystem accounting is a subset of natural capital accounting, thus it focuses specifically on ecosystems and the services they provide, such as carbon sequestration, water purification, pollination, and recreational benefits. It integrates environmental data with economic data to reflect the contributions of ecosystems to human well-being and economic activity. It involves quantifying and valuing ecosystem services, which are the benefits humans derive from ecosystems.

Ecosystem accounting can be viewed as an important policy tool that links the health of natural systems directly to human well-being. By providing a comprehensive understanding of the value of ecosystem services, it supports sustainable development, enhances health outcomes, reduces poverty, and helps in climate resilience and biodiversity conservation. Integrating these accounts into national policies can lead to more sustainable and equitable development, improving the overall well-being of individuals and countries (Natural Capital Coalition, 2023).

The SEEA Ecosystem Accounting (SEEA EA) comprises five core accounts that utilise spatially explicit data and information on the functions of ecosystem assets and the ecosystem services they generate. Its strength lies with the fact that SEEA EA is based on internationally agreed-upon concepts, classifications, accounting rules and tables (United Nations, 2021, 2024a).

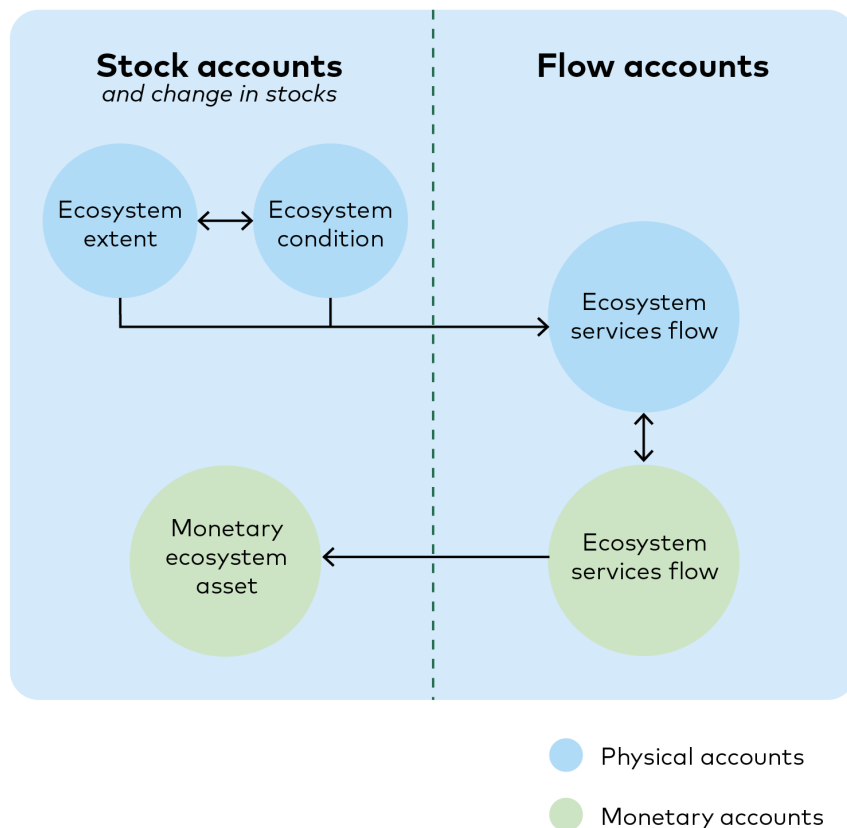


Figure 3: connections between ecosystems accounts. Source: (Mattson, Eriksson, Malmaeus et al., 2022)

Priority data are data points of which are foreseen as mandatory in the EU Commission proposal to amend regulation 691/2011 to add new modules of environmental economic accounts. Ecosystem Extent Account is likely to be mandatory from the year 2026. Data should be provided per area of 1000 ha (Eurostat, 2023a).

From Ecosystems such as area of cropland, grasslands, forest, inland wetlands, coastal beaches etc. As well as report data to these ecosystems, a supply and use table based upon ecosystem services. (Eurostat, 2023b). See figure 4 below.

Figure 4: The supply and use table for ecosystems. (next page)

Source: (Eurostat, 2023b).

Cell shading:

White: Priority data.

Grey: The calculation is automatic when data are provided. These cells cannot be unlocked and edited.

Black: Not applicable.

... TO ECOSYSTEM

FROM ECOSYSTEM...		1	2	3	4	5	6	7	8	9	10	11	12	
		Settle- ments and other artificial areas	Crop- land	Grass- land	Forest and wood- land	Heath- land and shrub	Sparsely vegetated eco- systems	Inland wetlands	Rivers and canals	Lakes and reservoirs	Marine inlets and transitio- nal waters	Coastal beaches, dunes and wetlands	Marine eco- systems	TOTAL REDUCT- IONS
1	Settlements and other artificial areas													
2	Cropland													
3	Grassland (pastures, semi-natural and natural grasslands)													
4	Forest and woodland													
5	Heathland and shrub													
6	Sparsely vegetated ecosystems													
7	Inland wetlands													
8	Rivers and canals													
9	Lakes and reservoirs													
10	Marine inlets and transitional waters													
11	Coastal beaches, dunes and wetlands													
12	Marine ecosystems (coastal waters, shelf and open ocean)													
TOTAL ADDITIONS														0

Relevant data on ecosystem extent-, conditions, and services accounts are related to multiple areas such as land, urban recreation areas, forest, outdoor recreation, agricultural ecosystems. The current availability of these types of data differs among the Nordic countries. For instance, Norway and Finland have long-time series of outdoor recreation data. Long time series data on land cover is available in Sweden, Denmark, Finland and Norway. Norway has time series data on urban recreation areas. (Mattson, Eriksson, Malmaeus et al., 2022).

The pertinence of the SEEA central framework and ecosystems accounting is, therefore, two-fold. First, because it is an alternative metric that grasps nature as a form of capital on equal footing with human, physical, social and economic capital. It therefore permits us to see and monitor the harms caused by human behaviour as well the various benefits of nature for human wellbeing. Second, as the alternative metric arguably best integrated into national and global policy, it provides lessons for how we might expand the scope of welfare measurement yet further still.

3.2 Moving beyond the SNA: Beyond-GDP frameworks

Recent years have seen a marked uptick in research activity in beyond-GDP measurement and policy across Europe. For example, a number of explicitly Beyond-GDP initiatives have also been launched under the Horizon Europe instrument in recent years. These include WISE Horizons (WISE Horizons, 2023), ToBE (ToBe, 2023), SPES (SPES, 2023), and MERGE (MERGE, 2024), the latter of which is a coordination and support function bringing together 16 partners and €17 million to cohere learning and activity across the other projects to advance beyond-GDP measurement and policy across the EU. These projects are further bolstered by related projects dealing with post-growth measurement and policy such as the MAPS (MAPS, 2024) and WISER (WISER, 2023) Horizon Europe project and the REAL project (REAL, 2024), which received a European Research Council grant worth almost €10 million. By virtue of their aims to move beyond growth driven economies more widely, these projects also engage and support work around questions of alternative measurement. This spate of research activity demonstrates a growing consensus that business as usual economics will be insufficient in delivering environmental and social sustainability, and that policy programmes which move beyond the paradigm of GDP growth must be explored.

The WISE Horizons project has produced a framework—known as the WISE framework—which synthesises several beyond GDP-initiatives by making use of an interdisciplinary approach. The authors of the WISE framework argue that the development of a nation's economy and economic policy has profound impacts on quality of life, income distribution and long-term sustainability. Furthermore, the authors argue that a country's economic system is not the sole determinant of well-being. Non-economic factors within society, for instance social connections, neighbourhoods, the education system, lifestyles, and health, also significantly impact well-being and contribute to inequalities. These insights have policy implications: social policies, even those not traditionally considered 'economic,' play a crucial role in transitioning toward a society that prioritises well-being, inclusion, and sustainability (Jansen, Hoekstra et al., 2023).

The WISE framework presents an overview of terms and concepts related to wellbeing, inclusion and sustainability.

Term	Wellbeing	Inclusion	Sustainability
Clarification	Wellbeing is a multidimensional concept which encompasses both experienced wellbeing and factors such as social relations, mental health, and living standards.	Inclusion is a multidimensional concept which encompasses the distribution of wellbeing determinants and opportunities across spatial scales (within countries, between countries, and globally) and social groups (gender, background, race, etc.).	Sustainability is a multidimensional concept which encompasses social and economic conditions for future wellbeing, such as education and infrastructure, as well as environmental conditions, such as planetary boundaries.
Associations	Happiness, quality of life, prosperity, welfare, life satisfaction, flourishing, fulfilment	Equality, fairness, equity, opportunities, minorities, poverty, social floors, subsistence, (global) disparities	Resilience, long term, wealth, planetary boundaries, natural limits, resources, natural capital, human capital, social capital
Typical policy domains	Health, social connections, housing, air pollution	Poverty, Gender and racial disparities, global north-south divide	Climate change, biodiversity, ageing society, Research and Development, Infrastructure

Figure 5: Overview of WISE framework terms and concepts related to wellbeing, inclusion and sustainability.

Source: Adapted from (Jansen, Hoekstra et al., 2023).

This framework, alongside its umbrella term of ‘sustainable and inclusive wellbeing’, is gaining increasing traction across Europe (Benczur et al., 2024). For this reason, the present research paper has drawn on the framework extensively when selecting and analysing indicators, as outlined in the methodology contained in Section 4.1.

There are a large number of alternative metrics in existence, developed by a range of actors. For an overview and history of the field see Jansen, Hoekstra et al., (2023). It has been recognised that the disparateness of the field hinders progress in influencing policy (Hoekstra, 2022) and work is underway to explore the possibilities for convergence across metrics (Rum et al. 2024).

Alongside individual metrics themselves, the beyond-GDP movement is advanced by a number of wider frameworks which encompass not only measurement but also other aspects of policy and more widely how we think about the economy and its role in society more widely. It is often these frameworks which gain the most traction in wider discourse and which have made significant contributions to the push for alternative measurement and policy-making. We therefore discuss a number of the most prominent ones below.

3.2a The Sustainable Development Goals

The UN SDGs and associated indicators can thus in many ways be considered the prototypical attempt to measure progress beyond-GDP. The groundwork for measuring progress towards environmental and social sustainability, via the Sustainable Development indicators, were created in relation to the adaptation of Agenda 21, during the first Rio conference in 1992 (Giovannini, E., & Rondinella, T., 2018). The SDGs consist of 17 goals, and each UN Member State develops their own version of suitable metrics corresponding to these. This means progress can look different across countries depending on the measurement approaches they use.

At the EU level some progress has been made in integrating the SDGs into policymaking, including the 2019 inclusion of the SDGs into the European Semester, the coordination framework of Member States' economic and fiscal policies (Kormann da Silva et al., 2023).

The EU also produces a range of statistics on SDG performance across the region, a practice also shared by the non-EU Nordic nations of Norway and Iceland. However, most activity takes the form only of monitoring, and there has been little penetration into shaping policy objectives and actions (Ibid.). Further, funding for SDG monitoring is dependent on governmental decisions, making consistency and quality of work uncertain.

Despite the widespread adoption, institutional support and considerable investment in the SDGs—including into their measurement—the world is on track to fall woefully short of achieving the SDGs by the stated deadline of 2030 (United Nations, 2024c).

3.2b The wellbeing economy

A wellbeing economy seeks to use wellbeing metrics going beyond GDP to inform and guide policymaking, and this can be done in different ways. According to the Wellbeing Economy Alliance ("WEAll"):

"A Wellbeing Economy is an economy designed to serve people and the planet, not the other way around. Rather than treating economic growth as an end in and of itself and pursuing it at all costs, a Wellbeing Economy puts our human and planetary needs at the centre of its activities, ensuring that these needs are all equally met, by default."

Different metrics may be used to this end and may include objective as well as subjective wellbeing measures. According to Birkjær et al. (2021), a wellbeing economy may operate at three levels: 1) to passively monitor the reality of people's wellbeing, 2) to actively inform governments' wellbeing priorities, and 3) to actively guide policy-making towards most wellbeing impact. To be considered a wellbeing economy a government must operate above the first level of merely collecting and measuring wellbeing indicators. According to the same report only New Zealand, the UK, Bhutan, and Iceland are engaged in all three levels. Among these, the Treasury in the United Kingdom and New Zealand have adopted measures for their policy appraisal procedures, with New Zealand's Wellbeing Budget perhaps being the most prominent example. For the case of Iceland, see section 5.3a below.

In the report *Towards a Nordic wellbeing economy* (2021) it highlights how the Nordic countries can adopt the wellbeing economy model to enhance social, environmental, and economic progress. The authors of the report conclude that GDP is a useful metric, but it is not sufficient to capture broader aspects of wellbeing. The authors argue that there is a great need to include additional indicators that reflect quality of life. Some countries that have integrated wellbeing measures into their government priorities and policymaking includes New Zealand, the United Kingdom, Bhutan and Iceland. However, even when governments have introduced progressive wellbeing policies, these are threatened by governmental changes after elections; given the challenges of wellbeing-based approaches to standard economic norms they are often not resilient to political changes, especially where these shift countries back in a more conservative direction.

In addition, the report acknowledges the complexities and challenges involved in this transition. Some of the identified challenges are related to lack of standardisation of monitoring wellbeing frameworks, use of different elicitation methods^[1] can lead to different policy choices and evaluations, thus complicating the policymaking process. A third challenge is related to ethical issues, as research on subjective wellbeing by Okulicz-Kozaryn (2015) suggests that societal beliefs about what enhances wellbeing may not align with actual wellbeing outcomes.

Championed particularly by the NGO the Wellbeing Economy Alliance (WEAll), the wellbeing economy has arguably been one of the most successful beyond-GDP frameworks in terms of uptake, particularly in Europe and the Nordic countries. Alongside a number of governmental initiatives 16 WEAll national hubs have been established, including in Sweden and most recently Denmark (WEAll, n.d.). What is more, 2024 has seen a number of conferences around the theme of the Wellbeing Economy including in Iceland and Denmark while Sweden also hosted a similar gathering in 2023.

Distinct from the civil society activity of WEAll, six governments around the world are currently members of The Wellbeing Economy Governments partnership (WEGo) – Scotland, New Zealand, Iceland, Wales, Finland, and Canada. Among these, Wales may be considered particularly successful by embedding the goals of its policies into laws, and by enacting policies that are 'red lines', such as a total ban on construction of new roads. Wales has also passed the SDGs into law and established the world's first Commissioner for Future Generations to represent the interests of the future within the institutions of government. This means that the wellbeing economy of Wales is less susceptible to political cycles (Kormann da Silva et al., 2023).

A means for governments to promote wellbeing, famously pioneered by New Zealand, is by making wellbeing budgets. These use a range of social and environmental indicators as well as economic ones to guide government investment decisions. Iceland has also adopted a gender budgeting approach based on similar principles (Weber et al., 2024). A wellbeing budget is a technocratic measure that has a clear policy impact. A drawback may be the annual timeline which can prevent long-term planning (Kormann da Silva et al., 2023). Kormann da Silva et al. (2023): "the gender budgeting approaches of Iceland

1. E.g., monetised wellbeing values v.s subjective wellbeing coefficients

and Finland are clear-cut cases where governments signal to both civil society and the private sector where the money will be flowing, and as such strengthening wellbeing in the process."

The stability of WEGo is not a given but can be affected by political changes. Now champion figureheads such as Jessica Arden in New Zealand and Sanna Marin in Finland are no longer in their political posts, their countries have seen a marked downturn in the use of the wellbeing economy frame and associated policy activity. Even where governments remain enthusiastic, limitations remain in how far governments have been able to enact significant change through the use of the wellbeing frame (Mason and Büchs, 2023).

3.2c Doughnut Economy

Doughnut economics (DE) first emerged as a global theoretical model and economic mindset – not as a set of policies and institutions – fit for the challenges of the 21st century (Raworth 2012). It delineates an ecologically safe and just space (SJS) for humanity to operate within and is simultaneously a basis upon which to evaluate these operations (Raworth 2017). DE comprises both: (a) an ecological ceiling defined in terms of the earth's planetary boundaries, as conceived by the Stockholm Resilience Centre (Rockström et. al 2009), necessarily being translated to a given territorial scale; and the complementary concept of (b) social foundations which are a human rights informed social floor for basic human development needs, a floor below which human deprivation may occur.

The SJS exists when a society functions within the ecological ceiling and above the social foundation. The ceiling and floor are portrayed as two concentric circles forming a doughnut shape.

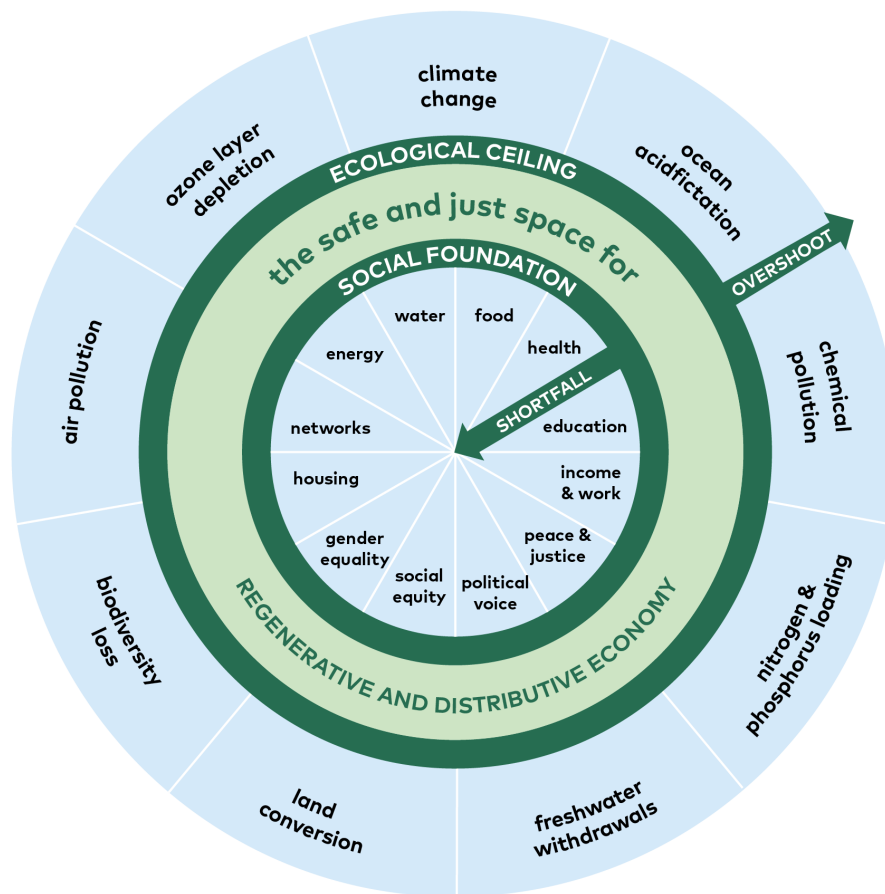


Figure 6: The Doughnut of social and planetary boundaries.

Source: Doughnut Economics Action Lab. <https://doughnuteconomics.org/>

As well as comprising a global economic mindset and evaluative model, DE has seen a shift in both function and applicable territorial scales. Capturing the imaginations of policymakers alongside NGOs, the private sector and citizens, it has become a tool for governance. As such, it is applied across multiple levels of governance. For instance, as sustainable development needs and large-scale just transition processes have come to fore, there has been a renewed focus on local governance institutions, as well as how they relate to regional, national and supranational actors. This has thrown up difficult questions regarding how the planet's ecological ceiling and the SJS can apply, or be translated, to and across smaller scales (Turner and Wills 2022).

These governance challenges are being confronted by several municipalities and regions that have begun to adopt DE in their strategic planning and policymaking. Notable and oft-cited cases include Amsterdam, Brussels region and Melbourne. In the Brussels city-region for instance, DE allowed a comprehensive review and reorientation of economic strategy and a redefinition of what constitutes best practices for business models, as well as the emergence of a multi-level approach. New regional legislation set new standards for environmental and societal exemplarity for businesses seeking government support. In

recent years, these well known examples can be complemented by the adoption of DE within the City of London and, since March 2020, there has also been a concerted effort to explore the strategic use of DE within the European Union. The aim, here, is to use DE to monitor a beyond GDP agenda within the EU. Building on the momentum of the Doughnut4EU group, policymakers at the European Commission have shown considerable interest in DE, especially since it aligns with the EU's environmental priorities (Barth et. al. 2021).

This report identifies a number of cases of Nordic application of DE at municipal and regional levels – in both Copenhagen, Denmark ([section 5.1a](#)), Tomelilla municipality in Sweden ([section 5.5a](#)) and the region of Pirkanmaa in Finland ([section 5.2a](#)). Indicators specifically constructed around the SJS framework have been developed and were selected for inclusion in our analysis. These are discussed in [section 4.2c](#).

3.3 Beyond-GDP Adjacent Frameworks

A number of other economic frameworks and concepts exist which are adjacent and relevant to the field of beyond-GDP measurement. Most famously is the concept of post-growth economics, an umbrella term for a range of schools advocating for a shift away from organising economies around GDP growth. The wellbeing economy and doughnut economy are both post-growth frameworks, advocating for a structural shift in the focus of our economies away from the prioritisation of economy growth.

A related but more radical position is degrowth, which argues that the only path to meaningful sustainability is a planned reduction in the material and energy throughput of at least the world's largest economies. Degrowth explicitly advocates that traditional economic growth across the global south will remain necessary to ensure that the basic material needs of inhabitants are met. The reductions of global north throughput should be understood as making space for the global south to meet basic needs within planetary boundaries.

Finally, the burgeoning field of sufficiency studies chimes strongly with the concept of the SJS in doughnut economics, exploring how to shift to economies centred around providing "enough" for all rather than the maximisation which currently sits at their heart. Finland has emerged as a leader in sufficiency studies, for example with the SISU project being funded by the Finnish Strategic Research Council to explore the role of sufficiency solutions in Finland's ecological transition.

While all of these fields go further than just looking at measurement beyond-GDP, there are significant overlaps particularly when it comes to policy prescriptions and even key figures working on both alternative welfare measurement and also other issues in related fields above. Each of the above schools is likely to endorse moving beyond-GDP as a measure of progress, and a number of important metrics have emerged from their key associated actors. For example, the Sustainable Development Index, one of the metrics selected for analysis in this report, has been developed by leading degrowth academic Professor Jason Hickel, who also leads the REAL ERC project mentioned in [section 3.2](#).

4. Nordic research methodology

4.1 Metric selection

The research began with a structured literature review of 25 academic and grey literature articles, prioritising those which themselves were meta-reviews of existing indicators. The full list of reviewed articles is contained in the bibliography. All metrics discussed in the articles were extracted into an analysis sheet ready for evaluation. This led to 38 novel indicators being longlisted for evaluation:

- Green Growth Index
- UN SDG Index/Dashboards
- Transitions Performance Index
- Genuine Progress Indicator (GPI)
- OECD Better Life Index
- Social Progress Index (SPI)
- Doughnut Economy Indicators
- Sustainable Development Index (SDI)
- Happy Planet Index (HPI)
- Planetary Pressure-adjusted Human Development Index (PHDI)
- System of Environmental Economic Accounting (SEEA)
- Ecological Footprint
- Sustainable Society Index (SSI)
- Adjusted Net Savings (ANS)
- Just Transition Score
- Human Development Index (HDI)
- ASviS Composite Index
- Competitive Sustainability Index
- Environmental Performance Index (EPI)
- UK Measures of National Wellbeing Dashboard
- Environmental Sustainability Index (ESI)
- Inclusive Wealth Index (IWI)
- Scottish national performance framework
- The World Happiness Index (WHI)
- Thriving places index
- Canadian Index of Wellbeing

- NZ Living Standards Framework
- OECD, How is life? Well-being
- Planetary Boundaries framework
- SEEA-Ecosystem Accounting
- Swedish Measures of Wellbeing
- Australia's National Wellbeing Dashboard
- Bhutan GNH Index
- Findicator
- Germany W3 indicators
- Gross National happiness index
- Sustainable National Income
- U-Index

An evaluation framework was then developed, allocating each metric a score of either 0, 0.5 or 1 across a range of criteria. These criteria, as copied verbatim from the framework, are as follows:

Thematic coverage

Covers a range of thematic areas which are important; wellbeing, inclusion/inequality and sustainability. 0 = 1, 0.5 = 2, 1 = 3

Multidimensionality

Uses a range of indicators to measure the different dimensions of the thematics covered e.g. using both carbon emissions and material footprint for sustainability. 0 = one indicator per thematic area, 0.5 = 2-3 indicators per thematic area, 1 = 3+ indicators per thematic area

Intelligibility

How easily the final metric can be understood by non-experts, in terms of overall message/assessment of a country. 0 = very hard to understand what the metric is saying, 0.5 = somewhat understandable, 1 = easy to understand.

This is not about the complexity of underlying calculations; the maths underpinning GDP is complex, but the principle and final number is very simple.

Well established

How widely the metric is discussed and used by mainstream institutional actors like governments and IGOs. 0 = not at all, 0.5 = widely discussed but limited use, 1 = discussed and used by multiple actors

Measured for Nordic countries

Whether the metric is calculated for Nordic countries. 0 = none, 0.5 = 1-2 countries, 1 = 2+

Credibility of creator

Whether the creator of the metric is a well-known and credible actor. 0 = unknown/untrusted creator (e.g. single nonexpert or poorly viewed state), 0.5 = actors such as think-tanks, academics, smaller states etc, 1 = major IGOs such as the UN or similarly legitimate actors

The project team then conducted an in-depth analysis on each longlisted metric, scoring each across the criteria above. Scores were then triangulated with the independent assessment of the research group to derive a shortlist. No metric scoring 4.5 or below was able to be selected and all metrics scoring 5.5 or above were selected by default. In recognition of the limits and innate subjectivity of such numeric scoring researchers were able to propose for inclusion a metric scoring in the 4.75-5.25 range for discussion if they identified compelling alternative reasons to do so. This led to the following final shortlist of metrics:

1. Green Growth Index
2. UN SDG Index/Dashboards
3. Transitions Performance Index
4. Genuine Progress Indicator (GPI)
5. OECD Better Life Index
6. Social Progress Index (SPI)
7. Doughnut Economy Indicators
8. Sustainable Development Index (SDI)
9. Happy Planet Index (HPI)
10. Planetary Pressure-adjusted Human Development Index (PHDI)
11. System of Environmental Economic Accounting (SEEA)

The shortlisting process consisted of a final workshop within the consortium to evaluate these options against the project objectives. In the workshop each research team presented what they deemed to be the most promising metrics for further exploration, based on the underlying reasoning which guided their scoring in the previous phase as well as qualitative criteria which were not otherwise captured, such as potential significance to the Nordic policy context, the potential to generate novel insight and diversity of measurement and calculation approaches used across the options. Through these internal discussions the team aligned on the selection of the following three metrics for full analysis:

1. Transitions Performance Index
2. Doughnut Economy Indicators
3. Sustainable Development Index (SDI)

It was also acknowledged that while the System of Environmental Economic Accounting (SEEA) was not suitable for inclusion in this core group due to its sole focus on environmental factors, its being arguably the most developed, institutionally recognised and rigorously calculated alternative indicator currently in existence warranted its detailed coverage elsewhere in the report.

4.2 Selected metrics

4.2a Sustainable Development Index

The Sustainable Development Index (SDI) was introduced by Hickel (2020) as a novel approach by combining human development with ecological impact. It is an adaptation of the UN's Human Development Index (HDI) and alternative to the Planetary-pressure adjusted Human Development Index (PHDI), meant to better capture the realities of ecological sustainability. Its dual approach accounts for international trade, including emissions and materials embodied in imports and subtracting those of exports. High-income countries, due to globalisation, have shifted their ecological impact by outsourcing production and extraction (Hickel, J., 2020).

The Sustainable Development Index (SDI) is based upon five (5) indicators: education, life expectancy, income, (consumption based) CO₂ emissions and (consumption based) material footprint. Notably the value of the income measure is capped at \$20,000, an amount Hickel argues is an adequate threshold for sustainable wellbeing for all under adequate policy conditions (Ibid.). Excess income beyond this threshold does not contribute to improving a country's performance according to the SDI.

The index is calculated from each country's national development index score (based on life expectancy, education, and sufficiency income) and then divides it by their ecological overshoot. This overshoot represents how much consumption-based CO₂ emissions and material footprint exceed the per capita planetary boundaries (Hickel, J., 2020). When calculating both the development index and ecological overshoot, all indicators are given an equal weighting. The full calculation methodology is found in the original research paper referenced.

The material footprint indicator quantifies the overall weight of a country's material extraction and consumption, encompassing biomass, minerals, fossil fuels, and construction materials. This subcategory is fundamental as material extraction from terrestrial and marine ecosystems significantly influences land-use changes, chemical loading, biodiversity loss, and other critical processes outlined in the planetary boundary framework (Sustainable Development Index, 2024). In summary, the SDI offers a holistic perspective on development, considering both human well-being and ecological sustainability.

4.2b Transition Performance Index

The Transition Performance Index (TPI) is an index developed by the European Commission to determine how Member states, as well as a selection of non-EU countries, are performing in a transition to "a fair and prosperous sustainability" (Directorate-General for Research and Innovation, 2021). There is only a one time off publication of the TPI, where the data used run between 2011-2020.

The TPI was designed with the UN SDGs in mind. As the objectives of the TPI are compatible for comparison with the Eurostat Sustainable Development Goals, the index is likely to have some policy advantages in terms of being in line with the established sustainability policy landscape in the Nordics, as the SDGs are used as a measure of progress.

TPI was presented in 2021 by the Directorate-General for Research and Innovation (European Commission) in a report presenting the first results (European Commission, Directorate-General for Research and Innovation, Vigier, P., 2020). The TPI has later been updated in terms of the number of indicators, and thus the dataset and rankings (European Commission, Directorate-General for Research and Innovation, Prevost, S., Benavente, D., Stevenson, A., 2022). The purpose of the TPI was to provide an additional metric of prosperity beyond GDP, and thus adding further dimensions to the measure of wellbeing in a sustainable future. The index is measuring EU member states' progression towards "the six priorities of the Commission" (Directorate-General for Research and Innovation, 2021), that outlines the political guidelines of the commission between 2019-2024. The six priorities are namely:

- The European Green deal
- A Europe fit for the digital age
- An economy that works for people
- A stronger Europe in the world
- Promoting our European way of life
- A new push for European democracy

Besides the countries within the EU, 45 other countries are measured in the TPI, thus making it suitable for global comparison. According to the European Commission, the TPI covers 76% of the world population, covering 72 countries in total, where 45 are outside of the EU (Directorate-General for Research and Innovation, 2021).

The index is based upon 4 dimensions of transition:

- Economic
- Social
- Environmental
- Governance

These four dimensions are in turn categorised into 16 internationally comparable indicators with 4 sub-indicators within each pillar:

Transition	Indicators
Economic	• Education • Wealth • Labour Productivity and R&D • Industrial Base
Social	• Health • Work & Inclusion • Free or non-remunerated time • Equality
Environmental	• Emissions reduction • Biodiversity • Resource productivity/material use • Energy productivity
Governance	• Fundamental rights • Security • Transparency • Sound Public Finances

Figure 7: Four dimensions and comparable indicators for TPI.

All indicators have individual rankings within the dimension that are weighted to index scores and rankings for the dimensions, whereas 1 indicates best performance and 72 indicates the lowest ranking. Each sub-indicator is in turn based on another 1-3 sub-indicators.^[2] For example, the indicator for Material Use is based on the sub-indicators Resource productivity and Material footprint.

The scores are divided between the four dimensions, and then weighted into an overall TPI score. The weighting system of the four pillars are divided equally. There are four dimensions in total, each composed of four indicators. The overall score per dimensions is in turn computed as weighted arithmetic averages of the indicators' scores, meaning that all dimensions are weighted equally. The index score is computed similarly (Directorate-General for Research and Innovation, n.d.-a). Practically, the countries are ranked based on a score from 0-100 divided into the following five tiers:

2. European Commission (2021). Appendix II - Country Profiles.

Transition leader	Score between [75–100]
Strong transition	Score between [65–75]
Good transition	Score between [55–65]
Moderate transition	Score between [45–55]
Weak transition	Score between [0–45]

Figure 8: Transition scoring.

An important aspect to highlight with regards to the ranking system is that it should not be misleading in the sense that it can give a true answer to how the countries are performing in each of the dimensions. Since the TPI is based on a ranking system, the countries' performance is based on how well the other countries are doing as well. Hence, if a country is improving the score from one year to another, it is both affected by the country's own performance as well as if the others are doing better or worse. The results should therefore be interpreted with cautiousness.

On a final note, as mentioned above, there has not been an updated release of the TPI from the EU Commission. Hence, to get a better understanding of whether the TPI is expected to be developed and used further within the EU, a personal request was sent to the European Research Enquiry Service. In the answer on the request, it was explained that there is no envisioning on further updating the TPI. The reasoning for this being that the TPI as a tool lacks transparency in its design, and the potential for its use as a policy tool was deemed not sufficient at this point.

But there has on the other hand been other developments as kind of an extension of the TPI. In 2023, three years following the first report of the TPI, a new report by the European Commission (European Commission, Directorate-General for Research and Innovation, Vladimirov, M., Gerganov, A., Petrova, V. (2023) presented two new alternatives to the TPI, with the aim of developing better policy instruments to monitor the member states progress towards sustainable transition. This is suggesting that the TPI has not been sufficient in delivering a full assessment of the Commission's political priorities. The report further states that as of 2023 there has not been a 'Beyond GDP' monitoring framework with clear and measurable targets to report for the UN SDGs or achieve the EU Agenda 2030. Newer editions of a 'Beyond GDP' metric seeks to integrate a broader aspect of well-being in European countries, building on the methodology of TPI and other metrics developed by the European Commission. In the report, five in depth interviews with experts on the subject of 'Beyond GDP' were conducted, with specific comments on the TPI and possible improvements on the index's dimensions. It is suggested that the social dimension is unpacked to favour more inclusion, health and wellbeing, as well as a greater emphasis on sustainability within the dimensions. One expert suggests

integrating the 'Doughnut approach' in the sustainability aspect, to have a clearer dimension of the environmental transition in terms of input and output.

Further development of the report from 2023, is a preliminary study (European Commission, Directorate-General for Research and Innovation, Charveriat, Abdallah, & Jong, 2024) for a new metric published by the European Commission presenting another alternative in the 'Beyond GDP' approach for a sustainable prosperous future. The framework for the study is called GDP+3, which is similar to the TPI in terms of dimensions. As the name suggests, the GDP+3 framework adds three dimensions to GDP as a measure on wellbeing and prosperity, namely social, environmental and institutional prosperity. The report emphasises that the framework needs to have strong policy traction for it to be a strong and influential political tool. Here, the strong relation to GDP in the framework might be an advantage, as it is familiar to policymakers and the wide public.

Even though the TPI in its current form will not be developed and used further, the TPI has still been influential in providing a solid baseline for the further development of 'Beyond GDP' metrics within the EU, as it has been a stepping stone in finding more appropriate metrics for policymakers in terms of recent research and the work on the GDP+3 measure. With these findings, the TPI is thus not recommended for direct implementation in policies in the Nordic countries. However, since the work on efficient indicators is still being developed, it is accurate for policymakers to stay up to date with the current work presented by the European Commission on the 'Beyond GDP' approach, as this can be relevant for the Nordic countries' work going forward towards well-being economies.

4.2c Doughnut Economy Indicators

To date there is no single and centrally produced set of indicators which both quantify and evaluate performance of individual countries against the DE framework. However, a number of scholars have undertaken distinct calculations to understand relative and comparative national performance. These have often been based on distinct but overlapping synthetic indicators. There have been, to our knowledge, only four studies which conduct large-scale comparative studies, including European countries. Three of these use the same data sets from 2011 and 2015, whilst the last uses more recent data sources ranging till 2019.

Based on data collected from 2011, the seminal paper 'A good life for all within planetary boundaries' looked at over 150 countries. It determined there were profligate transgressions: no country met the basic human needs of its citizens while using resources at a globally sustainable level (O'Neill et al. 2018). Based on the same set of data, a follow-up paper 'Is it possible to achieve a good life for all within planetary boundaries' looked at the ability of poorer nations to pursue a good life for all within planetary boundaries, due in part, to the ecological overshoot by richer nations (Hickel 2019).

A follow-up to the first of these papers 'The social shortfall and ecological overshoot of nations' was based on updated time-series data till 2015 (Fanning et al. 2022). Reviewing over 140 countries till 2015, it concluded that countries are likely to overshoot their biophysical boundaries faster than achieving the social foundations for prosperity, with

projections suggesting that deep transformations were needed to safeguard human and planetary health.

This study draws on the data used in 'The social shortfall and ecological overshoot of nations' (Fanning et al. 2022). This selection was based on the fact that this is the most comprehensive time series data available and has been referenced on the official website of the Doughnut Economy Action Lab (DEAL, 2021). However, three major limitations should be noted.

First, this dataset nor any of the others reviewed contained data for Iceland. The research team searched extensively for data which would enable novel calculations for Icelandic performance to be undertaken, but such data was not publicly available. Analysis of Iceland in terms of the doughnut economy is thus missing.

Second, this dataset does not contain data for Cyprus, Luxembourg or Malta. This means that EU comparisons are based on an average of the remaining 24 EU member states, rather than the full EU27. However given the size of the omitted countries, we are confident that such a comparison can still provide valuable insight.

Third, and most importantly, the fact that historical data only exists until 2015 places considerable limitations on the conclusions that can be drawn. The datasets do include projections under business-as-usual scenarios, however given the ensuing years have seen the global pandemic, a war on Europe's eastern border, drastically increased energy costs and high persistent inflation, not to mention ecological changes seemingly accelerating far faster than models had predicted, these projections are likely to deviate significantly from reality. For this reason we have elected not to include these projections in our analysis.

Indicators in Fanning et al. 2022	
Ecological ceiling	Social foundation
CO2 emissions (consumption based)	Life satisfaction
Ecological footprint	Life expectancy
Material footprint (consumption based)	Nutrition
Land-system change (consumption based)	Sanitation
Phosphorus (consumption based)	Income poverty
Nitrogen (consumption based)	Access to energy
	Secondary education
	Social support
	Democratic quality
	Equality
	Employment

Figure 8: Indicators for doughnut adapted from (Fanning et al. 2022).

The data are normalised with respect to nationally calculated biophysical boundaries and social foundations. In the former case, these are downscaled, per capita allocations of the ecological 'space' beneath the planetary boundaries or, in the case of ecological and material footprints, their globally sustainable levels. In the case of biophysical boundaries a value >1 means the nation is transgressing a biophysical boundary i.e. operating ecologically unsustainably. Here a higher number indicates poorer performance. In the case of social foundations a value <1 means the country is falling below a social foundation i.e. failing to provide a basic need for some of its population. Here a lower number indicates poorer performance.

In addition to Fanning et al. 2022 there is a more recent paper entitled 'How close are European countries to the doughnut-shaped safe and just space? Evidence from 26 EU countries' (Gómez-Alvarez Díaz et al. 2024). This paper conducts a snapshot analysis using different indicators and data-sets from the papers identified above. These are shown in figure 9 below. The data used by this paper has been sourced from between 2015–2019 for indicators relating to social foundations, and between 2010–2021 for

biophysical indicators, with most coming from different sources in 2019. Gómez-Alvarez Díaz et al. 2024 does not gather data for Norway. And whilst we outline the approach below, this data, due to its disparate nature and incongruence with established datasets in the field, shall not be used for this study.

Ecological ceiling	Indicators used in Gómez- Alvarez Díaz et al. 2024	Years in which data is sourced
Atmospheric pollution	The population weighted annual mean concentration of particulate matter at urban background stations in agglomerations	2021 / 2019
Biodiversity loss	Habitats with good conservation status	2010 / 2018
	Species with good conservation status	2010 / 2018
Biochemical flows	Nutrient nitrogen use	2015 / 2019
	Nutrient phosphate use	2015 / 2019
Chemical pollution	Waste without hazardous chemicals	2014 / 2018
Climate change	CO2 emissions	2018 / 2019 / 2020
Freshwater use	Water Exploitation Index plus (WEI+)	2016 / 2017
Health of oceans and rivers	Inland water excellent	2016 / 2019
	Coastal water excellent	2016 / 2019
Land-change system	Temperate forest	2015 / 2018
Stratospheric ozone depletion	Free of consumption of ozone-depleting substance (ODS)	1987 / 2019

Social floor		
Connectivity	Households with high-speed internet	2019
Culture	Population reports that non-participation in cultural or sport activities is not for financial reasons or because of there being none in the neighbourhood	2015
Education	15-year-old students achieve level 2 ('basic skills level') on the PISA scale for the subject of reading (zi=15-year-old students)	2018
Energy	Households are able to keep their home adequately warm	2019
Food	Population with appropriate meals: the ability to eat a meal with meat, chicken, fish (or vegetarian equivalent) every second day	2019
Gender equality	Proportion of women in national parliaments and national government (zi= 50% of seats)	2019
	Gross hourly earnings of females (zi=earnings of males)	2019
Health	Population covers needs for medical care without problems due to 'financial reasons,' 'waiting list' or 'too far to travel'	2019
Housing	Population without overcrowding	2019
Income	Population without risk of poverty	2019
Peace & justice	Population reports that they do not face the problem of crime, violence, or vandalism in their local area	2019
	Population does not perceive the independence of the courts and judges in a country as "being very bad" or "fairly bad"	2019
Political voice	Population does not answer "not at all satisfied" with the way democracy in the country	2019

Social equality	Population thinks differences in people's incomes in the country are not today too high	2017
	Population affirms that they do not feel discriminated against	2019
Social support	Population has someone to ask for help	2015
Transport	Population with great or very great difficult in accessing public transport	2012
Water and sanitation	Population with bath or shower and indoor flushing toilet in their household	2019
Work	Total active population without long-term unemployment	2019
	Employees not at-risk-of-poverty (z_i = total employees)	

Figure 9: Outline of environmental and social indicators, with year of data source, used in Gómez-Alvarez Díaz et al. 2024.

5. Country analyses

5.1 Denmark

5.1a Alternative metric landscape in Denmark

Denmark has a few on-going initiatives towards Beyond GDP. All initiatives have been established within the last five years, indicating that the on-going initiatives are still only in an investigating and implementing stage. According to the report "Towards a Wellbeing Economy" (Birkjær, Gamerdinger, & El-Abd, 2021) from 2022 by the Nordic Council of Ministers and the Danish "The Happiness Research Institute", Denmark is the only country in the Nordics that does not qualify as a wellbeing economy, as they are not progressing their work with wellbeing measures further from the monitoring stage to policymaking and prioritisation. This is further supported by a report published by the Danish National Audit from 2020 (Folketinget, Rigsrevisionen, 2020), that concludes that the Danish ministries' work with the SDGs in the period 2015-2020 were not developed into further policymaking with the argument that the general practice in the ministries already follows the general policy of the SDGs. However, a lot has happened in the Danish political arena since then.

In 2020 the Danish government passed the Danish Climate law (Lov om Klima [Klimaloven], 2020) with the aim to mitigate 70% of the Danish GHG emission levels by 2030, relative to 1990. It is stated in §7 of the Climate law, that the Danish government is obliged to describe the status of the national work in pursuing international multilateral climate goals. The nature of the climate law is heavily based on monitoring and technological development, as it requires the government to keep status on yearly climate projections and scientific progress. The climate law has been critiqued in the way it upholds the status-quo and favours industries and not the civil society, by not catalysing rapid action (Veng, Papazu, & Ejsing, 2023). Although the law was historical in Danish climate politics, it is unsure whether its juridical design is leading to action efficient enough to live up to its ambitions.

As of June 2024, the Danish government released a new "green agreement" (Økonomiministeriet, 2024) between the government and different stakeholders in nature protection and agriculture, with the aim to reach the Danish 2030-climate goals. The agreement is based on a strategy to change the aerial distribution of land use, enhance biodiversity and clean drinking water.

Furthermore, during the spring of 2024, a Danish hub for the Wellbeing Economy Alliance (WEALL) was launched, in the form of the think-tank tWellbeing Economy Lab (WELA). WEALL DK is part of the international Wellbeing Economy Alliance and an independent think tank that works to promote a welfare economy. The Danish network is self-organised and is therefore not part of the Wellbeing Economy Governments (WEALL DK, 2024).

2030-panel and Sustainable Development Goals

In 2017, the Danish government established the "2030-panel" (2030-panelet, n.d.) consisting of 21 experts in different sectors, with the purpose of supporting the political development in Denmark striving to reach the 2030 goals, set by the European Commission (European Commission, Directorate-General for Communication, n.d.). In 2020, the report *Make Global Goals our Goals* was published, developed by scientists from Danish universities and Statistics Denmark (2030-Panelet & Statistics Denmark, 2020). The aim of the report was to define sustainability indicators in a Danish context, derived from the UN Sustainable Development Goals (SDG). The Danish sustainability indicators consist of 197 Danish specific sustainability goals, split into three subgroups: Our Life, Our Planet and Our Society (Statistics Denmark, 2024). In 2021, the Danish government initiated a need for risk-assessment of all new legal bills in relation to the sustainability goals, to ensure policy making aligns with Our Goals (Finansministeriet, 2021). It has however shown difficulty to use in practice as well as procedural challenges and lack of administrative framework for the risk-assessment. The governmental monitoring of the SDGs through risk-assessment, is thus in a developing stage towards a more streamlined administrative framework across ministries.

In 2023 the Danish government presented an action plan called the 2030-plan that aims to increase Danish welfare by further investments in sectors such as health, education, security and technology to support the green transition strategy (Finansministeriet, 2023). More than 50 billion Danish kroner has been allocated to a Green fund to among other things develop Nature-national parks, windmill parks and investments in new technologies such as Carbon Capture and Storage (CCS) (Energistyrelsen, n.d.). However, the potential as well as risks of using this technology remain unclear. Critical voices of CCS argue that the technique will prolong the use of fossil fuels rather than phasing them out and the scientific viability, especially related to hazardous risks and their potential for impact at scale, is still uncertain.

Green National Accounts:

In 2023, a working group consisting of scientists from Danish universities, the DREAM group (Danish Research Institute for Economic Modelling) and Statistics Denmark published a new methodology to calculate the Danish Green National Accounts (GNA) (Kragesteen, H. & Lauritzen, D., 2023). The GNA is heavily based on the GDP approach but aims to contribute to a broader perspective of the relationship between nature and the economy, by taking the loss of natural depletion and the changing environmental landscape into account (Sørensen, 2021). Originally the framework is inspired by the UN framework System of Environmental Economic Accounting Central Framework (SEEA-CF). The GNA is based on statistical data that describes stocks and flows of natural resources, as well as outputs of environmental goods and services. The GNA consists of five different domains with multiple underlying environmental areas, Energy and air emissions, Material flow and waste, Water and wastewater, Green economy, Natural resources. Details about all the variables can be contained in the statistics bank handled by Statistics Denmark (n.d.-b). However, the potential future use of the GNA as a framework in Danish policy making is uncertain. There is a lack of suitable data and raised criticism of whether these types of natural resource evaluations should be used in such a context, because it could be subject to multiple possible errors and uncertainties.

The methodology used for GNA is on the other hand used as the basis for another model called GreenREFORM, which is a projection model to be used as a tool in policymaking. The aim is to be able to project the most cost-effective solutions from a socio-economic perspective, when developing new policies in the sphere of the green transition (Danish Research Institute for Economic Analysis and Modelling, n.d.). The model will be used to specifically assess the market effects from policies on emissions, such as a CO₂e-fee on Danish agriculture. The model has been used in the green tax reform and is planned to be used as a tool in the Ministry of Finance for policy analysis in terms of economic efficiency in taxation and regulation of emission intensive industries.

Doughnut Economics

The municipality of Copenhagen initiated the use of Doughnut Economics in 2020, as a political management tool (Københavns Kommune, 2021). Since then, yearly reports cover the sustainable development in Copenhagen by using the Doughnut Economics framework. The municipality of Copenhagen uses the framework as a tool to determine development and where there is a need for policy action. The report from 2024 states that the framework is used to clarify what areas the municipality needs to focus on in case of specific challenges (Københavns Kommune, 2024). Both in 2023 and 2024, the focus areas were related to climate- and ecosystems, mental health, equality, employment, housing and the city's infrastructure (Københavns Kommune 2023;2024). The project is still in its pilot stage, which runs from 2023-2025. In this stage, the municipality needs to decide the trajectory of the project and how it needs to be developed to be useful on a local scale.

5.1b SDI performance and explanation

Denmark's global SDI ranking has declined from 107th in 2000 to 136th in 2022, as shown in Figure 10 below. However, a closer look at the SDI sub-indicators reveals that life expectancy in Denmark has increased from 78.7 years in 2008 to 81.9 years in 2022. This growth surpasses the EU-26 average, where life expectancy was 80.1 years in 2022. Notably, Denmark did not experience the sharp decline in life expectancy during the COVID-19 pandemic that was observed across the EU-26, as depicted in Figure 11.

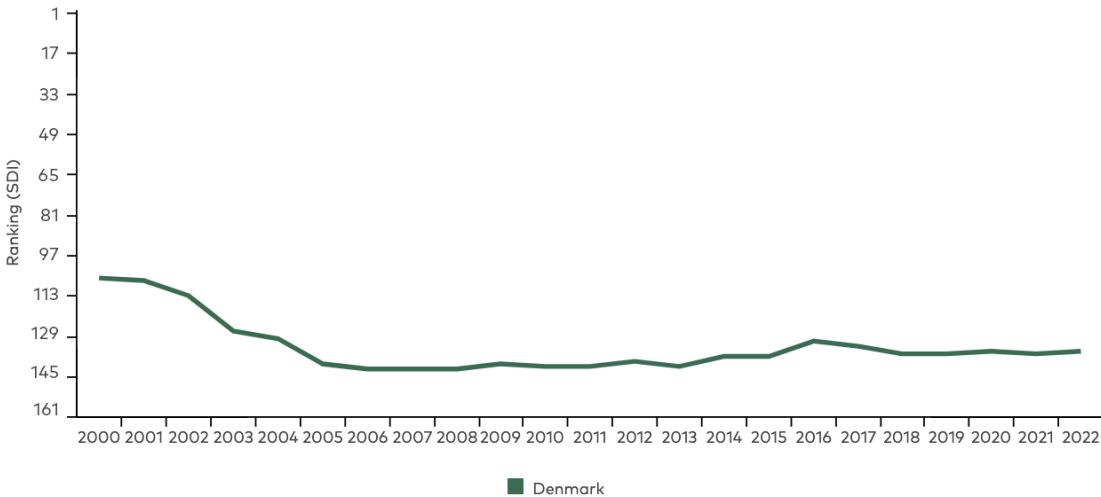


Figure 10: Denmark's SDI ranking development (2000–2022)

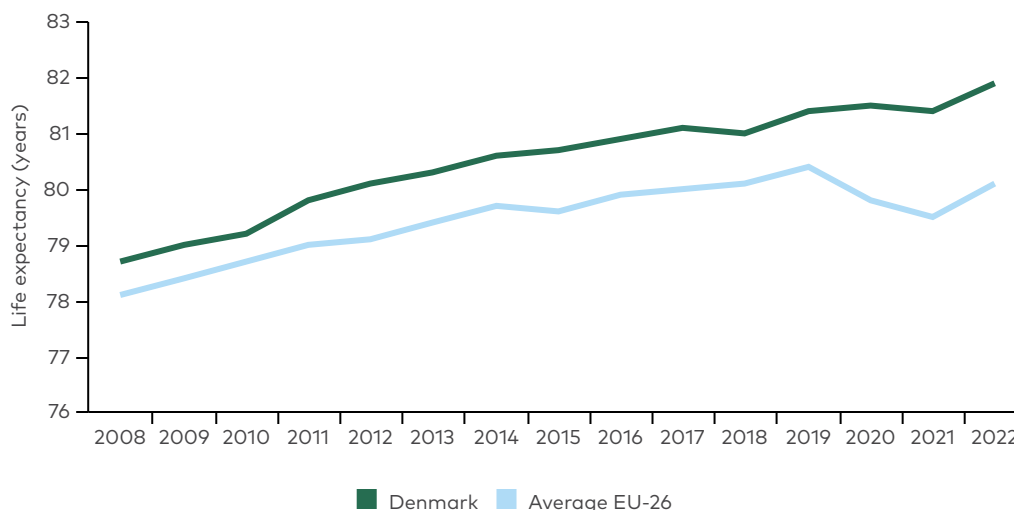


Figure 11: Life expectancy in years in Denmark and EU-26 average (2008–2022)

Denmark has also seen an improvement in expected years of schooling, rising from 16.7 years in 2008 to 18.8 years in 2022, a trend consistent with neighbouring countries such as Norway, Finland, and Sweden. Additionally, the mean years of schooling have increased slightly from 12.9 to 13.0 years over the same period.

Denmark's material footprint per capita (measured in tonnes) has decreased in the period 2008 to 2022 with 45 percent. See figure 12 below. The decrease is larger than the EU-26 average that is estimated to -30 percent in the same time period. In 2022, the Danish material footprint per capita is estimated to be 25,8 tonnes. While the EU-26 average is estimated to be 19,8 tonnes.

Denmark's gross national income (GNI) per capita, measured in constant 2017 USD PPP, has grown by 16% from 2008 to 2022. In 2008, Denmark's GNI per capita was estimated at \$53,564, increasing to \$62,019 by 2022. This is mainly due to growing investments from abroad (Statistics Denmark, 2024).

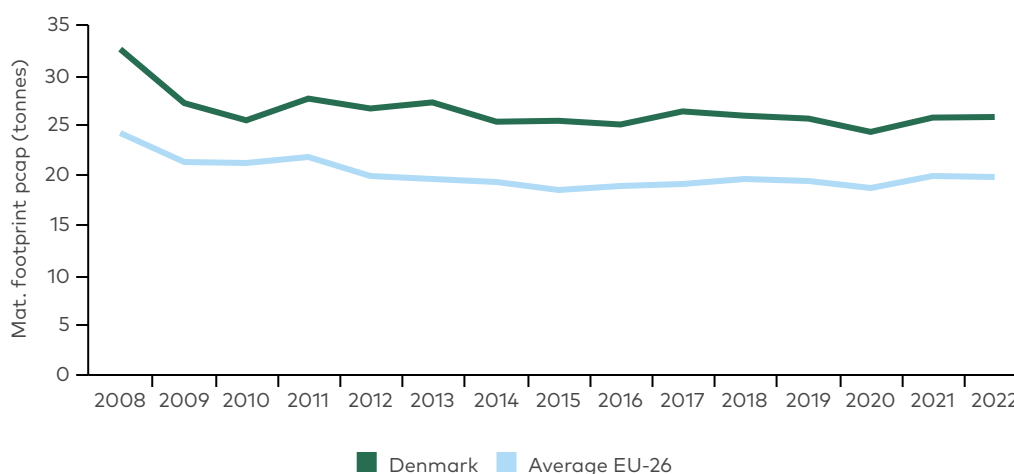
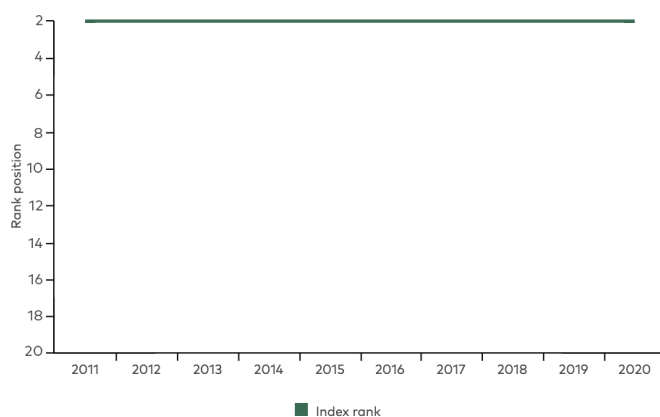
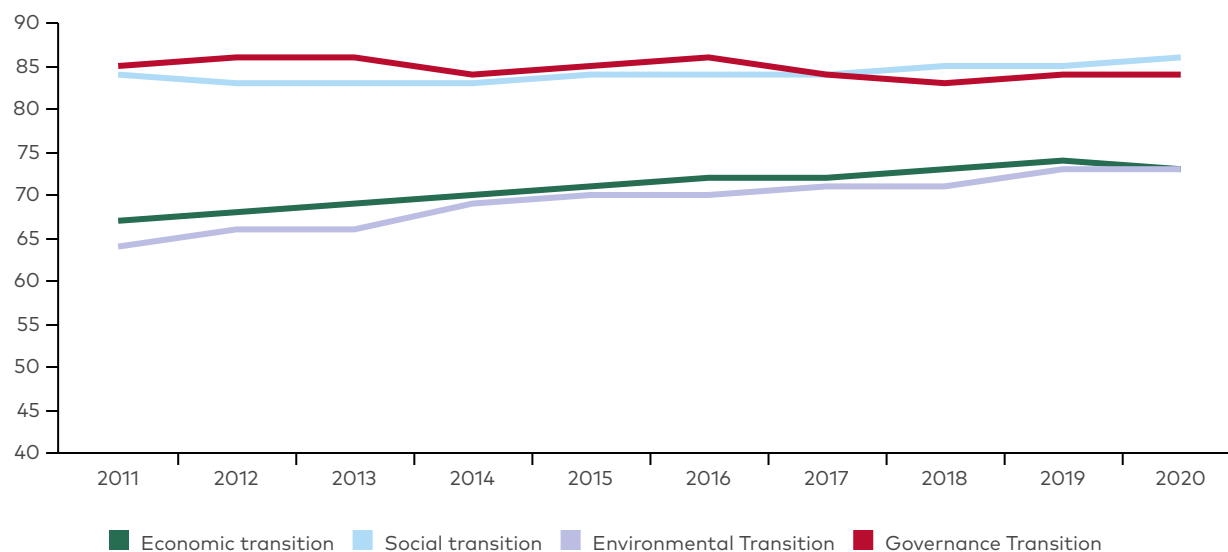


Figure 12: Denmark's material footprint per capita (tonnes) and EU-26 average (2008–2022)

The data shows that CO₂ emissions per capita (measured in tonnes) have decreased in Denmark with 32 percent from a level of 13,2 in 2008 to 8,5 in 2022. This is close to the EU-26 average level of 7,8 in 2022, which shows a decreasing trend over time.

5.1c TPI performance and explanation



	2011	2012	2013	2014	2015
Index ranking	2	2	2	2	2
	2016	2017	2018	2019	2020
Index ranking	2	2	2	2	2

Figure 13: Index score in all four dimensions and index Rank for Denmark in the years 2011–2020.

Source: TPI Database.

Denmark has had a steady position as number 2 on the global ranking out of 72 countries, in all years between 2011–2020. In 2020, they scored 78 out of 100. Denmark has increased performance in the Economic and Environmental transition, whilst remaining ranking number 2, indicating that other countries are progressing as well. From 2014 Denmark is ranked in the Transition leader tier, making Denmark the top scoring country on the TPI list in the Nordics. The high average for Denmark may be attributed to the rapid increase in the Economic transition dimension between 2011–2020 as well as the high index scores in the Environmental transition dimension compared to the 4 other countries.

However, Denmark does not score in the Transition leading tier in all dimensions of the index. In the dimension of Social transition, Denmark scores lowest together with Finland. However, all Nordic countries score well above average, classifying in the Transition leader tier. Iceland scores the highest, hence, the social scoring is not affecting the total average considerably for Denmark. The significant score for the Environmental dimension for Denmark compared to the other Nordic countries is especially attributed to the indicators of biodiversity and energy productivity, where Denmark scores 94 and 93 respectively and rank 4 in both. That is significantly higher than the other four countries that lie between rank 14–67 and rank 21–72. The high performance in energy productivity is attributed to the fact that Denmark has a high economic output in relation to the energy input available on the market.

5.1d Doughnut economy performance and explanation

Figure 14 shows that between 1992–2015, Denmark has overshoot the biophysical boundary on each indicator, whilst performing above the social floor across all indicators except employment.

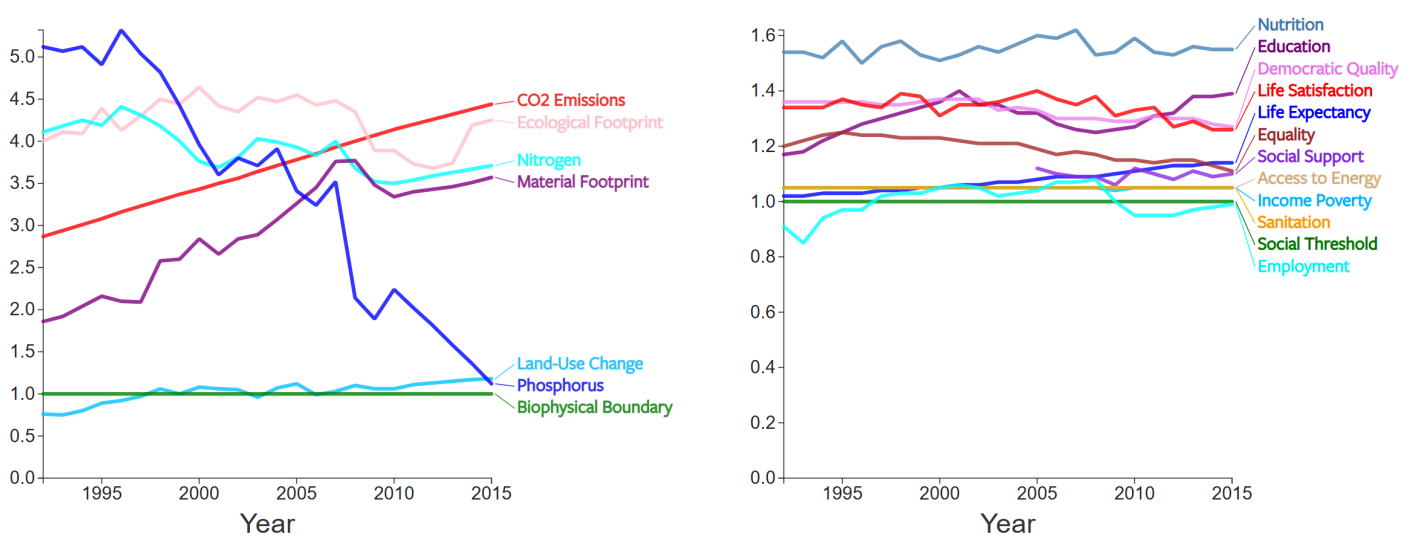


Figure 14: Denmark's performance from 1992–2015 sourced from Good Life Project and premised on data used in Fanning et al. 2022.

Source: goodlife.leeds.ac.uk

Other data from the Good Life project shows that Denmark's average overshoot beyond the ecological ceiling has, in years leading up to 2015, decreased.^[3] Figure 14 above shows that changes in land use have, since the late 1990s, been close to biophysical boundaries, though recent years have seen a slow increase in the overshoot. Denmark also has the lowest land-use performance of the Nordic countries, by some margin. In contrast, the production of phosphorus has dramatically declined since 2007 from 3.3 kg/capita to 0.9 kg/capita in 2015, hewing close to the biophysical boundary. This bucks the trend of a slow increase since 2009 in Finland, Norway and Sweden. Denmark's material footprint has steadily increased since 1992, though in 2015 it remained below levels seen in both Norway and Finland. Denmark's ecological footprint performance in 2015 remains on par with its performance in 1992, though over this period, it has a slightly larger overshoot than other Nordic countries. CO2 emissions stood at 4,292 megatonnes in 2015, the highest of all Nordic nations, and on a consistently steep increase since 1992. Finally, Denmark's material footprint has, since 2007, largely levelled out through to 2015. Notably, however, a slightly increasing trend remains. This is in contrast to the far more stable trend line seen in the SDI analysis, which calculates material footprint in absolute terms rather than relative to a national share of a globally sustainable level. This divergence can be explained by the differing calculation methods in each case; in the case of the doughnut indicator, the transgression of the sustainable level will be cumulative, meaning that even stabilising material footprint will over time still increase a country's overall transgression of the boundary level if the level is high enough.

Denmark has been considered within the top three happiest countries in the world for a number of years (Helliwell et al. 2024). Its performance across social indicators both reflects this, as well as some of the deeper ambiguities of this position. As the above figure 14 shows, between 1992–2015, Denmark sustained relatively consistent levels of performance above the social floor for 11/12 of DE's social indicators. Performances related to unemployment fell below the social minimum standards for living the good life after 2007, though by 2015 they rested only minimally below the social floor. Income poverty, access to energy and sanitation have all remained at consistent levels through 1992–2015. Like much of the world, and in a trend also seen in Finland and Sweden, Denmark has also seen a fall in democratic quality since 1992, with a palpable decrease occurring in 2012. At the same time levels of equality have also seen a slow and steady decline from 78 in 1995 to 73.6 in 2015, whilst social support has remained at relatively stable levels since 2005. Life expectancy has increased in this time to 80.7 years. And whilst international studies declare Denmark as consistently highly ranked on the happiness indexes, life satisfaction has fallen steadily since 2005. This remains on roughly the same level as other countries within the Nordics.

An alternative EU focused study takes a snapshot of Denmark using 2019 data, using a different set of indicators for the ecological ceiling and social floor (Gómez-Alvarez Díaz et al. 2024). This data is thus not entirely comparable with the above analysis, but can nonetheless provide an interesting insight into slightly more recent performance through a similar lens. This more recent data suggests that Denmark has the largest combined ecological overshoot out of the Nordic countries and indeed one of the largest in Europe

3. <https://goodlife.leeds.ac.uk/national-trends/pathways/>

(Ibid, 8). Denmark was found to have overshoot a normalised, combined threshold for the ecological ceiling integrating all planetary boundaries by 247.7%. However, it also shows Denmark to be the closest of any EU country to operating in the socially just space, falling short of a normalised combined baseline for the social floor by only 9.1%. A full graphical performance breakdown according to this alternative study is presented in the EU comparison outlined in section 6.3a.

5.2 Finland

5.2a Alternative metric landscape in Finland

Finland has become an internationally leading actor and champion for wellbeing economies. This status has its origins in the development of wellbeing metrics in Finland that coincided with consequential changes to its welfare model. After the financial crisis of 2008, drastic austerity measures were demanded across the public sector in order to, it was argued, correct economic deficits. As a result, existing levels of welfare provision were lowered using the justification of economic recovery and long-term economic growth. This structural shift in Finland's welfare model coincided with the emergence of Findicator in 2009. Discontinued in 2022, this service was run by Statistics Finland and provided around 100 indicators measuring Finland's development on issues ranging from the economy, health, the labour market, environmental performance and education. This indicator introduced wellbeing into Finnish decision-making and governance circles and was used by the Finnish Federation for Social Affairs and Health (SOSTE) to highlight a need for more comprehensive social and healthcare policies. All at a time when Finland's welfare model, and these specific policy spheres, were undergoing strong cost-cutting measures. Research shows that despite this, Finland's welfare model remains critical to citizen wellbeing and the nation's life satisfaction (Martela et al. 2020).

The ensuing one and half decades has seen the broad and complex concept of an "Economy of Wellbeing" become a key reference point for Finnish policy initiatives, domestically and internationally. Some of the main policy developments till 2021 have been reviewed in the Nordic Council of Ministers report 'Towards a Nordic Wellbeing Economy' (Birkjaer et al. 2021). It highlights the moment when wellbeing metrics became an active policy initiative of the Finnish government. In response to civil society pressure, the Finnish Presidency of the European Council led the government to advocate, in October 2019, for the use of wellbeing metrics in policy design and evaluation (European Council 2019). This intervention benefited from a commissioned background analysis by the OECD (Nozal et al. 2019). The 2021 NCM report also highlights three Finnish initiatives aimed at advancing a wellbeing economy and beyond GDP considerations in Finland: the Economy of Wellbeing Steering Group and Wellbeing Committee; the start of and initial ideas for Finland's 2023 National Action Plan; and Finland's membership of the WEGo alliance.

The current report will update information on these initiatives, identify new initiatives and refrain from repeating the coverage in the 2021 report. It is useful to first situate new Finnish initiatives amidst three significant changes to the country's policy and governance landscape.

The first is a structural and substantial change to Finland's governance structures. A result of legislation finally passed in June 2021, 21 Wellbeing service counties came into legal operation on 1 January 2023. These entirely new regional public authorities are distinct from both central government and municipalities, with distinct competencies and responsibilities. They now bear responsibility for the supervision and provision of social welfare, healthcare and emergency services. It was intended that central government thinking on the Economy of Wellbeing would nurture the potential of these new governance entities – ones aimed at more equal and adequate welfare, as well as better standards of healthcare services for the population (Birkjaer et al. 2021, 31). However, in September 2024, the Orpo government proposed a further tightening of the budget for 2025 and onwards. It is proposed that the growth of expenditures by the wellbeing services counties be halted whilst there being an initial increasing central government funding. It is also proposed that their functions and obligations be curtailed. The budgetary changes are aimed at changing service provision through extending waiting times, reducing the minimum level of staffing for certain services, while attempting to increase the income of wellbeing service counties from increasing client fees for healthcare services. It is also proposed that discretionary funds given by the Ministry of Social Affairs and Health to associations and foundations that promote health and wellbeing be reduced by EUR 80 million (Government of Finland, 2024). Whilst the Ministry of Social Affairs and Health remains in control of coordinating Finland's policy initiatives on the wellbeing economy, the Ministry will likely receive in the region of EUR 1.2 billion less in 2025 than the EUR 16.3 billion it received in 2024 (Ministry of Social Affairs and Health, 2024). Beyond budgetary austerity and the lowered threshold of wellbeing service provision, the wellbeing service counties also offer a governance coordination challenge: how can the Finnish central government grapple with advancing a wellbeing economy agenda across multiple and novel levels of governance?

Second, the Marin government introduced a Government Sustainability Roadmap in 2021, updated in 2022, to address the interconnections between social, economic, and environmental sustainability. It highlighted challenges such as rising social inequality, high resource consumption, and environmental sustainability gaps. The Roadmap aimed to integrate sustainability across government and initiated a pilot for policy coherence monitoring (State Council 2022). This has since evolved into Finland's Sustainable Growth Agenda, part of its Recovery and Resilience Plan (Finnish Government 2021), which focuses on reducing greenhouse gas emissions, improving competitiveness, RDI and employment, and promoting regional, social, and gender equality. The Finnish Institute for Health and Welfare is expected to develop a wellbeing economy monitoring mechanism as part of this agenda (Ministry of Social Affairs and Health 2023).

The new Climate Act, effective from 1 July 2022 (Climate Act 423/2022), sets national targets, including achieving carbon neutrality by 2035 and carbon negativity soon after, and strengthening carbon sinks. These targets exceed the 2015 Paris Agreement's commitments. The Act requires a long-term climate plan by 2025 and ensures justice in sustainable development through the Finnish Climate Change Panel and the Sámi Climate Council. Building on this, the Ministry of Finance launched the Net-Zero Government Initiative to explore the systems-level changes needed for a just green transition, including policies on properties, procurement, energy efficiency, and business environments (Ministry of Finance 2024).

These three broad shifts in Finland's policy and governance atmosphere over the last two years condition the country's emerging initiatives relating to wellbeing economies and alternative metrics. This brief explores three of these. The first is the results and construction of the Finnish National Action Plan for an Economy of Wellbeing. The second is a proposal advanced by SOSTE for putting wellbeing economy at the heart of government. And the third is the implementation of the Doughnut Economics model by the region of Pirkanmaa and its use in the City of Tampere.

The Finnish Action Plan for an Economy of Wellbeing 2023–2025

In February 2023, the Finnish government published its National Action Plan, led by the Ministry of Social Affairs and Health through a participatory process and international cooperation (Ministry of Social Affairs and Health 2023). The Ministry's Multisectoral Steering Group on the Economy of Wellbeing, comprising ministries, local governments, social partners, and the private sector, helped develop the plan. Additional contributions came from the Advisory Board for Public Health, which includes representatives from administrative branches, Regional State Administrative Agencies, cities, civil society, and research organisations. The International High-Level Group for the Economy of Wellbeing, with participants from the European Commission, WHO, World Bank, OECD, and Finnish ministries, also played a key role. Finland's Action Plan continues its long-standing collaboration with international organisations and leadership in the wellbeing economy, which includes joining the Wellbeing Economy Governments (WEGo) in 2020 and promoting wellbeing metrics on various international platforms.

The Action Plan made five recommendations for promoting a wellbeing economy from 2023–2025: (1) developing a national steering model for the economy of wellbeing; (2) integrating wellbeing monitoring into state, wellbeing services counties, and municipalities; (3) enhancing institutional capacities and impact assessments; (4) influencing EU policy initiatives, including through the European Semester; and (5) strengthening civil society participation.

It was clear that more research is needed to understand the drivers of wellbeing within planetary boundaries, a conclusion supported by the International High-Level Group. The Finnish Institute for Health and Welfare's research project, concluding in December 2024, will use both objective and subjective indicators in five case studies to identify policy interventions with wide-scale wellbeing effects (Finnish Institute for Health and Welfare 2024). This research will also inform the proposal of a wellbeing indicators dashboard to create a monitoring framework for Finland, ensuring the inclusion of indicators related to planetary boundaries.

The Action Plan emphasises the need for policy alignment and cross-sector coordination to integrate wellbeing approaches across government. Finland aims for a whole-of-government approach, ensuring wellbeing metrics are used in resource steering and national budgeting, potentially influencing political debates and fiscal strategy.

Proposal by the Finnish Federation for Social Affairs and Health (SOSTE)

Subsequent to the publication of the National Action Plan, in March 2023, SOSTE identified further actions that might contribute to building a wellbeing economy (Marttinen and Turtinen 2023). SOSTE is a Finnish Umbrella organisation of 200 social affairs and health NGO members and partner members.

The conclusions of this report can be distilled as follows:

1. Governance is crucial for implementing wellbeing economies: Individual policies or strategies alone are insufficient to achieve a wellbeing economy without integrating these goals into broader governance frameworks.
2. Participation, evidence, and iterative measurement are key governance principles: For a wellbeing economy to succeed, it requires cross-sector participation with civil society to determine the objectives of a wellbeing economy and the use of up-to-date and comprehensive wellbeing data.
3. Long-term investments and embedding over short-term gains: Governments must prioritise long-term investments in wellbeing, which often extend beyond budget cycles and require future-oriented thinking. Short-term economic pressures should not overshadow the long-term benefits of a wellbeing economy.
4. Wellbeing must permeate all sectors: Wellbeing should be a core objective across all areas of government rather than a separate policy. This requires breaking down silos, fostering collaboration, and embedding wellbeing in budgeting and legislative processes both prior and after for evaluative purposes.

The purpose of this intervention was to help steer the policy implementation of the Finnish National Action Plan. It remains to see how successful this has been.

Doughnut Economics in Pirkanmaa and Tampere City Region

In 2020 and 2021, the Pirkanmaa region and the Tampere city region began using DE (Pirkanmaa Region 2021). A City Portrait revealed Pirkanmaa faces both social and ecological challenges within the Safe and Just Space (SJS). Social policies focus on health, employment, and well-being but overlook homelessness, food assistance, elderly care, and ageing population issues. Ecologically, Pirkanmaa struggles with high material consumption, greenhouse gas emissions, and inadequate ecological goals in municipal strategies (Pokkinen 2021). The City Portrait emphasised the need for a holistic approach that integrates social and ecological issues, encourages sectoral collaboration, and better tracks environmental impacts like waste and consumption data.

DE was not just a diagnostic tool but also influenced policy shifts and the slow development of a regional plan (Pirkanmaa Region 2021, 4–6), although documentation on ongoing DE applications remains limited.

This work with DE has had downstream effects. Tampere adopted a circular economy plan focusing on construction, though legislative changes may be required to clarify waste reuse policies. The city has implemented circular solutions in construction through material reuse, reducing CO₂ emissions in the ECO3 Industrial Circular Economy Area, which promotes resource sharing among 40 organisations. The SÄILÖ Project has also facilitated the reuse of materials from demolished buildings, such as bricks, for new projects, helping cities like Orivesi and Nokia build sustainably with significant CO₂ savings (European Commission 2024).

5.2b SDI performance and explanation

Finland's global SDI ranking has declined from 106th in 2000 to 147th in 2022, as shown in Figure 15 below. Finland's life expectancy has increased from 79,7 to 82,4 years in the period 2008 to 2022. The country has not experienced any decline during the global COVID pandemic, as the EU-26 average has. See figure 16.

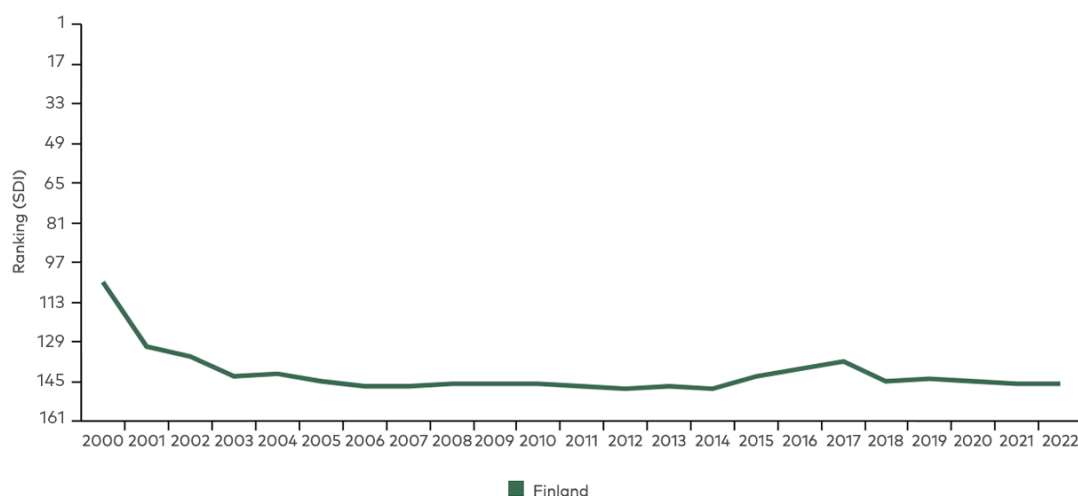


Figure 15: Finland's SDI ranking development (2000–2022)

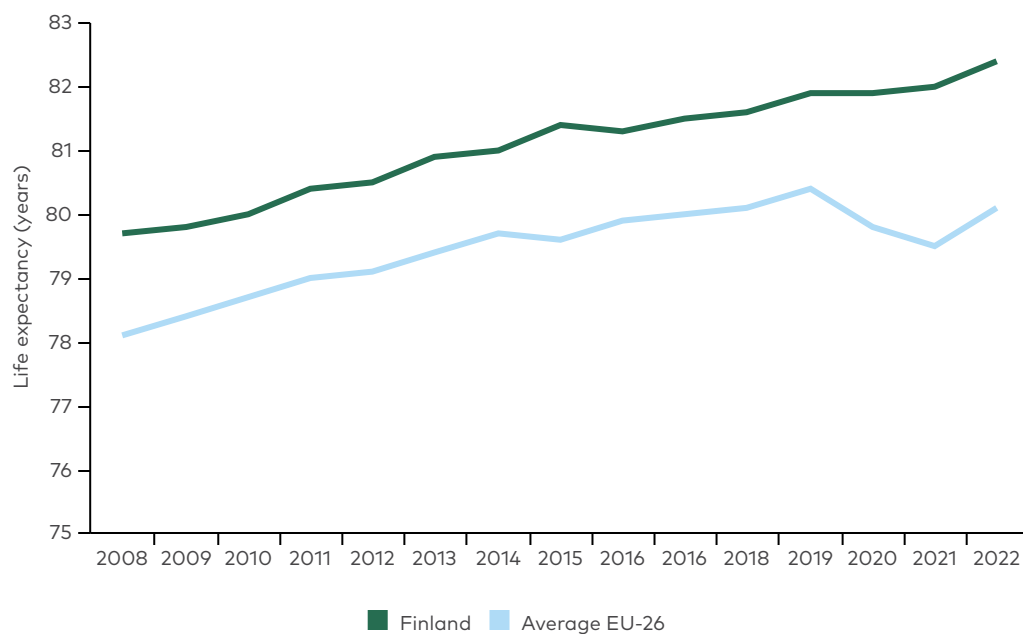


Figure 16: Life expectancy in years in Finland and EU-26 average (2008–2022)

Expected years of schooling have also increased in Finland from 17,1 years in 2008 to 19,2 years in 2022. This is a similar trend as in Sweden and Denmark. Mean years of schooling have increased from 12,3 to 12,9 years in the same period.

The gross national income per capita (measured in constant 2017 USD PPP) in Finland shows a stagnating trend between 2008 and 2022. In 2008, the GNI was estimated to 48,899 USD, while in 2022 it is estimated to 49,522 USD.

Finland's material footprint per capita (measured in tonnes) has decreased in the period 2008 to 2022 with 57 percent. See figure 17 below. This is the largest decrease among the Nordic countries. In 2022, the level is estimated to be 30,1 tonnes per capita. This level ranks Finland as the third highest material footprint per capita among the Nordic countries. Compared with the EU-27 countries, Finland ranks as the fourth highest material footprint per capita, with Luxembourg at the top.

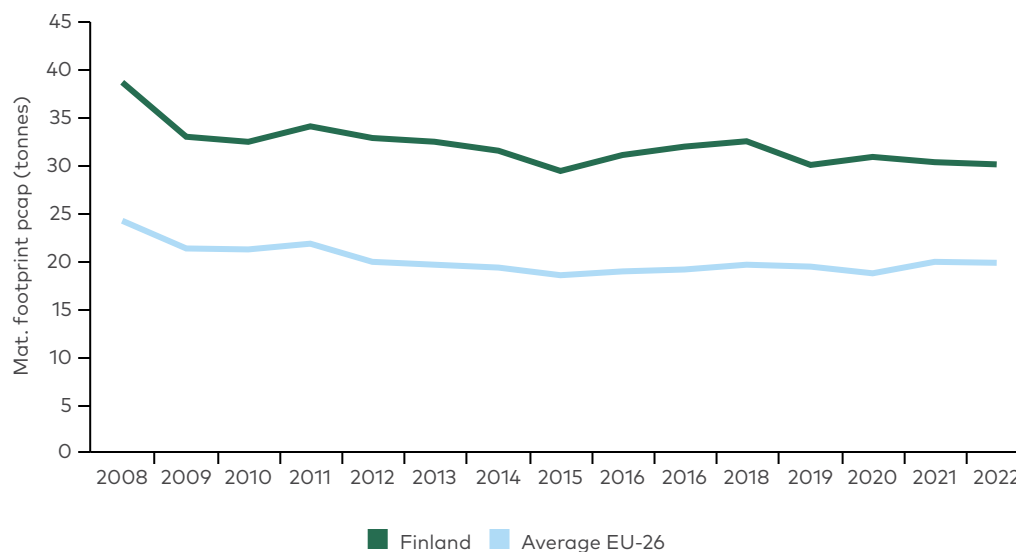


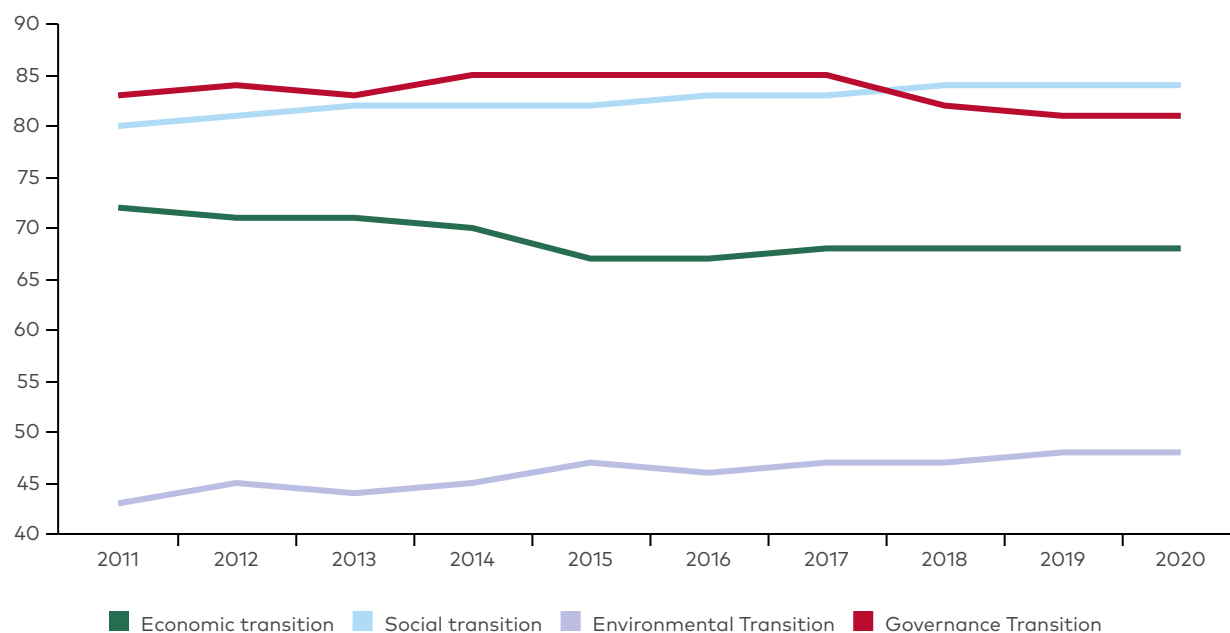
Figure 17: Material footprint per capita (tonnes) in Finland and EU-26 average (2008–2022).

Source: Sustainable Development Index, 2024 and authors own calculations.

The data shows that CO₂ emissions per capita decreased in Finland in the period 2008 to 2017. Reaching a level of 8,3 in 2017. Since then, the CO₂ emissions per capita has increased to 11,5 in 2022. This level is higher than the EU-26 average of 7,8 in 2022.

5.2c TPI performance and explanation

Finland ranks 18 on the 2020 global rank, with a score of 67.4. Finland has been decreasing in the rankings from 12 in 2011 to 18 in 2020, and positions as the second lowest performance score in the Nordics.



	2011	2012	2013	2014	2015
Index ranking	12	12	13	13	12
	2016	2017	2018	2019	2020
Index ranking	15	15	17	17	18

Figure 18: Index score in all four dimensions and index Rank for Finland in the years 2011–2020.

Source: TPI Database.

Of the four dimensions Finland shows the best performance on social transition with a global ranking of 7 and the worst performance on environmental transition with a global ranking of 55.

Finland scores 47.9 in the environmental transition, positioning them in the low end of the moderate tier and below the European average of 65. Of all the four dimensions, the environmental transition is the only dimension where Finland scores below the European average as well as the world average score. The environmental transition is based on the European Green Deal objectives of emissions reduction, biodiversity, material use and energy productivity. Finland ranks 71 on material use, placing them

at the bottom of the ranking. According to the European Environmental Agency (European Environmental Agency, 2024), Finland has decreased their CO₂e emissions per capita between 2011-2020 with approximately 13% but has since then increased the emission levels per capita to exceed 2011 levels. Their baseline levels in 2011 were in line with the EU-average, and the low score on the environmental levels might be reflecting this trend.

As for the other Nordic countries, material use is a critical factor where the Nordics perform particularly badly. According to a report by WWF from 2024, Finland's environmental footprint is assessed, where material footprint is one of the sub-categories. According to the report, Finland's material footprint is seven times higher than the global average and more than three times higher than the EU average. It is mainly the footprint from construction and infrastructure which constitute by far the biggest share. The report concludes that material circularity can be a significant contributor to improve the large footprint (WWF, 2024).

5.2d Doughnut economy performance and explanation

Figure 19 shows that Finland has considerably overshoot planetary biophysical boundaries across all indicators, while also meeting the social minimum for 11/12 social indicators. The rate of employment is the only social indicator which remains below the social floor and, in contrast to Finland's Nordic neighbours, has remained so for the entirety of 1992–2015.

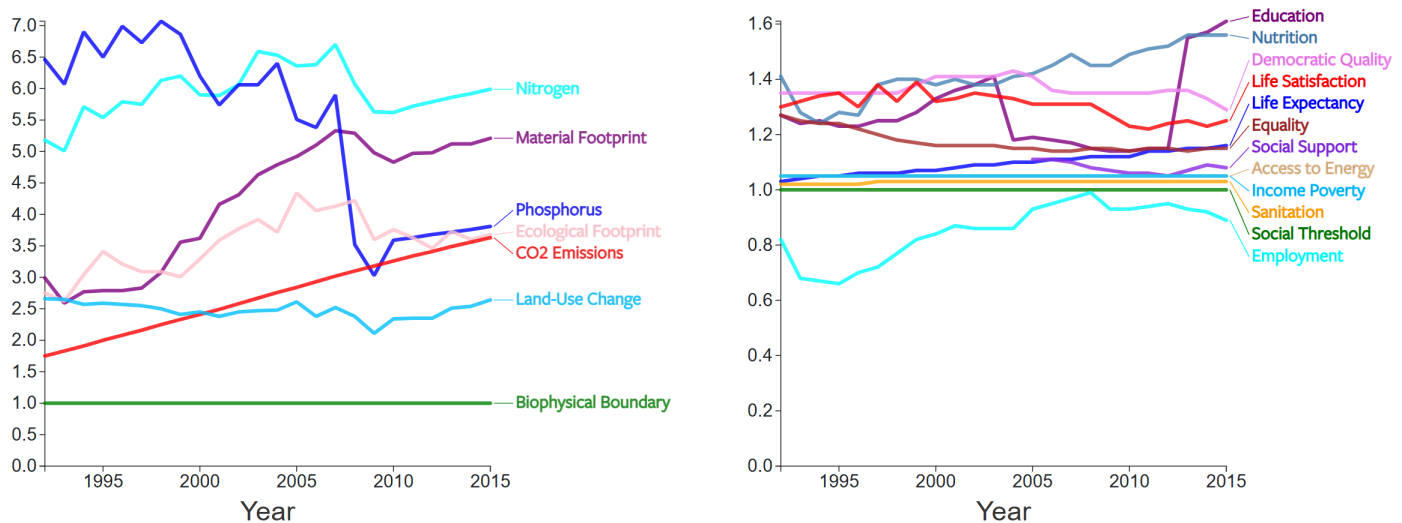


Figure 19: Finland's performance from 1992–2015 sourced from Good Life Project and premised on data used in Fanning et al. 2022.

Source: goodlife.leeds.ac.uk

Pathway data from the Good Life project shows that the extent of Finland's average overshoot beyond the ecological ceiling lessened after 2005.^[4] Figure 19 shows that Finland has the second largest material footprint in the Nordics at 35.4 tonnes per capita. The rate and rising extent of this overshoot has tapered off since 2009. Finland also places second in terms of nitrogen where, behind Norway, 50.5 kg per capita was produced in 2015. The overshoot of ecological footprint has decreased since the peak years of 2005 and 2007 and remains significantly lower than Denmark. In contrast with its Nordic neighbours Finland has consistently had high but stable land-use changes; ones that increased between 2013–2015. CO₂ emissions have increased at a rate comparable to Denmark, whilst the extent of the overshoot in 2015, with 3,411 cumulative megatonnes, fell significantly below Denmark's overshoot.

Diving into Finland's performance on social indicators, the most prominent observation is that in 2015 only 90.6% of the population were employed – significantly below the social floor. This performance can partly be explained by the fact that economic growth was the slowest in Finland after the financial crash, that the lowest amount of part-time work amongst the Nordics exists in Finland and that much of it is performed unwillingly and that it has comparatively little employment protection legislation (Alatalo et al. 2019). The consumption of calories per capita per day has steadily risen since 1994 to be on par with both Denmark and Norway. Figure 19 also shows that there has been a fall in equality during this period. This alongside little change in social support since 2007, though an uptick is observable in 2013. Much like its Nordic and European contemporaries, Finland has seen a decrease in democratic quality since 2013, falling to 9.1 and levels prior to 1992. As in the other Nordic countries, life expectancy has increased steadily since 1992, to the age of 81.5 in 2015, whilst maintaining a high level of life satisfaction. The latter has fallen to below 1992 levels of satisfaction after peaks in 1997 and 1999. Finally, much like Sweden, Finland showed a dramatic rise in gross enrolment for secondary education in 2013 to numbers that are now the highest in the Nordics.

Reiterating the different indicators, methods and data sources mean these findings are not directly comparable with those above, the alternative EU snapshot drawing on 2019 data shows Finland as the middling performer of the three EU Nordic countries in terms of ecological overshoot, overshooting a normalised measure of the combined planetary boundaries by 213.8% (Gómez-Alvarez Díaz et al. 2024). Finland was the bottom performer—albeit being only .2% below Sweden—with respect to meeting the social foundation, falling short of a normalised combined social baseline by 11.4% (Ibid.). A full graphical performance breakdown according to this alternative study is presented in the EU comparison outlined in [section 6.3a](#).

4. <https://goodlife.leeds.ac.uk/national-trends/pathways/>

5.3 Iceland

5.3a Alternative metric landscape in Iceland

Compared to the other Nordic nations, Iceland was hit much harder by the financial crisis in 2008, when Iceland's banking sector, accounting for 96 percent of GDP, collapsed. As part of the response to the crisis, the Icelandic Welfare Watch was established in early 2009. This later inspired the Nordic Welfare Watch, a research programme financed by the Nordic Council of Ministers in 2014–2017. A focus on monitoring the wellbeing of the population has been an explicit focus of the Icelandic government ever since.

According to Birkjær et al. (2021), Iceland is the only Nordic country that is engaged in all three levels of wellbeing, i.e., to passively monitor the reality of people's wellbeing, to actively inform governments' wellbeing priorities, and to actively guide policymaking towards most wellbeing impact. In Iceland the government has proposed several initiatives aimed at accommodating wellbeing priorities.

Since 2018, Iceland has been one of the world's six wellbeing governments. The Icelandic focus on the Wellbeing Economy is based on a government agreement between the Progressive Party, the Independence Party, and the Left Green Movement in 2017. In 2019, the Prime Minister of Iceland, introduced a framework involving 39 proposed national indicators to measure the prosperity and quality of life of the citizens of Iceland. GDP is thus one of 39 indicators to monitor prosperity and quality of life in Iceland, considered equally important as other indicators including health, education, employment, air quality and climate.

The 39 indicators were established by a policy group made up of experts and members of parliament. The monitoring framework enjoys widespread political support from both the coalition and opposition parties in Iceland. A platform called Sustainable Iceland has been established as part of the government's focus on sustainable development, wellbeing and just transition. The Sustainability Council is comprised of the Prime Minister, who is the chair, other ministers in the government, and representatives from the business sector, trade unions, local authorities, the Icelandic parliament, civil society and NGOs.

During 2021–2025 the Fiscal Strategy wellbeing priorities are the following six: mental health, secure housing, better work-life balance, zero carbon emissions, innovation growth, and better communication with the public. 30 out of 35 governmental policy areas are steered by these priorities and have shifted national money allocation towards the achievement of these goals. Several initiatives have been launched by the Icelandic government to accommodate the wellbeing priorities. However, promising this may be, according to Birkjær et al. (2021) there are concerns that allocated amounts of money for wellbeing objectives in relation to other budget domains such as healthcare and education may limit the actual effect on wellbeing policies.

The country has also made exceptions in the aviation sector to maintain competitiveness, despite having indicators to measure the impact of this sector, which according to Kormann da Silva et al. (2023) highlights the inherent weakness of relying solely on

indicators without a comprehensive framework. According to Hayden and Dasilva (2022), political statements in Iceland about the desirability of an economy that is not centred on growth and consumption contrasts with the government's efforts to accelerate economic growth to address financial concerns.

Iceland is also seeking to spread sustainable wellbeing internationally, regularly organizing the Wellbeing Economy Forum aiming to be a platform for dialogue, interdisciplinary collaboration and change among politicians, policymakers, business leaders, academics and practitioners worldwide. It was held in 2023 and 2024 and will be held in May 2025 hosted by the Prime Minister of Iceland and the Minister of Health.

Iceland is committed to implementing Agenda 2030 and the Sustainable Development Goals both nationally and internationally. A working group has mapped the nation's position for all 169 targets and specified 65 priority targets that will guide the authorities in implementing the goals, which has also been integrated into the Government's five-year Fiscal Strategy.

5.3b SDI performance and explanation

Iceland's global SDI ranking has fluctuated between 112th and 150th since 2000, reaching 150th in 2022. Life expectancy in Iceland has risen from 79.8 years in 2008 to 82.7 years in 2022, outpacing the EU-26 average, which is estimated to 80.1 years in 2022. As shown in Figure 21, Iceland experienced a decline in life expectancy during the global COVID-19 pandemic, mirroring the trend seen across the EU-26.

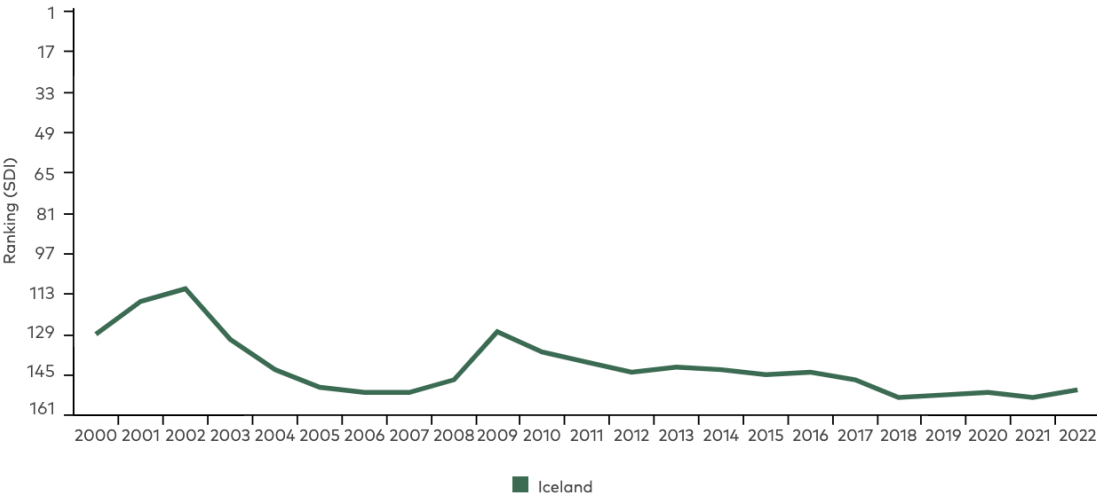


Figure 20: Iceland's SDI ranking development (2000–2022)

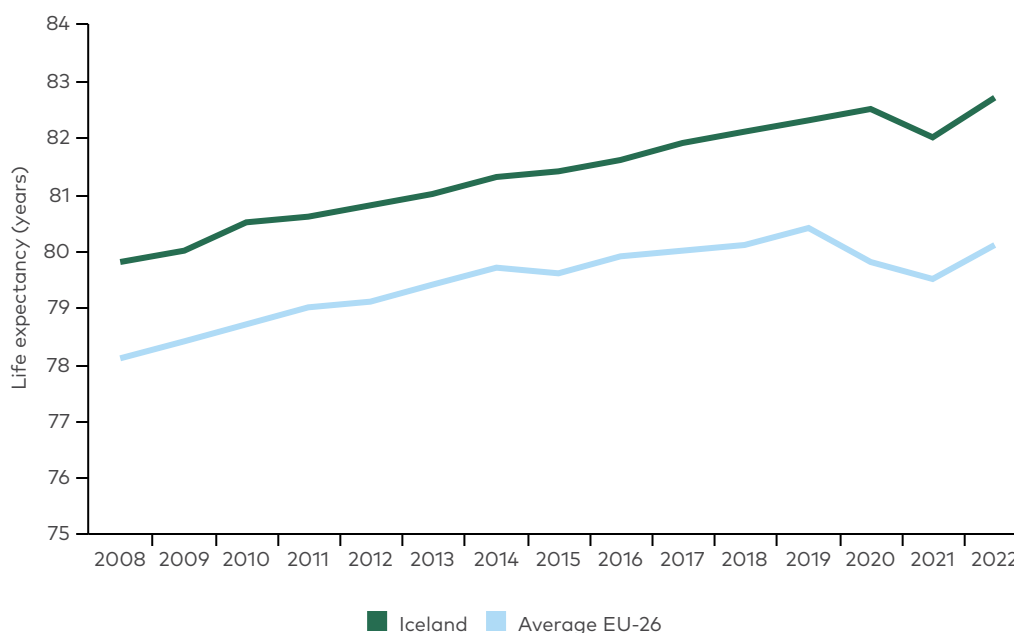


Figure 21: Life expectancy in years in Iceland and EU-26 average (2008–2022).

Expected years of schooling in Iceland increased steadily until 2013, peaking at 19.8 years. However, it then declined, reaching 18.2 years in 2020. Since then, the trend has reversed, with expected years of schooling rising to 19.1 years in 2022. The average number of years of schooling has also grown, increasing from 12.7 years in 2008 to 13.8 years in 2022.

Iceland's gross national income (GNI) per capita, measured in constant 2017 USD PPP, has grown by 31% between 2008 and 2022. In 2008, GNI per capita was estimated at \$41,671, rising to \$54,688 in 2022, driven primarily by a boom in foreign tourism and increased business investments (OECD, 2023b).

Iceland's material footprint per capita (measured in tonnes) has increased in the period 2008 to 2022 with 7 percent. In 2018, the level peaked at 33,1 tonnes, and experienced a decrease during the global COVID pandemic and is estimated to be 30,5 tonnes in 2022. This is a higher level than the EU-26 average, which is estimated to be 19,8 tonnes in 2022. See figure 22.

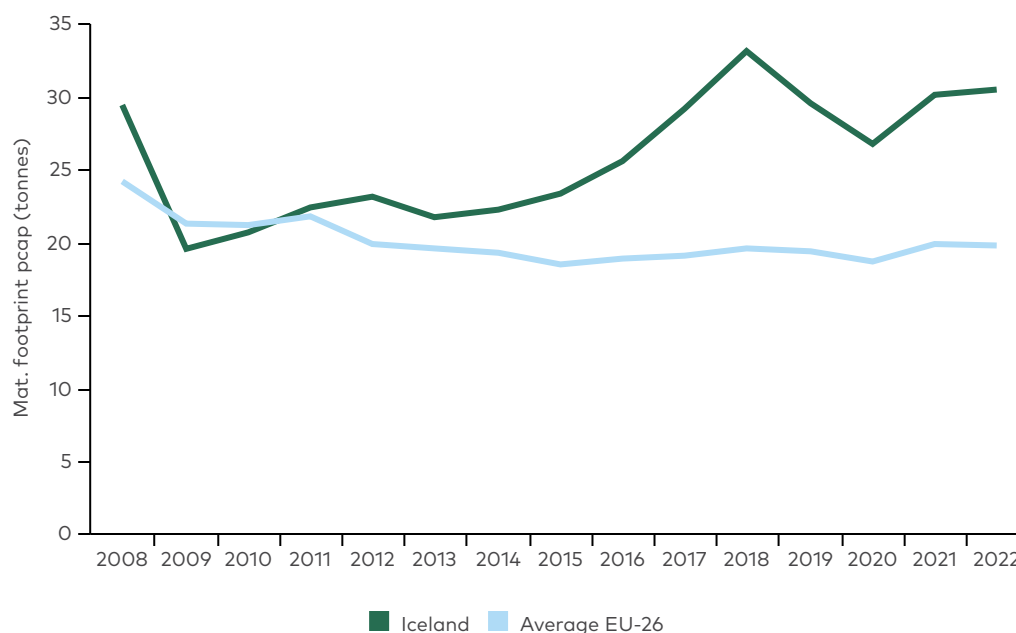


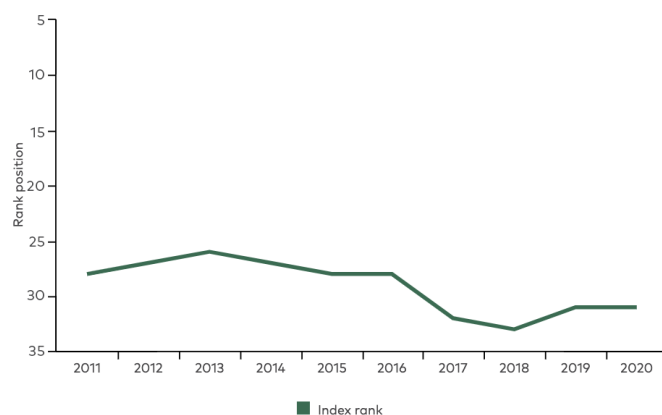
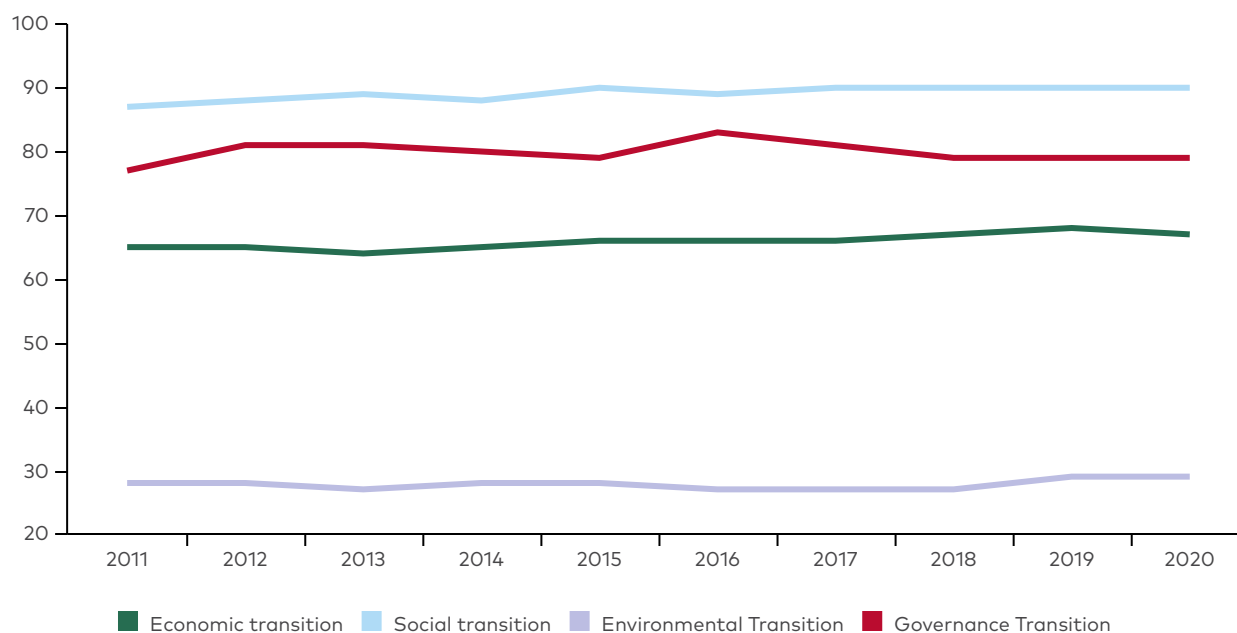
Figure 22: Iceland's material footprint per capita (tonnes) and EU-26 average (2008–2022).

Source: Sustainable Development Index, 2024 and authors own calculations.

The data shows that CO2 emissions per capita (measured in tonnes) have decreased in Iceland in the period 2008 to 2016. Reach a level of 11,7 in 2016. Since then, the CO2 emissions per capita has increased to 17,0 in 2022. Iceland has the highest CO2 emissions per capita out of all of the European countries. The majority of emissions from the economy of Iceland come from air transportation and production of basic materials (Statistics Iceland, 2018). This is more than double the EU-26 average level of 7,8 in 2022.

5.3c TPI performance and explanation

Iceland ranks 31 on the 2020 global rank, and scores 61.2 positioning in the 'Good Transition' tier, as the only country in the Nordics (beneath 'Strong Transition' and 'Transition leader'). Iceland has ranked between 28-33 on the global tier in the years 2011-2020 with a declining trend, but increased in 2019 for the first time. Iceland has the lowest performance score in the Nordics.



	2011	2012	2013	2014	2015
Index ranking	28	27	26	27	28
	2016	2017	2018	2019	2020
Index ranking	28	32	33	31	31

Figure 23: Index score in all four dimensions and index Rank for Iceland in the years 2011–2020.

Source: TPI Database.

Looking at figure 23 Iceland scores especially low on the environmental transition with an overall ranking of 70 in the dimension, with a score of 29 out of 100, positioning them in the weak transition tier. All 4 dimensions have a stagnating trend, not showing significant progress in scoring. For the time period, Iceland shows a declining trend in Index rankings, indicating that Iceland lacks behind in progression of the transitions. Except for the Resource productivity/material use sub-indicator, Iceland has the lowest ranking in all sub-indicators within the environmental transition among the Nordics, being the main driver for the overall low ranking for Iceland.

Within the sub-indicator Energy productivity, Iceland has the lowest position of all 72 countries within the environmental transition. Iceland has ranked at position 72 throughout all years between 2011-2020. Energy productivity as a statistical indicator within the EU is defined as PPS (purchasing power standard) per koe (kilo oil equivalent). PPS allows comparing member states in a given year. It measures the amount of economic output produced per unit of gross available energy.^[5] The indicator is additionally part of goal 7 and 12 of the EU SDGs, and is used as a measure of energy efficiency as well as access to energy.

According to the Icelandic government, 85% of the Icelandic energy supply is provided by domestically produced renewable energy sources, primarily from geothermal energy and hydropower.^[6] Comparing this to Denmark, who are high performers in energy productivity within the TPI ranking number 4, the share of renewable energy supply in total energy consumption in Denmark is approximately 70% (2021 numbers^[7]). Comparing PPS levels within the TPI indicates that Iceland's productivity level in terms of energy in relation to GDP is low, despite being almost entirely self-sufficient in renewable energy supplies. Looking deeper into the sub-indicator, it is described in the TPI report for 2021 how Energy productivity also is based on how the countries are performing towards reaching the EU goals for 2030 in terms of productivity. Overall, it has proved difficult to decipher the data behind the parameters that are the deciding factor for each ranking. It is not clear if it is merely based on economic productivity or what part the share of renewable energy plays in this metric.

Iceland scores the highest in Social Transition within the Nordics with a score of 90 and globally ranking number 1. This is well above the EU-average score of 69. The high performance within the social dimension is mainly due to the significant scores within free or non-remunerated time, work & inclusion and equality scoring 94, 86, and 89 respectively out of 100.

5.3d Doughnut economy performance and explanation

No Icelandic data exists for any iteration of the doughnut economy indicators. The research team endeavoured to find alternative data sources which would enable a comparable indicator to be constructed for Iceland, however there was not adequate data available for this to be feasible. Iceland must therefore be omitted from the analysis in terms of doughnut economy indicators.

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5. Eurostat(n.d). Energy productivity. Available at: https://ec.europa.eu/eurostat/cache/metadata/en/sdg_07_30_esmsip2.htm [Accessed 21st august 2024]
 6. Government of Iceland (n.d.). Energy. Available at: <https://www.government.is/topics/business-and-industry/energy/> [Accessed 21st August 2024]
 7. Danish Energy Agency (2023). Data, tables, statistics and maps - Energy in Denmark 2021. Available at: https://ens.dk/sites/ens.dk/files/Statistik/energy_in_denmark_2021.pdf [Accessed 21st August 2024]

5.4 Norway

5.4a Alternative metric landscape in Norway

The primary measure of welfare in Norway is based on the Sustainable Development Goals (SDG). However, in recent years Norway has initiated new initiatives with regards to implementing both objective and subjective measures of quality of life into the welfare policy landscape.

Norway is actively involved in the development of SEEA CF for use in EU member states. They are part of the Eurostat task force group on SEEA EA and are also part of the project Mapping and Assessment of Integrated Ecosystem Accounting (MAIA) aiming to launch a tool for gathering the required statistics for ecosystem accounting (Mattson et al, 2022). Norway has already started to integrate natural accounting data into their national statistics institution, which lays a good foundational base to effectively implement a framework like SEEA.

Another growing initiative is the network called "Smultringøkonomi", which uses the doughnut economy model as the foundation to promote life quality for all. The network promotes an economy within planetary boundaries with the aim that the model will be used as a measurement tool in Norwegian policy development in the future. The network is part of the international Doughnut Economy network, called the Doughnut Economics Action Lab (Nettverket Smultringøkonomi i Norge, n.d).

Goals with meaning and the Sustainable Development Goals:

The main measure of welfare and sustainable development in Norway is the SDGs. In 2023 Norway was ranked 7th in the Sustainable Development Report (Sachs, Lafortune, & Fuller, 2024). The Norwegian government has implemented the goals in their national action plan "Mål med mening" ("Goals with meaning") (Det Kongelige Kommunal- og Moderniseringsdepartementet, 2021) that aims to describe key development goals in a Norwegian context. The political priorities set out in the action plan is based on the 2030-agenda and was first integrated into Norwegian policies in 2017 with the report Common Responsibility for Common Future (Utenriksdepartementet, 2017) with the plan of a political trajectory following the SDGs towards 2030.

In extension to this, the Goals with meaning plan is a further development of the national action plan of improving on the SDGs. Much like the Danish "Our goals" initiative, the Goals with meaning is based on localised subgoals derived from the SDGs, that fits into a Norwegian context. The report is meant as a guidance tool for the civil society as well as national authorities in working towards the national goals. In the report Goals with meaning, all 17 SDGs and their subgoals are assessed and changed into Norwegian context. Within each goal there are specific measures in which Norway will contribute towards sustainable development both on a global and on a national scale. On both scales, there are detailed strategies for how the government is planning to work on improving the work on the different subgoals.

Norway has 82 national environmental indicators as stated by the Norwegian Environmental Directorate, divided into five categories: Nature diversity, Cultural monuments & Cultural environment, Recreational use of nature and Pollution.

Quality of life survey:

In 2020 the Norwegian statistical centre, Statistics Norway (Statistisk sentralbyrå (SSB)), published the first report of the national Quality of life survey in Norway (Pettersen, & Støren, 2020)., and has since been published every year, with the latest report being published in 2023 (Grimstad & Støren, 2023). The aim of the report was to provide more specific data on well-being among the Norwegian population that included measures beyond economic indicators, where the development of a broad aspect of quality of life can be monitored between different societal groups. The report measures both objective and subjective well-being based on a national survey. Objective well-being measures are based on health, economy, physical safety, social community, work and education, whereas subjective well-being measures how happy an individual is with their life situation by asking how they evaluate their current life situation. The subjectiveness of wellbeing is a complex measurement, as it deals with non-static measures of life satisfaction where context can be very specific for each individual (Kahneman & Krueger, 2006). The overall average score for the Norwegian population is 7 out of 10. The Quality of Life survey serves as a policy tool for the government, as it has already laid the basis for an upcoming political strategy in Norway, that aims to increase the national wellbeing.

Strategy for national wellbeing:

In July 2021, the Norwegian government released a statement that they are planning to develop a national wellbeing strategy to be published in 2024 (Helse- og omsorgsdepartementet, Barne- og familiedepartementet, 2021). The strategy is a reaction to the Quality of Life survey in 2020, as it showed that almost the same amount of people were happy and unhappy with their life situation in Norway. In the statement the government argues that GDP is not sufficient to determine the wellbeing of a population, and that this strategy aims to increase the knowledge of the development of national wellbeing and work towards improving the quality of life. Especially, there is an emphasis on decreasing the gap of life quality between social groups.

The Norwegian government argues that an increase in national wellbeing will not only bring the value of improved quality of life itself but will increase the robustness of the nation in times of crisis. This is based on experience from the COVID-19 pandemic where national surveys showed an increase in loneliness, worsened life quality and mental health issues. In the public health report of 2022-2023 (Helse- og omsorgsdepartementet, 2023). The mapping of mental health issues in Norway shows a trend of increasing issues with mental health problems, especially in the younger population. As a part of mitigating this trend, the strategy for national wellbeing is anchored in the public health report as a policy tool, as this is described as the main policy focus in public health in Norway. According to the report, the government will develop a system of a regular monitoring process of quality of life, both on a national and regional scales, as well as develop a specific set of indicators for quality of life, which will form the basis for future policymaking (Helse- og omsorgsdepartementet, 2023).

The indicators will be both subjective and objective and linked to the SDGs. In the vision for the national well-being strategy, emphasis is laid on the importance of utilising the quality-of-life data in policymaking regarding local and regional policies and budgeting, as well as increasing the Nordic common work to harmonise the work of national well-being economies with a common Nordic model.

The status of the publication of the national wellbeing strategy is in its late developing stage. A draft has been published in March 2024 prior to a public hearing for input (Helse- og omsorgsdepartementet, 2024). The strategy will weigh the improvement of the following four factors in working towards increased national wellbeing:

1. Systems of measurement and monitoring of quality of life in Norway
2. Knowledge in causes of- and the rising inequality of quality of life
3. Coordination and cooperation in the field
4. Policymaking based on measures of quality of life as well as research, law making, socio-economic evaluations and reports to the Norwegian Storting.

The report also stresses that negative expectations about the future are an important factor in the well-being of present and future generations and that mitigation of climate change and the promotion of the SDGs thus is an important part of the forthcoming strategy. However, this commitment to climate mitigation remains in tension with the equally strong commitment to continuing fossil fuel extraction elsewhere in government. Although Norway claims to partly be a well-being economy already, they recognise that quality of life indicators can forge a better management model and complement the existing economic structure. It is not an actual plan to establish a well-being economy in Norway in the context of this strategy, but with reference to the report of wellbeing economy in the Nordics by the Nordic council of ministers (Birkjær, Gæmderinger & El-Abd, 2021), the Norwegian government acknowledge the great potential of applying the principles of a wellbeing economy into the socio-economic models and aim to explore the future possibilities for this.

5.4b SDI performance and explanation

Norway's SDI global ranking has declined since 2008, from place 97 to 155 in 2022. See figure 24. Norway's life expectancy has increased from 80,7 to 83,7 years in the period 2008 to 2022. The country has not experienced any decline during the global COVID pandemic, as the EU-26 have. See figure 25.

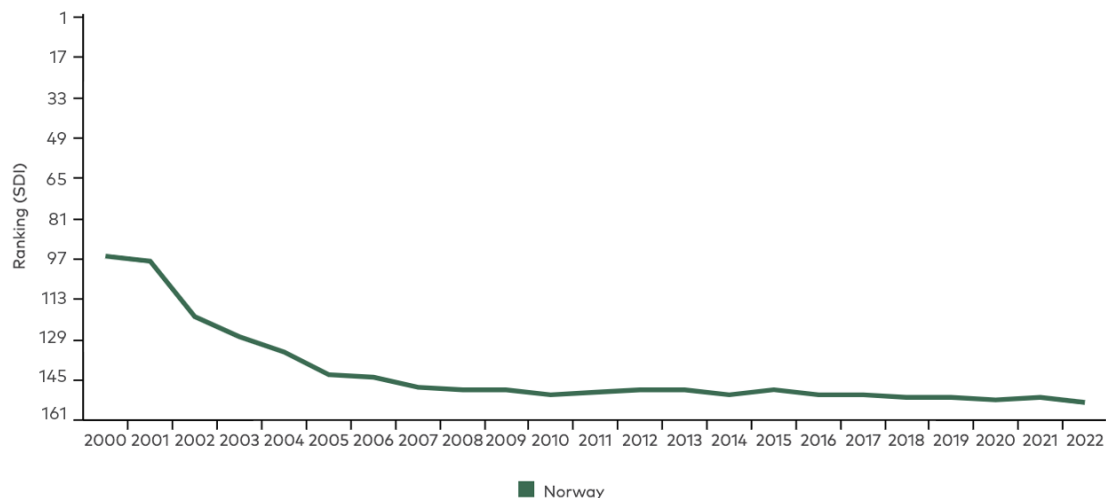


Figure 24: Norway's SDI ranking development (2000–2022)

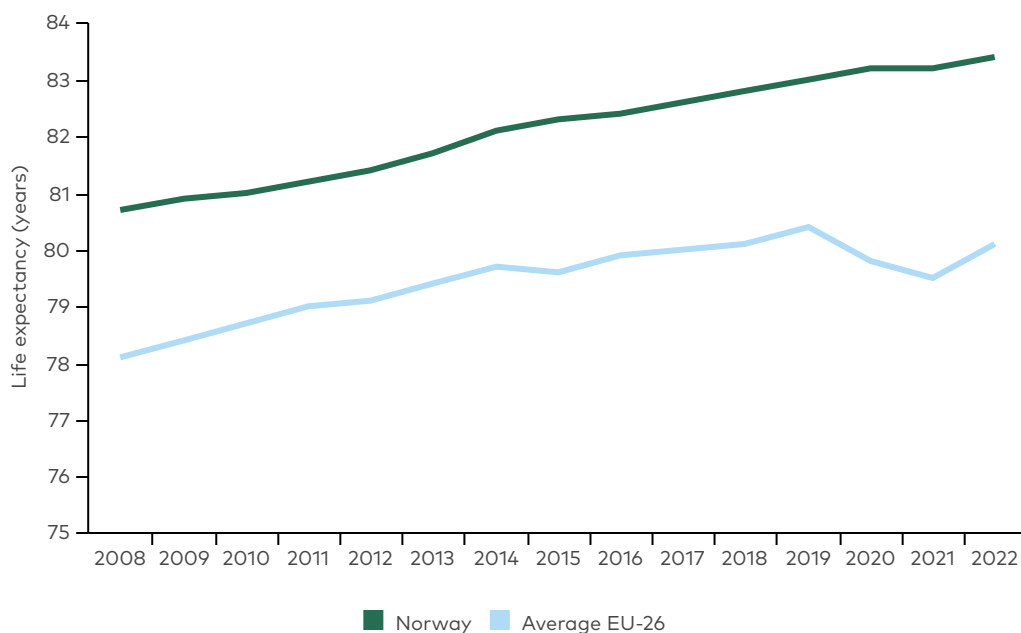


Figure 25: Life expectancy in years in Norway and EU-26 average (2008–2022)

Expected years of schooling have also increased in Norway from 17,4 years in 2008 to 18,6 years in 2022. This is a similar trend as in Sweden, Denmark and Finland. Mean years of schooling have increased from 12,5 to 13,1 years in the same period.

Norway's gross national income per capita (measured in constant 2017 USD PPP) has increased with 9 percent in the period 2008 to 2022. In 2008, the GNI was estimated to 63, 719 USD, while in 2022 it is estimated to 69, 190 USD.

Norway's material footprint per capita (measured in tonnes) has increased in the period 2008 to 2022 with 38 percent. See figure 26. This is the largest increase in the Nordic countries. In 2022, it is estimated to be 41,6 tonnes per capita. Norway follows an opposite trend compared to the EU-26 average, which has decreased its level with - 30 percent in the same period. In 2022, the EU-26 average is estimated to be 19,8 tonnes per capita. This large increase of extraction of raw materials for consumption needs indicates that a very small share of products is recycled back into the economy.

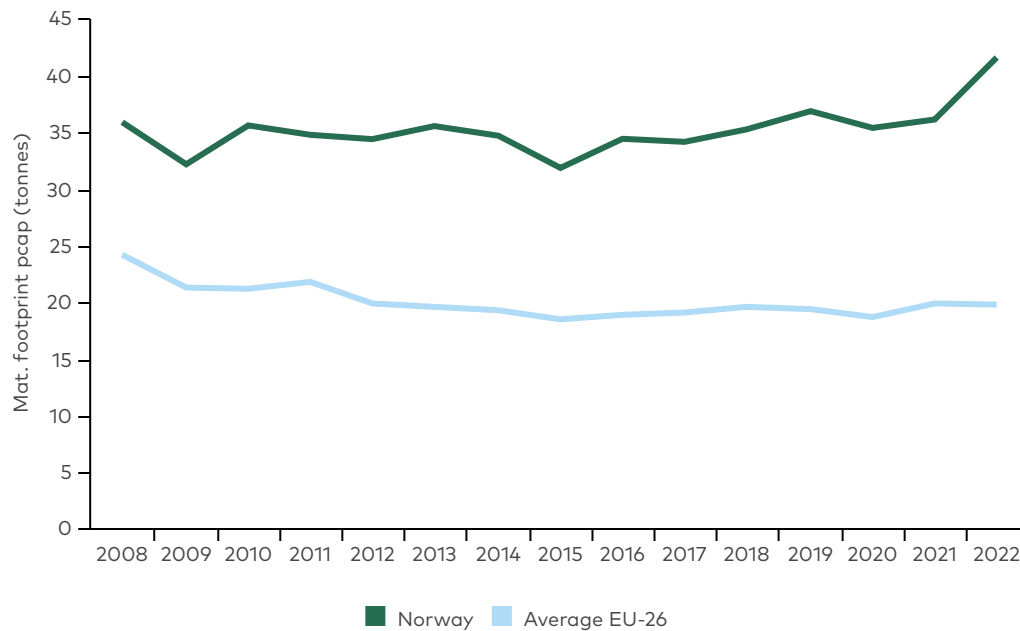


Figure 26: Norway's material footprint per capita (tonnes) and EU-26 average (2008–2022).

Source: Sustainable Development Index, 2024 and authors own calculations.

The level of CO₂ emissions per capita (measured in tonnes) have decreased in Norway from 15,2 in 2008 to 13,0 in 2022.

5.4c TPI performance and explanation

Norway ranks 8 on the global score for 2020, with a score of 71, showing a trend of decreasing performance since 2011, that increases from 2018 though, showing an inclining trend in rank position.

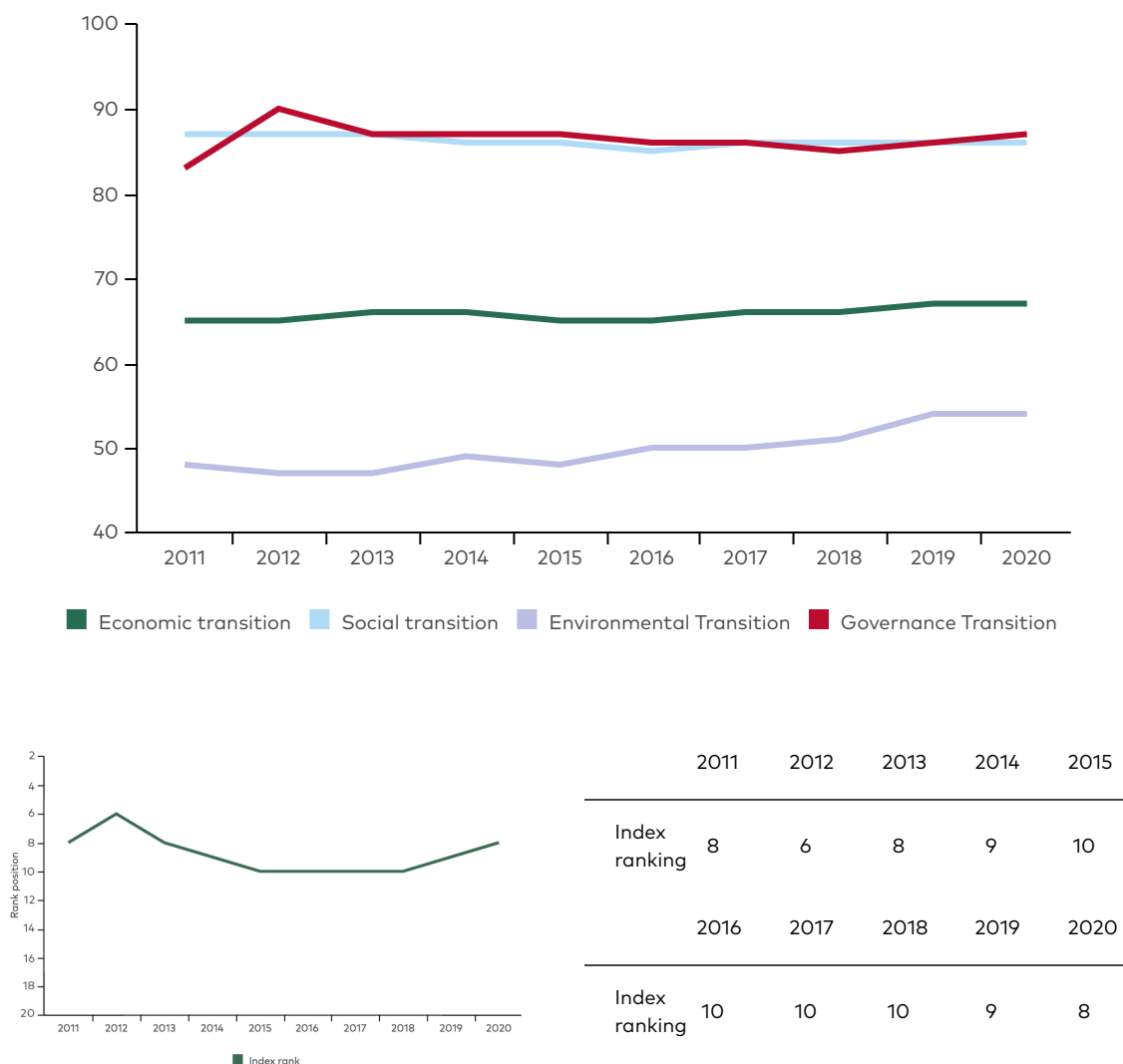


Figure 27: Index score in all four dimensions and index Rank for Norway in the years 2011-2020.

Source: TPI Database.

Looking at the graphs, the Environmental transition dimension has had an increasing trend since 2013, moving from rank 52 in 2011 to rank 44 in 2020. For the 3 other dimensions, the stagnating trends reflect the relatively flat movement of ranking positions of the Index rank.

Diving further into the dimensions, Norway ranks number 1 globally in Governance transition scoring 87 out of 100. The sub-indicator, Fundamental rights, has a high score of 97, being the main driver for the high performance of the Governance dimension in Norway. In an OECD report from 2022 (OECD, 2022) Norway's strong collaboration, active public participation in decision-making, and robust advisory groups are highlighted, as an indicator of sound and fair governance.

Regarding the environmental dimension, Norway performs below EU average, scoring 52 which puts the country in the moderate tier. It is especially the indicator Material Use which includes both resource productivity and material footprint, which is very low, where Norway ranks number 70. Hence there is a wide span from ranking number one on governance transition and number 70 on environmental transition. According to an Environmental Performance Review conducted by OECD in 2022 (OECD, 2022), Norway invests a lot in technology and innovation for green transition and to reach the 2030 climate goals. However, the material footprint remains very high and only 2% of all resources are recycled back into the economy. A report by WWF in 2022 (WWF, 2022) presents numbers on Norway's material footprint in 2022 and what is needed to reduce the footprint to lower the pressure on planetary boundaries. Data from Statistics Norway show that the material footprint is increasing, even though a reduction of 76% of the material footprint is needed for the country to operate within planetary boundaries. It is foremost the consumption of fossil fuels that constitute the biggest share of the material footprint.

5.4d Doughnut economy performance and explanation

Figure 28 shows that between 1992–2015 Norway overshot planetary biophysical boundaries on all biophysical indicators while consistently meeting minimum social needs across all 12 social indicators. The latter is unique in performance within the Nordics.

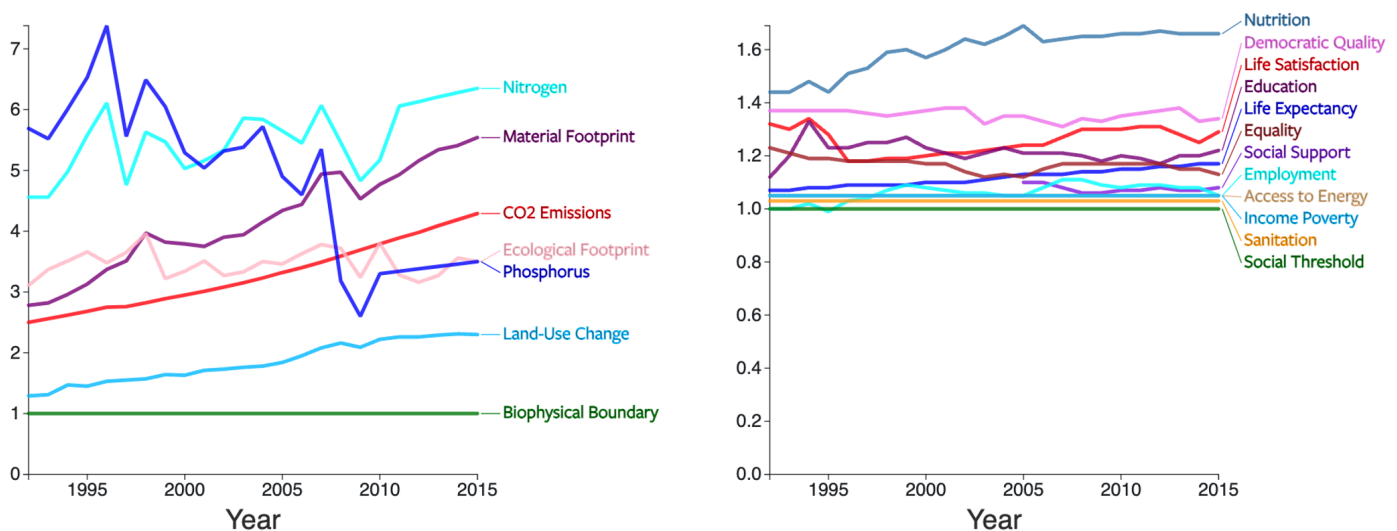


Figure 28: Norway's performance from 1992–2015 sourced from Good Life Project and premised on data used in Fanning et al. 2022.

Source: goodlife.leeds.ac.uk

Pathway data from the Good Life project shows that Norway's average overshoot beyond the ecological ceiling is the highest amongst the Nordic countries, followed by Finland. Whereas Sweden and Denmark were able to lessen or reign in the extent of their ecological overshoot, Norway significantly increased the extent of its overshoot between 1992–2015.^[8] The above figure 28 shows that Norway has the largest material footprint in the Nordics at 37.6 tonnes per capita. It also shows a near consistent and steep increase over time since 1992. This contrasts to Sweden, Denmark and Finland where the rate of overshoot has tapered off since 2010/2011. Norway also boasts the overproduction of nitrogen, with figures reaching 53.6kg per capita in 2015, demonstrating the largest overshoot of the Nordic nations. In contrast, Norway's ecological footprint has shown relatively stable levels of overshoot since 1992 in contrast to the increases shown by both Sweden and Finland. The extent of Norway's overshoot for land use has increased at a rate similar to Finland, though it sits comfortably below levels of use shown in both Sweden and Finland. The final point to note is that the extent of the CO2 emissions overshoot currently sits at the second highest level in the Nordics.

Norway is the only Nordic country that performed above the social floor across all 12 social indicators between 1992–2015. Where other Nordic countries fall below the social floor for employment, Norway did not and had 95.7% of the population employed in 2015. Taking a deeper dive into Norway's social indicators, the consumption of calories per capita per day has remained the highest of the Nordic countries between 2005–2015. Figure 28 also shows that there has been a marginal fall in equality during this period, while its rate is significantly slower than in Denmark. This alongside little change in social support since 2007. In contrast with its Nordic contemporaries, Norway has not seen a significant decrease in democratic quality, holding largely stable around high levels found in 2003. As in the other Nordic countries, life expectancy has increased steadily since 1992, to the age of 82.3 in 2015, whilst maintaining a high level of life satisfaction. The latter has risen ever so slowly since the mid-1990s in contrast to both Sweden and Finland which both saw slow declines during this period. In contrast to the rapid increases in gross enrolment for secondary education between 2013–2015 in both Finland and Sweden, Norway shows relative stability in enrolment for its education indicator.

5.5 Sweden

5.5a Alternative metric landscape in Sweden

In 1999 the Swedish parliament launched 16 environmental quality objectives which together with the generation goal functions as the basis for the national environmental politics. These objectives were developed as an answer to the UN's environmental meeting in Rio 1992 and the Agenda 21 work and attempts to address all important aspects of environmental quality. There is probably no comparable system of environmental objectives in any country other than Sweden. Annual evaluations of the objectives are carried out and reported back to the government. The objectives form the

8. <https://goodlife.leeds.ac.uk/national-trends/pathways/>

overarching framework of Swedish environmental policy, but the goals are political and non-binding in nature. Achieving the environmental objectives are explicitly considered to also achieve the environmental dimension of Agenda 2030 in Sweden.

The SDG's are used by many organisations to report (and improve) their sustainability impacts. It is also the priority of the Swedish government to implement the Agenda 2030 and in June 2020, the government submitted a bill to the parliament on how Sweden should work with the implementation, both nationally and within the EU and internationally. In 2022 the government submitted the first letter about the agenda to the parliament to implement.

In 2017, Sweden adopted a climate policy framework. The framework consists of a climate act, climate targets and a climate policy council. The long-term goal means that Sweden shall have no net emissions of greenhouse gases into the atmosphere by 2045 at the latest, in order to achieve negative emissions thereafter. The climate policy framework is a key component in Sweden's efforts to live up to the Paris Agreement and was adopted with a broad majority in the parliament and is designed in a way that can withstand political changes. Every year, the Swedish government is required to submit a climate report as part of the annual budget bill.

In an effort to broaden the scope of welfare beyond financial aspects, in 2017 the Swedish government introduced its 'New Measures of Wellbeing' framework to monitor trends in people's quality of life and the long-term sustainability of the economy by focusing on wellbeing. The 16 indicators are either social or environmental indicators supplementing the pre-existing economic indicators already established and used. Social indicators include low economic standards, household cash margin, self-perceived public health, level of education, interpersonal trust, and subjective happiness with life. Environmental indicators include quality of air and water, chemical load, emissions of greenhouse gases, and the Rödlsteindex, which serves to assess Swedish nature and the status of the threat of extinction to species. The pre-existing economic indicators include progress on GDP, rates of employment and unemployment, household indebtedness and consolidated general government gross debt.

The presentation of measures of wellbeing are included in the annual budget which means that other departments, offices, and civil servants of Sweden have access to the findings and can use them in policymaking. Theoretically this is in line with 'monitoring' and 'prioritising' as distinct levels of operating a wellbeing economy (see section 3.2b). There is no stated goal that the indicators should influence politics or the activities of government agencies (Jansson, 2022). According to some commentators the initiative has waned from the agenda and may currently not be actively influencing Swedish policymaking to any great extent (Birkjær et al., 2021). However, the indicators still appear in the annual economic spring proposition from the government, in 2024 reporting improvements in air quality, greenhouse gas emissions and level of education, deteriorations in unemployment and GDP per capita, and no change in interpersonal trust, and subjective happiness with life.

Birkjær et al. (2021) also notes that in Sweden individual agendas addressing, e.g., gender equality, race discrimination, migrants, and refugees are often set without any explicit reference to an overarching agenda for wellbeing, in contrast to Finland and Iceland which

have often communicated their wellbeing strategies, breaking the silos between various departments and initiatives.

Another initiative from The Swedish Agency for Economic and Regional Growth and the regional forum Reglab is the development of BRP+ (translates into Gross Regional Product +), a broadened measure of sustainable development and quality of life in Swedish regions. BRP+ has borrowed its conceptual framework from the OECD's Better Life Initiative. Better Life, like BRP+, consists of two parts. A part that shows the outcome for quality of life here and now based on a number of theme areas. Another part shows the prerequisites for a sustainable quality of life based on the three dimensions of sustainability. A report was published in 2024 with the aim of inspiring analysts and decision makers at both regional and municipal level to use BRP+ as an analytical tool (Möller et al., 2024).

At the local level the small town of Tomelilla in southern Sweden uses Doughnut Economics in their policy work in different ways. According to the DEAL website the town based their Sustainability Report 2022 on the Doughnut, and is planning the development of a new school based on the principles of Doughnut Economics, developing a Data Portrait, and exploring the development of an impact assessment and evaluation tool.

Since 2023 The Wellbeing Economy Alliance (WEAll) has had an established presence in Sweden.

5.5b SDI performance and explanation

Sweden's global SDI ranking has fallen the most out of all Nordic countries in the period 2000 – 2022. In 2000, Sweden's rank was 51st whilst in 2022, the rank was 134. See figure 29. Sweden's life expectancy has increased from 81,1 to 83,5 years in the period 2008 to 2022. Sweden experienced a small decrease in life expectancy during the global COVID pandemic, but not as sharp a decrease as the EU-26 did. See figure 30.

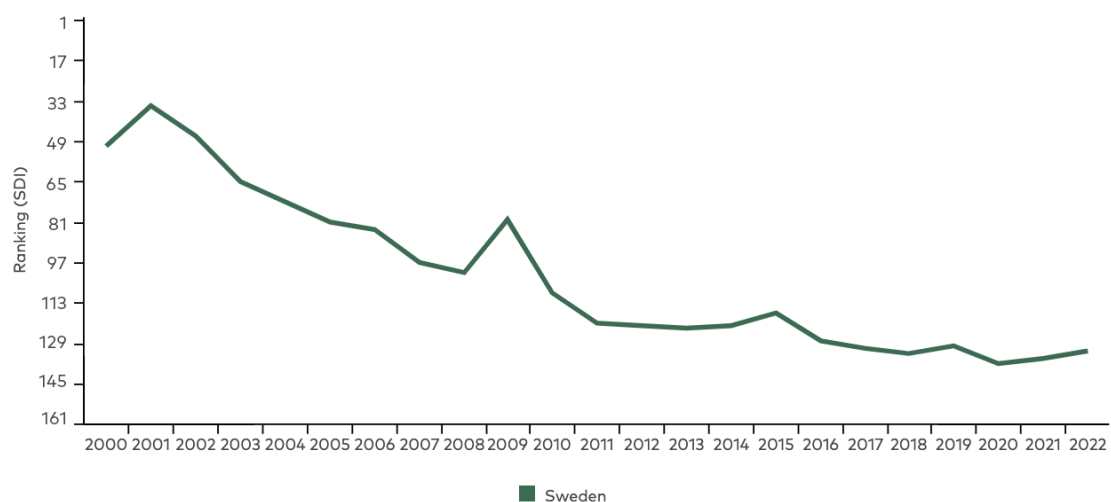


Figure 29: Sweden's SDI ranking development (2000–2022)

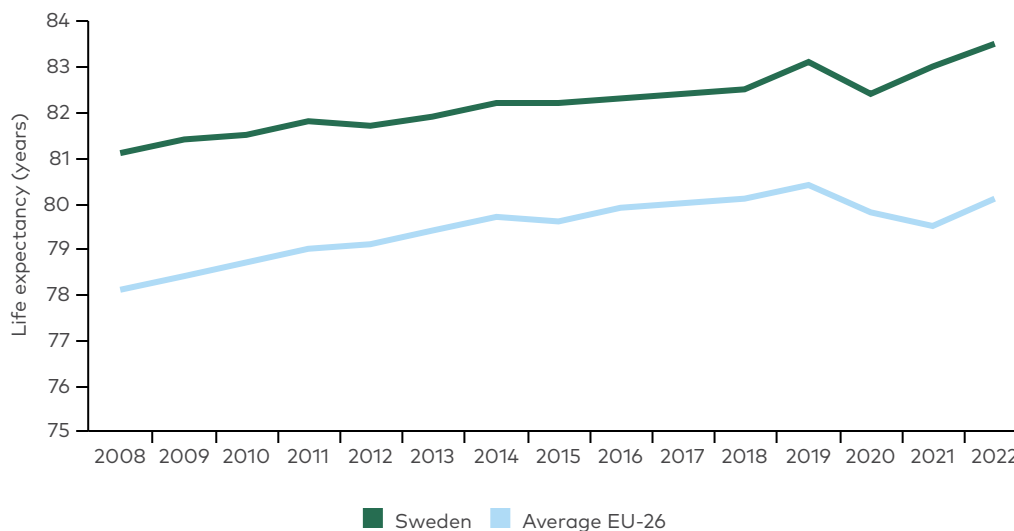


Figure 30: Life expectancy in years in Sweden and EU-26 average (2008–2022)

Expected years of schooling have also increased in Sweden from 15,8 years in 2008 to 19,0 years in 2022. This is a similar trend as in Denmark and Finland. Mean years of schooling have increased from 12,1 to 12,7 years in the same period.

Sweden's gross national income per capita (measured in constant 2017 USD PPP) has increased 15 percent in the period 2008 to 2022. In 2008, the GNI was estimated to 49, 623 USD, while in 2022 it is estimated to 56, 996 USD. This increased standard of living is the third highest rise among the Nordic countries in the period 2008–2022.

Sweden's per capita material footprint (measured in tonnes) remained stable from 2008 to 2022, showing only a slight decrease of 1%. In contrast, the EU-26 average decreased by approximately 30% over the same period. See figure 31 below.

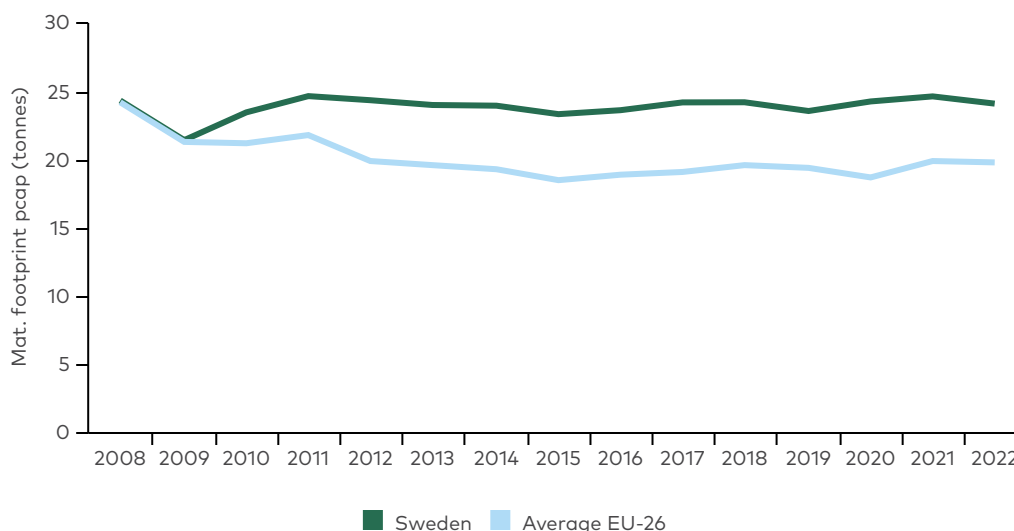


Figure 31: Sweden's material footprint per capita (tonnes) and EU-26 average (2008–2022)

5.5c TPI performance and explanation

As can be seen in figure 32 below Sweden has dropped in the ranking over the years, going from being number 3 between the years 2011–2014, dropping to number 7 since 2017. In 2020 the overall score was 72 out of 100. Comparing the two graphs below, shows that Sweden has scored somewhat lower on social and governance over the last years, but on the other hand improved the scoring slightly for the environmental and economic dimensions.

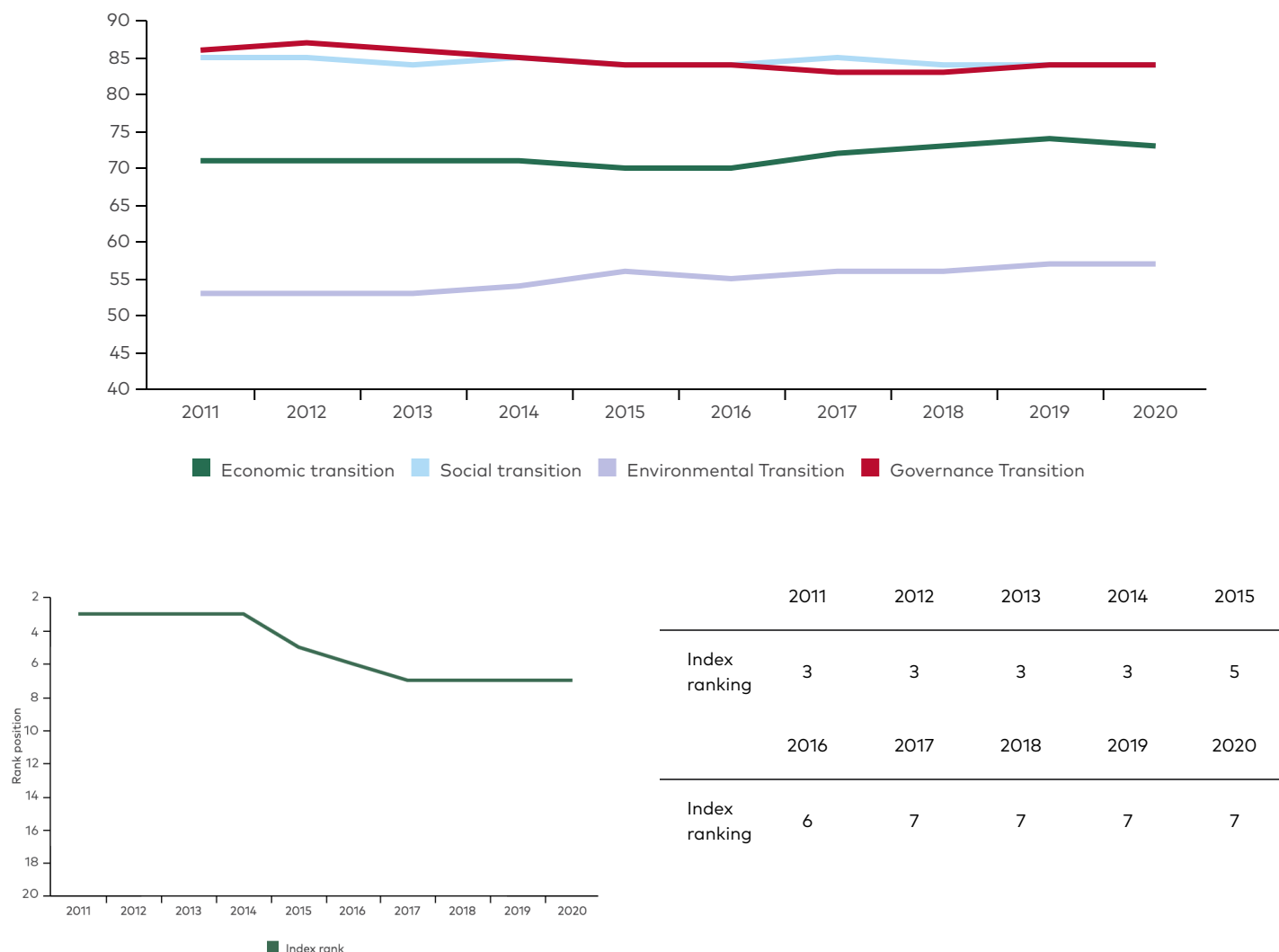


Figure 32: Sweden's score divided in all four dimensions as well as the overall ranking between 2011–2020.

Compared to the other Nordic countries, Sweden ranks number five on economic (strong transition tier) and governance (transition leader tier), number six on social (transition leader tier) and number 39 on environmental (moderate transition tier). Sweden ranks above the EU average on all dimensions except for environmental. Under the environmental dimension there are four different indicators, where it is

primarily the indicator Material Use where Sweden scores very low. However, both Energy Productivity and Biodiversity also stand out from the rest of the indicators in terms of low performance. According to data from the European Environmental Agency, Sweden had the fourth largest material footprint per capita in the EU in 2022, and it has only increased during the last decade (European Environmental Agency, 2023). Hence, a big contributor to why the environmental dimension scores the lowest of all four dimensions.

Furthermore, the economic dimension scores relatively low compared to social and governance. The main reason is the low scoring for the sub-indicator called Gross Value Added of Manufacturing (% of GDP). This can partly be explained by the high dependency Sweden has had on heavy industry manufacturing for a long time, which is changing rapidly with technological innovation, specialisation and economies of scale, where the market to a larger extent is characterised by knowledge-intensive industries (Nordea, 2016). On the other hand, Sweden scores as Transition leader in all sub-indicators except one for the social dimension and all sub-indicators except two for the governance dimension. Hence, both dimensions are big contributors to the overall high ranking among countries included in the TPI. Compared to the other Nordic countries, Sweden is ranked the second best, only Denmark having a higher total ranking as number two among all countries included in TPI.

5.5d Doughnut economy performance and explanation

Figure 33 shows that Sweden has maintained a relatively healthy and steady performance across social indicators, all above the social floor bar employment, between 1992–2015, while its performance on biophysical indicators shows a slow and steady increase above biophysical boundaries since 2009.

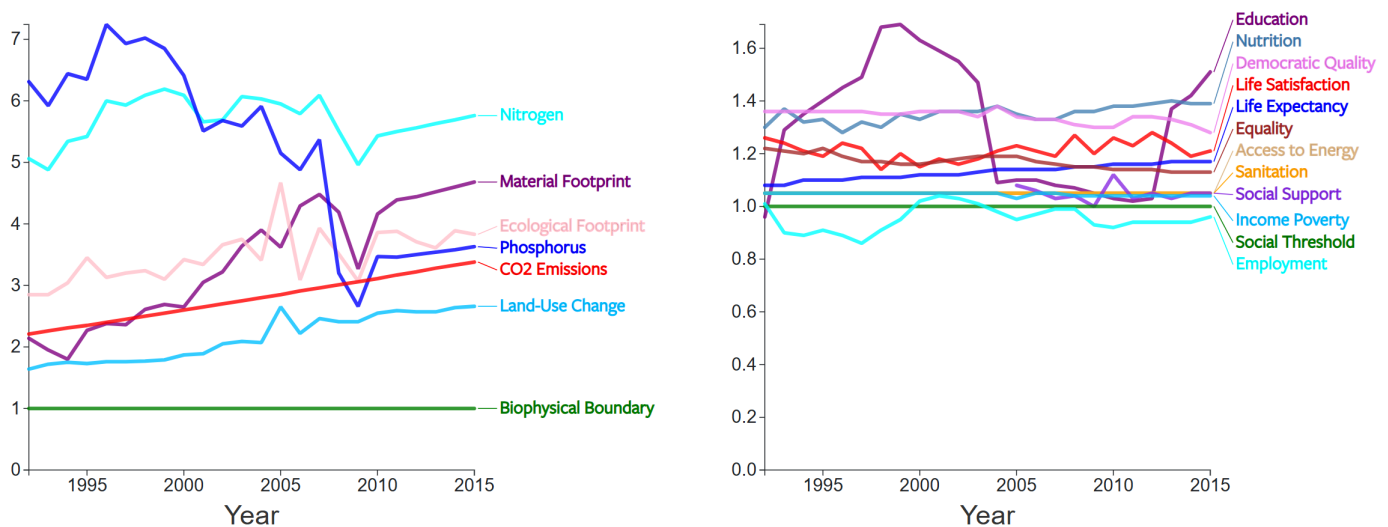


Figure 33: Sweden's performance from 1992–2015.

Sourced from Good Life Project and premised on data used in Fanning et al. 2022.

Sweden's performance across all 7 biophysical indicators were above acceptable thresholds. The period of 2007–2009 saw dramatic drops in nitrogen, material and ecological footprints and phosphorus. Though all, barring the production of phosphorus, have since rebounded to levels equal to or above those in 2007. Out of the Nordic countries, Sweden has the slowest rate of steady increase of CO₂ above biophysical boundaries, as well as the lowest level of overshoot. In respect of land-use changes, material and ecological footprints, as well nitrogen, its performance is comparable to each of the other Nordic countries.

Sweden's performance across social indicators has remained relatively steady between 1992–2015. During this period, levels of employment are, like Finland, consistently below the social floor, though there in contrast to the latter, there has been an uptick in performance in 2014–2015. The provision of education, and the % of children attending secondary school, is by far the most erratic performance across the Nordics, with dramatic improvement arriving in both Finland and Sweden in 2012. Unsurprisingly, there has also been a steady increase in healthy life expectancy to 82.2 years. This accords with the highlighting of happiness, meaningfulness, equality and freedom for action as core elements of an increasing quality of life in Sweden and the Nordics more generally. Yet, nutrition performances remain the lowest in the Nordics. Much like Finland, there has also been a slow decline in democratic quality since 2011. This reflects larger trends across Europe. This can be attributed to the beginning of the rise of populism and the slow increase in societal polarisation.

The alternative 2019 EU snapshot—using different data sources indicators and methods—identified Sweden as the overall top performer in the Nordic countries (Gómez-Alvarez Díaz et al. 2024). While it is the middle performer in social shortfall, falling 11.2% below a combined measure of the social floor it performs significantly better than Denmark and Finland in terms of ecological overshoot, overshooting a combined measure of the ecological ceiling by 136.3%. It should be noted however that even this outstanding performance is still far from the sustainable threshold, which would be indicated by an overshoot of 0%.

6. Comparative analysis of the Nordics and EU

6.1 Sustainable Development Index Comparison

All of the Nordic countries' global SDI ranking has declined since 2000. Sweden was the highest-ranking Nordic country in 2000 with a 51st place, followed by Norway on 97th place, Finland ranked 106th, Denmark 107th and Iceland on 130th place. Figure 34 below shows that throughout time all Nordic countries have converged towards each other. In 2022, all Nordic countries declined to rank 134 for Sweden, 136 for Denmark, 136 for Denmark, 147 for Finland, 152 for Iceland and 155 for Norway, respectively.

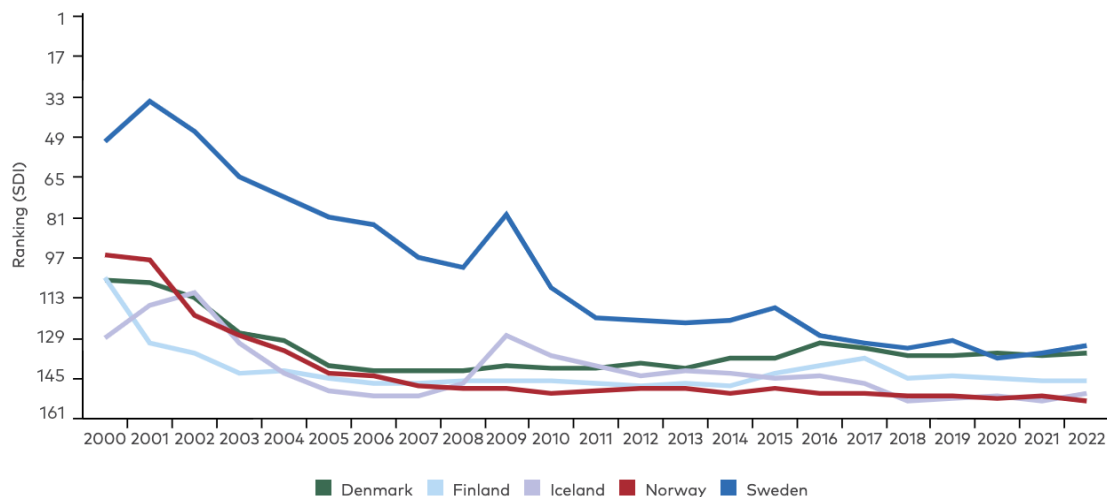


Figure 34: Nordic countries global SDI ranking development

In 2022, the Sustainable Development Index (SDI) for the EU-26 average is estimated to be 0,5. Upon analysing the data for all the Nordic countries, it becomes evident that each country in the Nordic region scores lower on the SDI than the EU-26 average. See figures 35 and 36 for details.

Among the Nordic countries, Sweden achieves the highest score with a total of 0,38. Denmark follows as the second-highest with a score of 0,36. Finland ranks in the middle of the Nordic countries, with a score of 0,25. Meanwhile, Norway ranks lowest among all the Nordic countries, with a score of 0,18, followed by Iceland with 0,19.

Globally, the top performers are Costa Rica, Uruguay and Sri Lanka, with scores 0,833, 0,832 and 0,832, respectively. The time series data reveals that all Nordic countries, except Denmark, have experienced a decline in their SDI between 2008 and 2022. The EU-26 average increased from 2008 to 2016, reaching an average score of 0,61. Since 2016, the EU-26 average has declined to 0,50 by 2022, returning to the same level as in 2008.

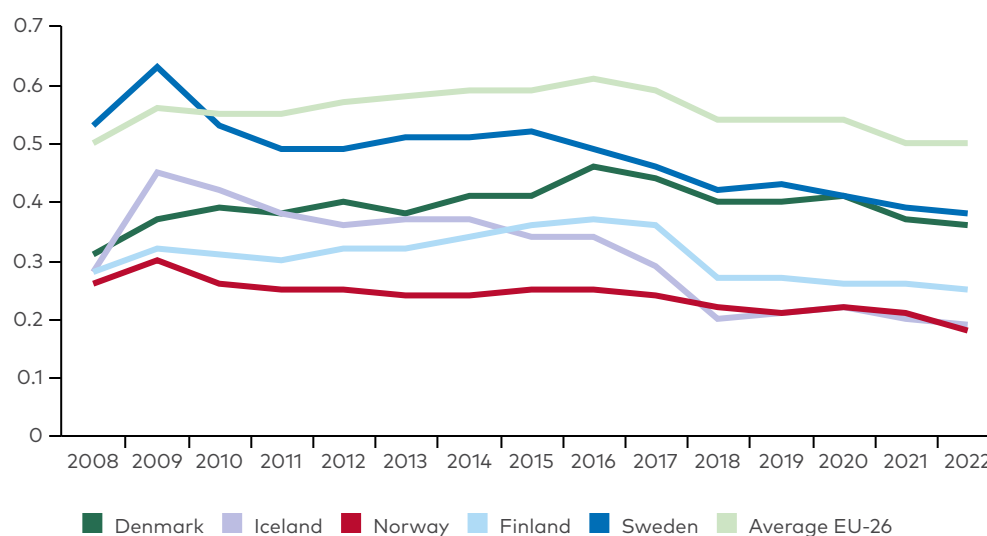


Figure 35: Nordic countries and EU-26 trends in Sustainable Development Index data.

*Note: Average for EU-26 has been calculated, as no data is available for Estonia

Source: Sustainable Development Index, 2024 and authors own calculations

	2008	2011	2014	2016	2018	2019	2020	2022
Denmark	0,31	0,38	0,41	0,46	0,40	0,40	0,41	0,36
Iceland	0,28	0,38	0,37	0,34	0,20	0,21	0,22	0,19
Norway	0,26	0,25	0,24	0,25	0,22	0,21	0,22	0,18
Finland	0,28	0,30	0,34	0,37	0,27	0,27	0,26	0,25
Sweden	0,53	0,49	0,51	0,49	0,42	0,43	0,41	0,38
Average EU-26*	0,50	0,55	0,59	0,61	0,54	0,54	0,54	0,50

Figure 36: Overview of Sustainable Development Index, Nordic countries and EU-26

*Note: Average for EU-26 has been calculated, as no data is available for Estonia

Source: Sustainable Development Index, 2024 and authors own calculations

By examining the underlying data and subcategories related to material footprint per capita in tonnes, a positive trend emerges for Denmark, Finland and Sweden. Between 2008 and 2022, their material footprint per capita decreased. The largest decrease can be seen for Finland, with a 57 percent decrease, followed by Denmark with 45 percent. As for Sweden, a smaller decrease of 1 percent can be seen in the same time period.

However, in Norway and Iceland, a negative trend is evident, as the material footprint per capita in tonnes increased during the same time period. In Norway, the increase is 38 percent and 7 percent for Iceland. Notably, the EU-26 average also decreased over this period with 30 percent. See figure 37 below. The Nordic countries are subjected to more resource intensive economies compared to EU-26 countries.

	2008	2011	2014	2016	2018	2019	2020	2022
Denmark	32,59	27,64	25,33	25,05	25,93	25,64	24,31	25,8
Iceland	29,44	22,41	22,26	25,59	33,14	29,56	26,77	30,5
Norway	35,89	34,78	34,70	34,43	35,26	36,87	35,39	41,6
Finland	38,69	34,08	31,53	31,08	32,52	30,04	30,88	30,1
Sweden	24,33	24,65	23,95	23,62	24,20	23,56	24,26	24,1
Average EU-26*	24,2	21,8	19,3	18,9	19,6	19,4	18,7	19,8

Figure 37: Overview of material footprint per capita, Nordic countries and EU-26

*Note: Average for EU-26 has been calculated, as no data is available for Estonia.

Source: Sustainable Development Index, 2024 and authors own calculations

Challenges in Comparing Material Resource Impacts Across Countries

While we acknowledge that the use and consumption of material resources and their environmental impacts are critical policy concerns for any country, regardless of their rankings on various welfare measures. Different materials such as metals, minerals, biomass etc. have vastly different environmental impacts, this makes it challenging to compare them solely by weight. The environmental impact of material consumption varies significantly across different countries. For example, the same quantity of biomass has different environmental footprints depending on whether it's used in a humid tropical region or a semi-arid one. Due to these variations,

it is difficult to compare material consumption across countries or to establish standardised environmental targets. In summary, the SDI is subjected to some criticism as there are challenges in international comparability and environmental target setting (Lafortune, Sachs et. al, 2020).

Increased standard of living in all Nordic countries

From 2008 to 2022, the gross national income per capita in purchasing power parity (PPP) has risen in all the Nordic countries. Iceland experienced the largest increase of flow of goods and services, followed by Denmark. See figure 38 below for an overview of selected years. In terms of highest standard of living, Norway has kept its place as number one, throughout the period 2008 to 2022, followed by Denmark in second place.

	2008	2013	2016	2018	2020	2022
Denmark	53 564	53 099	55 515	57 733	57 324	62 019
Iceland	41 671	48 036	53 754	55 716	51 984	54 688
Norway	63 719	63 024	66 257	67 394	66 258	69 190
Finland	48 899	45 512	46 417	48 242	48 176	49 522
Sweden	49 623	49 550	51 656	53 389	53 195	56 996

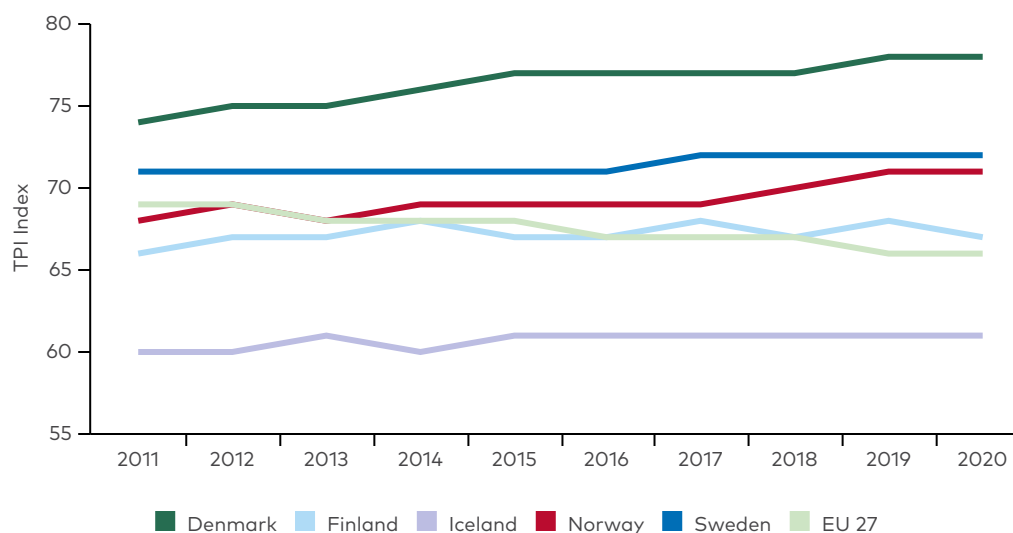
Figure 38: Overview of development of Gross national income (GNI) per capita, PPP (constant 2017 USD) in the Nordic countries.

Source: Sustainable Development Index, 2024

As previously discussed, the SDI incorporates different development trajectories. High-income countries, such as the Nordics with high ecological impact must reduce emissions, while middle- and lower-income countries should rather focus on social policy. The SDI provides a nuanced perspective on progress, while accommodating diverse national contexts, combined with emphasising both human development and ecological sustainability (Hickel 2020).

6.2 Transitions Performance Index Comparison

The average score within the EU is 69 compared to a global average of 52. In a Nordic context, all the countries score between the Good transition and Transition leader tier, with a Nordic average of 70 - slightly above EU average.



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Denmark	74	75	75	76	77	77	77	77	78	78
Finland	66	67	67	68	67	67	68	67	68	67
Iceland	60	60	61	60	61	61	61	61	61	61
Norway	68	69	68	69	69	69	69	70	71	71
Sweden	71	71	71	71	71	71	72	72	72	72
EU 27	69	69	68	68	68	67	67	67	66	66

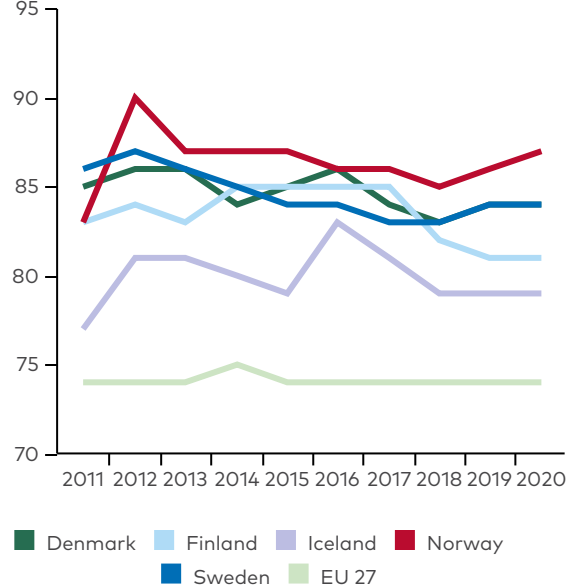
Figure 39: TPI Index Score 2011-2020 for Nordic Countries and EU 27 average. Source: TPI database

All Nordic countries score highest on the social and governance dimension, whereas the environmental dimension is the lowest and economic dimension the second lowest scoring. The score for the environmental dimension for all countries except Denmark, is much lower than the other three dimensions. This shows a clear strength in the Nordics on social welfare and governance. Whereas the high living standards in the Nordics, including e.g. consumption patterns such as material footprint, have a significant negative effect on the overall environmental scoring.

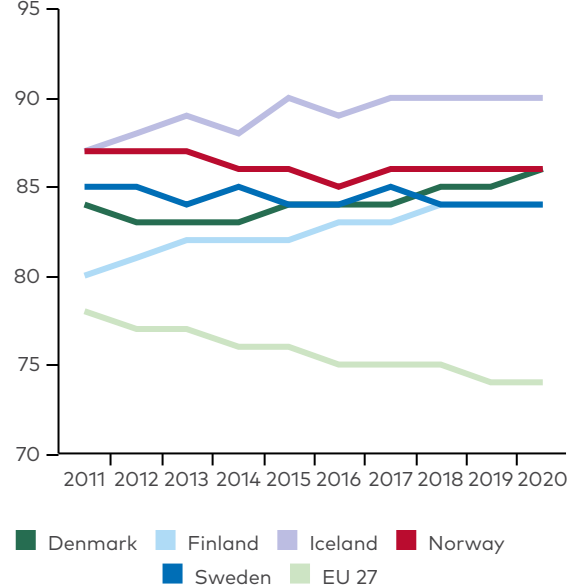
Sweden and Denmark are both in the highest scores, above EU27 average. Whereas Norway has had a slight increasing trend putting them above average from 2014 and beyond. Finland is overall close to the EU27 average with an inclining trend. Iceland is the country in the Nordics with the lowest average score ranging between 59-61 on average. Overall, all the countries have experienced an inclining trend from 2011-2020, with all the countries except Iceland scoring in the two highest tiers.

On the other hand, dividing the scores into each dimension respectively, shows the differences between the dimensions across the countries and how it has changed over the years. Below are four graphs showing the Nordic countries' performance compared to EU27 average for each dimension over a ten-year period.

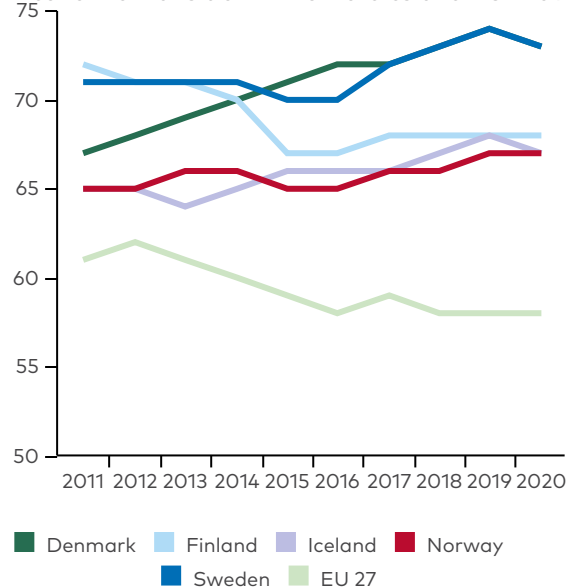
Governance Transition – The Nordics and EU27 average



Social Transition – The Nordics and EU27 average



Economic Transition – The Nordics and EU27 average



Environmental Transition – The Nordics and EU27 average

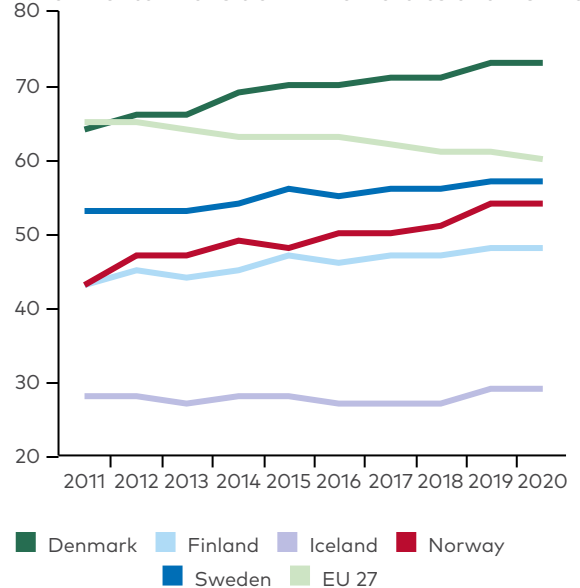


Figure 40: Each Nordic country's ranking compared to EU27 average divided into each dimension from 2011–2020.

The 5 countries have commonalities in their internal rankings between the dimensions. All 5 countries have the highest scores on both social and governance transitions, whereas the lowest ranked dimension for all the countries is the environmental dimension, followed by the economic dimension. The environmental transition is the only dimension where the EU27 average is not the lowest score. Denmark is the only country that scores above the EU27 average and Iceland scores the lowest.

6.3 Doughnut Economy Indicators Comparison

Comparing the Nordics to the EU24 average^[9] tells a story of superior social performance at a far more significant ecological cost. Using the doughnut model to situate the Nordics next to their EU peers brings into sharp relief that the Nordic model heralded across the continent for its high human welfare standards in the present day is undermining the foundations of welfare in the future by transgressing earth's biophysical limits at a staggering rate.

Given the complexity of the doughnut indicators it is impossible to make longitudinal comparisons of countries on the same graph. Thus, alongside the country graphs offered in each Nordic country section this country displays a number of snapshot comparisons to directly compare the Nordic countries to the EU average at various points in time.

It is remarkable how poorly the Nordic countries perform relative to the EU24 average across biophysical indicators. Taking a snapshot via the 2015 data we can see that Denmark was the only country to perform better than the EU24 average across any of the biophysical indicators. And even in this case Denmark only shows superior performance to the EU across three indicators: land-system use, nitrogen and phosphorus. Denmark has also managed to remain fairly close to the sustainability boundary across two of these indicators: the phosphorus and land-system change. However, while its performance regarding phosphorus is improving over time, changes in land-systems are moving the country further from sustainable levels. Across all other indicators Denmark performs worse than the EU average, while every other country performs worse than the EU average across every indicator. Poor performance is relatively equally spread across the countries, with every country performing worst across at least one indicator. Notably Denmark, along with Norway, performs worst in two indicators. Every country except Denmark also ranks second from bottom in at least one indicator, although here Finland stands out by performing second-worst in three indicators.

Given the longstanding reputation of the Nordic countries as environmental leaders, this is a startling conclusion. The 2015 comparison across all indicators can be seen in the graph below:

9. Data is missing for Cyprus, Luxembourg and Malta so this average is for the EU24. The UK is not included due to current lack of EU membership, even though it was a member of the EU during the period covered by the data.

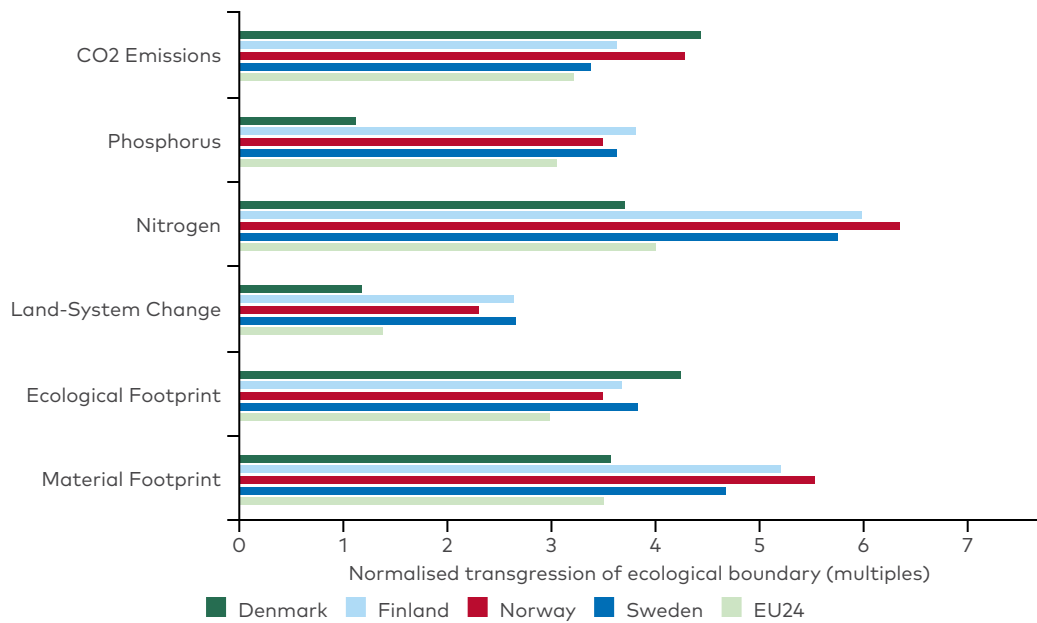


Figure 41: comparing Nordic and EU24 ecological performance, 2015.

Source: adapted by authors from data in Fanning et al. 2022 and The Good Life Project.

Looking at a snapshot from the year 2000 we see this poor performance is nothing new, with the main notable changes being Denmark's improving its performance in regarding phosphorus levels to go from exceeding the EU average in 2000 to falling below it by 2015. Notably Finland leapt from being the top performer in terms of carbon emissions in the year 2000 to falling behind Sweden by 2015.

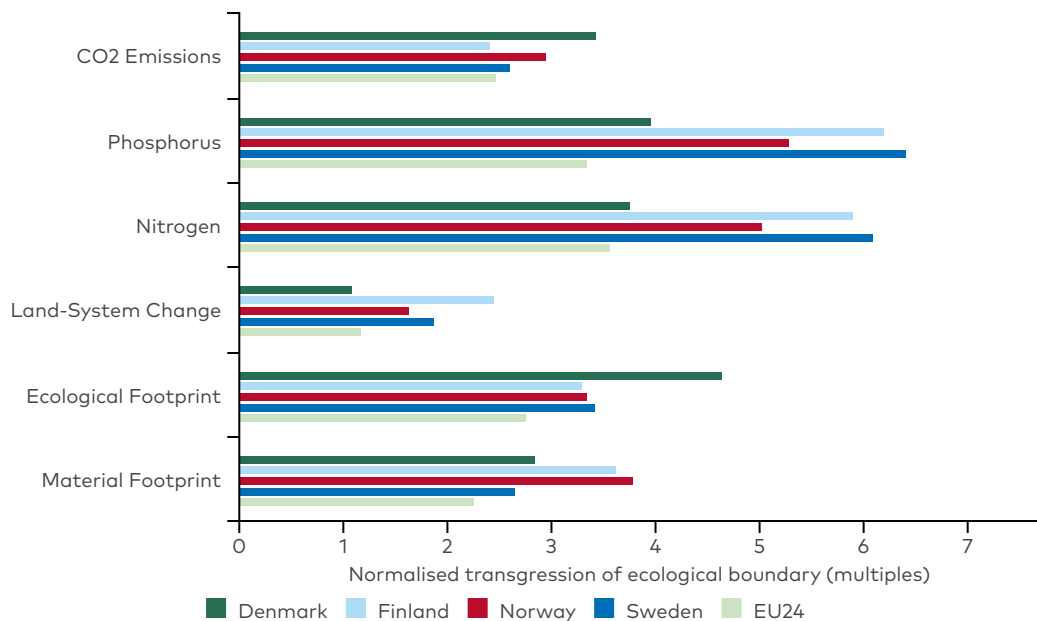


Figure 42: comparing Nordic and EU24 ecological performance 2015.

Source: adapted by authors from data in Fanning et al. 2022 and The Good Life Project.

When we turn our attention to social indicators the data tracks the long-documented observation that the Nordic countries perform better than the average of their European peers. There is only one instance of a Nordic country performing worse than the EU average across any indicator in the most recent 2015 data, and this is Sweden's performance regarding nutrition which lags significantly behind the rest of the region. This superior performance is also seen if one leaps back to the data from the year 2000, with the only further exceptions beyond Sweden's persistent nutritional issues are Finland (1.38) joining Sweden (1.33) in dipping below the EU average (1.48) for nutrition and Finland's employment score of 0.84 falling slightly below the EU average of 0.88.

For the EU24 income poverty, employment and life satisfaction are consistently below the social threshold over the time series. In the Nordic countries it is only employment that consistently dips below the threshold (aside from a low starting point for education in Sweden) and even here it is only Sweden and Finland who remain consistently below the threshold, with Norway remaining above it for the entire period and Denmark only suffering two fairly limited stretches below it. Notably in 2015 Finland remained the worst performer in the Nordics with respect to employment outcomes; whereas the other Nordic countries obtained 2015 scores almost as high as (in the case of Norway) or higher than (in the case of Sweden and Denmark) their 2010 levels, Finland was still at a score of 0.89 in 2015, still higher than but close to the EU average of 0.85 and indicating the hardest hit from the 2009 financial crisis.

There is a high level of convergence across the Nordic countries, as seen in 2015 data, where for 7 of the 11 indicators (Life Satisfaction, Life Expectancy, Income Poverty, Access to Energy, Social Support, Democratic Quality, Equality) the difference between the largest and smallest values within the Nordic countries is as small or smaller as the difference between the EU average and the next closest Nordic country; this supports the impression of the Nordics as their own unique pocket of the European community. Another notable observation is the dramatic dip and then spike seen in educational outcomes across Sweden and Finland. From the year 2000 to 2010 both countries saw a dramatic decrease in educational performance, with Finland falling far closer to the EU average than many of its peers with a normalised score of 1.14 (vs an EU average of 1.11) and Sweden actually dipping significantly below it with a score of 1.03. However, in a sign of a concerted policy response to this dip both Finland and Sweden then leapt above their peers across the Nordics and EU at large to become the top and second top educational performers, with respective scores of 1.61 for Finland and 1.51 for Sweden compared with an EU average of 1.21.

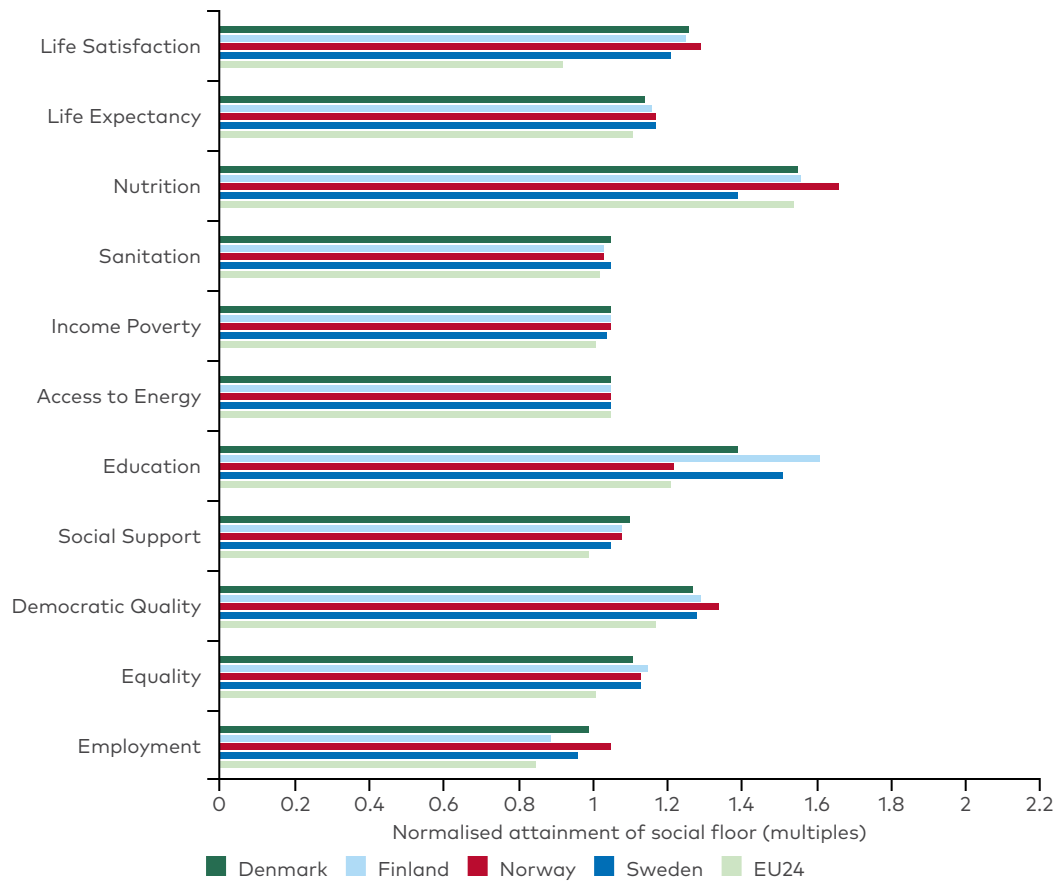


Figure 43: Comparing Nordic and EU24 Performance Across Social Indicators, 2015.

Source: adapted by authors from data in Fanning et al. 2022 and The Good Life Project.

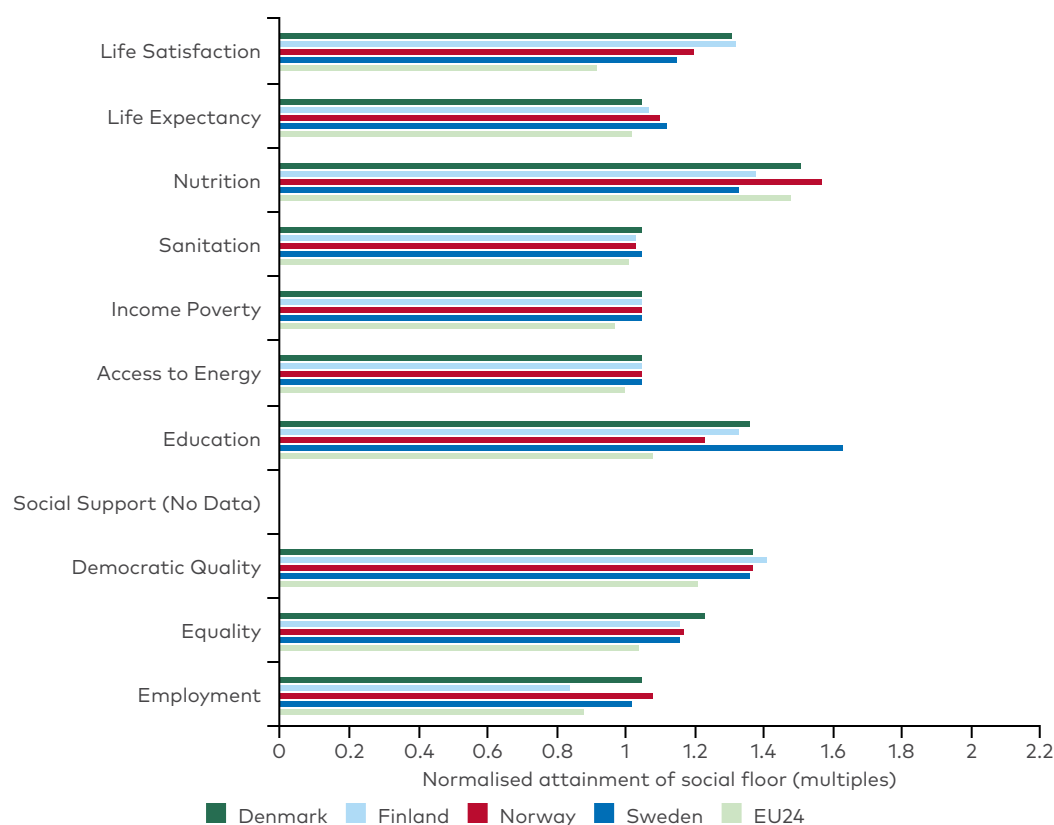


Figure 44: Comparing Nordic and EU24 Performance Across Social Indicators, 2000

Overall, these findings track other observations in the literature, such as the suggestion by Helliwell et al., (2020) that the most important reasons for the happiness of the Nordic countries are high levels of income, extensive social benefits, low corruption, well-functioning state institutions, as well as a clear sense of autonomy, freedom, and social trust among citizens.

6.3a Comparative analysis from the alternative study

As noted in the country analyses for Denmark, Sweden, and Finland an alternative study using the doughnut economy framework has been conducted for EU countries, using a different methodology and a different set of social and ecological indicators (Gómez-Alvarez Díaz et al. 2024). While the data used spans a number of years, it is generally slightly more recent than the 2015 data used in the other paper (see section 4.2c). Thus, while this study cannot be taken as a direct extension of the findings from the older data, it provides a useful point of comparison. The graphs below plot the comparative performance of Denmark, Finland and Finland and the EU26 average across ecological and social indicators, as well as integrative measures of an overall social baseline and ecological ceiling. The % values in each case indicate how far the country is either falling short of a social indicator or transgressing an ecological one. Thus, higher values indicate worse performances in both cases

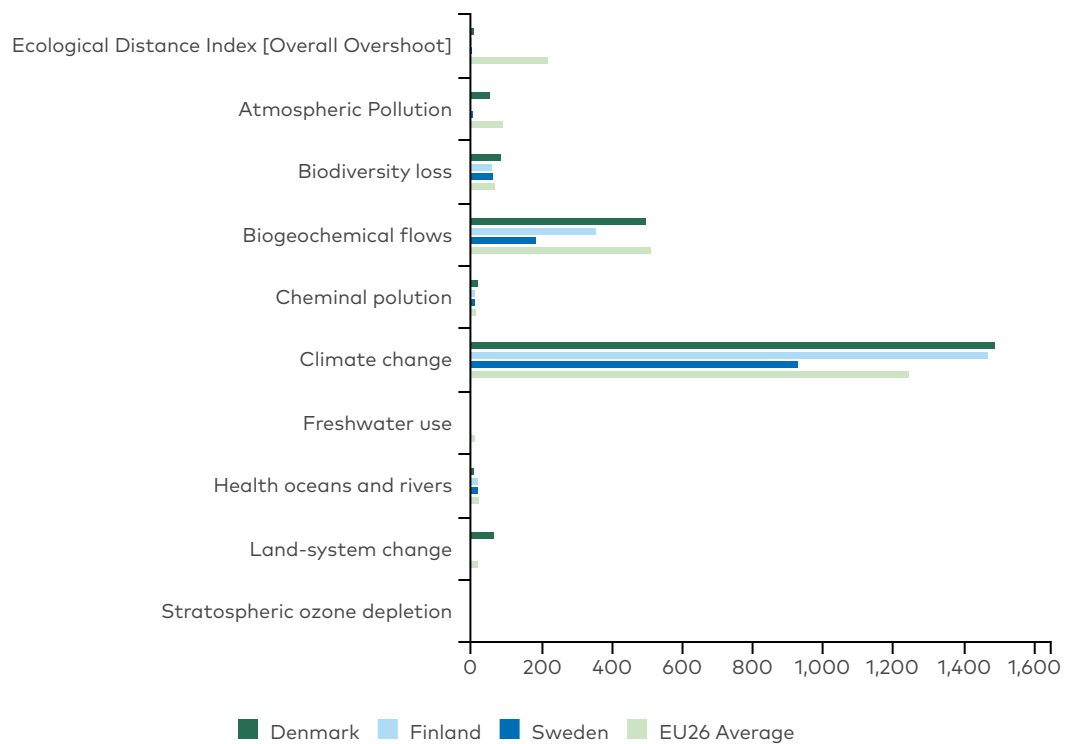


Figure 45: Overshoot distance of ecological dimensions (%)

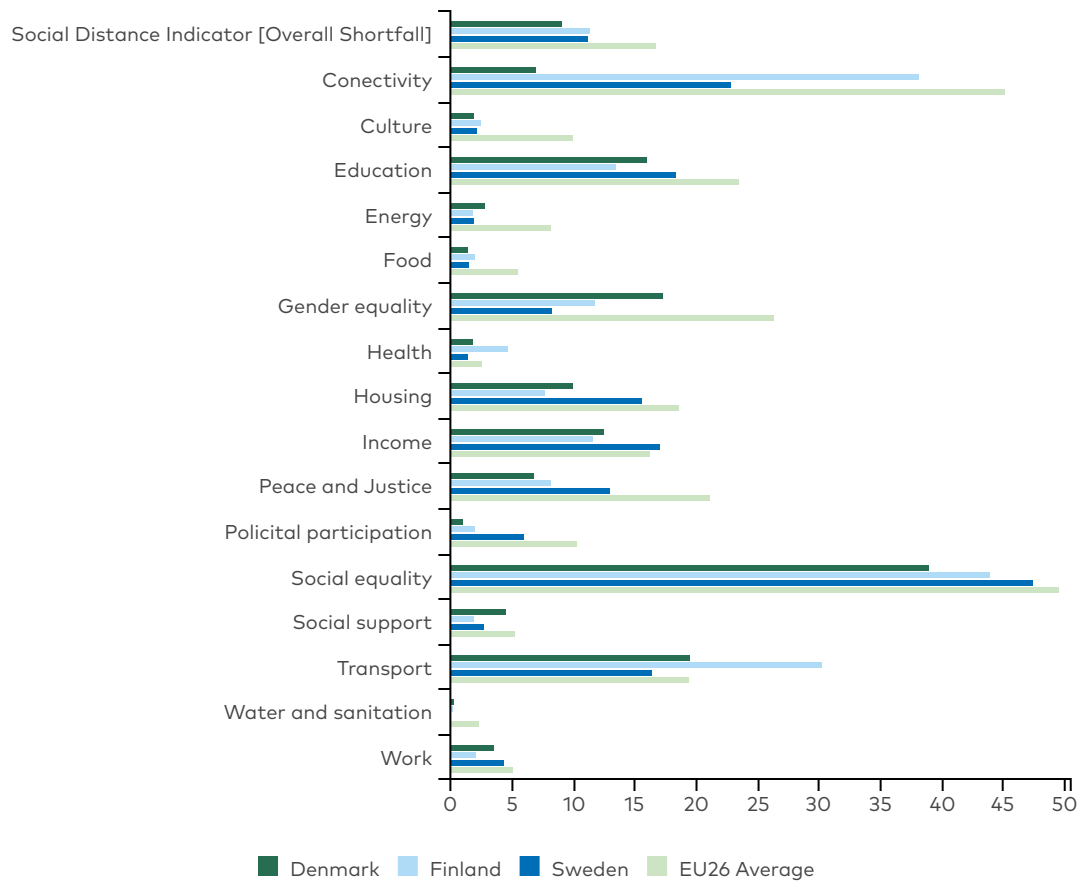


Figure 46: Undershoot of social dimensions (%)

What is interesting to note here is that, overall the three European Nordic countries appear to perform better ecologically under the 2015 data but worse socially; there are fewer, smaller instances of ecological boundary transgression and the Nordics are far closer—and in Sweden's case significantly below—to the EU average here. Meanwhile there are far more instances of social shortfall than in the other data, and many cases where the Nordics perform comparably poorly or worse than their EU peers. What is going on here? Two points are worth observing:

First, the different choice of indicators and underlying data sources is likely significantly responsible for these results. With respect to ecological boundaries, for example, neither material or ecological footprint feature as they do in the earlier dataset and these are indicators where the Nordic countries have performed notoriously badly. Similarly, not only does the social floor comprise different categories, encompassing areas such as internet and transport connectivity which do not feature in the prior data, but the underlying data for these indicators is also unusual in places. For example, the surprisingly poor performance in the social equality indicator is explained by the fact that the underlying data are survey results for the proportion of the population who believe that income equalities are not currently too high—an entirely subjective measure—rather than the more standard measures such as the Gini coefficient.

Second, with respect to performance relative to the EU it is interesting to observe that the small countries of Cyprus, Malta and Luxembourg, for whom there was no data in the alternative dataset, perform disproportionately badly according to this data. This can be seen in fig. 47 below. Given the EU26 average is an average of relative boundary transgressions, that is to say the size of each country will not determine the size of its contribution to the average, this poor performance likely drags the EU average down considerably. Combined with the exclusion of on-EU member Norway, a particularly poor ecological performer according to the other data, this goes a significant way to explaining the closing of the gap between the EU and the rest of the Nordic countries seen in the prior analysis.

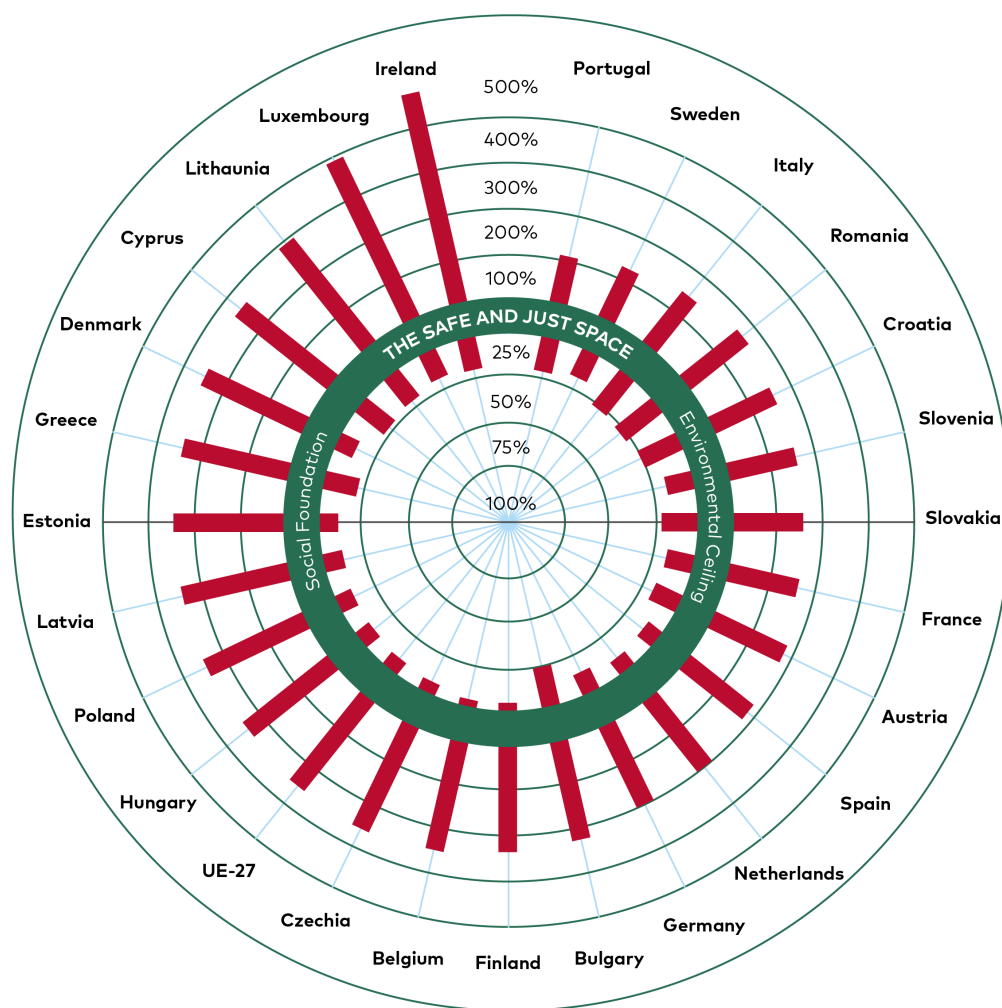


Figure 47: Comparison of EU26 performance keeping within the SJS boundary

Source: Gómez-Alvarez Díaz et al. (2024)

Overall, the more recent –while still at the time of writing quite out of date, given the global shocks of 2020 onwards– data contained in this second paper, should not be interpreted as telling a vastly different story to the primary data used in our analysis. Different measures, methods and underlying data sources drive many of the most notable deviations and the key finding remains the same: the Nordic countries perform relatively well in terms of social provision, but at an entirely unsustainable level of ecological impact.

7. Recommendations

7.1 Divergent performance across metrics

The TPI presents the Nordic countries as top performers. This is in contrast to the SDI where they rank near the bottom of the pile, and the doughnut economy indicators which temper excellent social performance with disastrous environmental performance. This incongruence can be explained by the fact that the TPI is a relative indicator and so only ranks countries in comparison with one another, and is also far more influenced by performance in more traditional economic metrics such as GDP. By comparison, the latter two metrics are both underpinned by a "strong" or "strict" sustainability approach, where positive social performance cannot counterbalance poor environmental performance, and environmental performance is measured by those absolute proxies which matter most for planetary boundary transgression. Notably both sets of indicators also focus on consumption-based metrics when analysing ecological impacts. These differences in findings are representative of a wider gulf between the public perception of the Nordics particularly as environmental leaders, and the reality borne out in the data of massive and growing unsustainability. This theme is returned below.

7.2 The need to align and improve metrics

The study has backed conclusions drawn elsewhere that the landscape of beyond-GDP metrics is not yet in a fit place to guide serious and impactful policymaking. For the doughnut economy indicators data was only available until 2015 and was absent entirely for a number of countries, most significantly Iceland. Meanwhile the underlying dynamics of the TPI proved hard to interpret even for our own expert project team, with little information offered publicly about the underlying data and how it was used. Even more glaringly the TPI is being discontinued to make way for another new metric, returning the European landscape to square one after a no doubt substantial investment to develop it in the first place.

If alternative measures of welfare are to play a more meaningful role in policy and governance in the future, then alignment is needed around a set of metrics which can be developed to a level of rigour and completeness that they are suitable for this purpose, and which can enable the same level of comparability and shared reference as GDP does today. Rather than continually developing new metrics, the community should attempt to find alignment around a useful set and focus on improving them. Here there is a significant opportunity for powerful Nordic collaboration; each country has a wide array of unique welfare and ecological indicators, and if a regional agreement could be reached around a unified set this could set a promising precedent for the rest of Europe and the world. Even where Nordic countries may feel a sense of competition between themselves, shared measurement will enable this competition to drive towards mutual improvement.

Forums like the EU and OECD could provide other opportunities for the Nordic countries to show their leadership around the growing beyond-GDP agenda. Shifts in policy and governance require improving the coherence and quality of indicators, and the present moment is ripe with opportunity to do just this.

In terms of the form of the indicators which should be chosen, dashboard-based metrics such as the doughnut indicators appear particularly promising. Such approaches avoid the worries over normativity and subjectivity involved in weighting and compiling metrics into composite indicators, while providing a granular enough overview of performance to guide policy and a clear enough picture to be intelligible to wider audiences. Similarly, if metrics are to provide an accurate picture of sustainability performance then it is essential that they follow the likes of the doughnut indicators and SDI in utilising consumption-based indicators of ecological performance, so as to avoid offshoring of environmental impacts being mistaken for improvement.

Recommendations:

- Begin work across the Nordic countries to align on a beyond-GDP measurement standard, informed by the wider state of the art. Advocate and lead based on this through multilateral institutions such as the EU and OECD.
- Adopt a framework—such as the doughnut economy—which separates social and environmental performance, which is absolute not relative, uses consumption-based indicators, and which meets “strong” sustainability criteria (see [7.1](#)).
- Ensure there is up to date and high-quality data available for all Nordic countries and support national statistical offices to collect important data which is missing.

7.3 Without governance integration, measurement is meaningless

As mentioned above, the Nordics all do very well with respect to the presence of alternative measurements and experimentation with frameworks such as the wellbeing and doughnut economy. However, in every case the translation of these initiatives into meaningful policy action, particularly around environmental performance, has proved underwhelming. The crucial gap is found in the integration of metrics into mechanisms of governance in a manner that gives them the teeth to legitimately shape policy and practice. As Malmaeus & Lindblom (2021) note in their discussion of environmental management:

“Management by setting objectives is frequently practiced in various policy contexts (Vedung 1997; Wholey 1999). But despite the fact that objectives are common in environmental management, research on the performance of such systems and how they should be designed has so far been limited (Edvardsson 2004; Larsson and Hanberger 2016).”

Further work is needed to identify the approaches and systems which can most effectively translate measurement into policy and governance change. The Danish example of SDG informed risk assessment is the closest example of meaningful governance integration, however its shortfalls also point to the difficulty of doing so effectively. These interventions need not start entirely from scratch, however, as promising innovations have been developed elsewhere. For example, WEGo nations and their Nordic peers might consider adopting nationally appropriate variations of the Welsh WE institutional framework, with legislation that identifies core goals related to sustainable/future-oriented wellbeing rather than GDP growth, supported by offices similar to the Future Generations Commissioner. (Hayden, 2024)

Governance integration presents another opportunity for the Nordic countries to position themselves as global leaders; in the midst of the momentum behind beyond-GDP metrics Nordic integration of such metrics into the heart of their governance infrastructures would send a clear signal to the rest of the world that the region is serious about securing sustainable and inclusive wellbeing for its citizens for generations to come.

Recommendations:

- Conduct a review of how alternative metrics have been successfully integrated into governance across the world, highlighting cases where they have changed policy outcomes.
- National governments should explore what feasible and effective governance integration would look like in their contexts, and use this to develop pilots.

7.4 There is an urgent need to focus on ecological interventions

As mentioned in the opening paragraph, the reputation of the Nordic countries as top environmental performers is not borne out in the data. Through a focus on consumption based impacts the doughnut economy indicators and SDI point to an urgent need for a step change in action around sustainability across the region if ecological catastrophe is to be avoided at home and across the world.

What is particularly interesting is that this poor environmental performance comes despite leadership in many of the standard suite of policy solutions, such as clean domestic energy and EV adoption. That the Nordics have more than most other regions already plucked these low hanging fruits, and still continue to operate vastly unsustainably, indicates that exploring different, more structural changes should be considered if we are to take sustainability seriously.

A strong focus on alternative, ecological interventions need not mean sacrificing performance across social welfare, however. In fact, alternative approaches may hold promise in maintaining the Nordics' high performance in the face of increasing strain and uncertainty. In the present and ever more unstable era there is evidence that the traditional Nordic welfare model is proving more difficult to maintain even aside from its environmental impacts; popular disaffection and malaise is growing and has been

manifested in increasing political polarisation in the region, as well as across the EU at large. A more central role for ecological considerations in policy design has the potential to afford a number of co-benefits for present day societal welfare in a manner that may prove useful in countering this worrying trend.

Recommendations:

- Conduct comparative and evaluative research into the full range of interventions available to the Nordics for delivering sustainable and inclusive wellbeing, including serious explorations of alternative approaches such as sufficiency solutions which have been outlined in the beyond-GDP policy sphere.
- Conduct country level analyses of which policy interventions hold the most potential to deliver sustainable and inclusive wellbeing at the national level.

8. Conclusion

This study has analysed the performance of the Nordic countries across three highly different beyond-GDP metrics: the Sustainable Development Index, Transitions Performance Index and Doughnut Economy Indicators. Its results are startling, showing that while the Nordic's reputation as top performers in terms of societal welfare is well earned, they are in fact operating well beyond the thresholds of ecological sustainability. In 2022 each Nordic country scored lower than the EU average in the Sustainable Development Index, with Sweden landing as the top performer with a rank of 134/163 and Norway the worst performer with a rank of 155/163. Looking at the most recent 2015 data for the Doughnut Economy Indicators—with the obvious proviso that this data is now significantly out of date—Denmark was the only country to outperform the EU on any biophysical indicators. Even here it does so only in 3/6 cases, and is still transgressing biophysical boundaries in an unsafe manner even in these cases. Performance is otherwise fairly even, with every country performing worst across at least one indicator. Notably Denmark, along with Norway, performs worst in two indicators. In the case of the Transitions Performance Index while overall every Nordic country except Iceland outperforms the EU average, the picture again changes dramatically when one attends to the environmental transition. Here Denmark is again the only country to score above the EU average, while all other Nordic countries score below it.

However, this core finding should not be taken to reflect uniquely badly on the Nordic countries, and in fact unearths the Nordics' high potential for global sustainability leadership. Analysis according to the doughnut indicators highlights that *no country on earth* is managing to provide the full range of social provisions for its population while remaining beneath the ecological ceiling, while the sustainable development index explicitly states that *every country* is developing when we take it as a measure. Thus, the Nordic performance is far more indicative of a world gone awry than any particular regional deficiency.

What's more, a number of leading initiatives in Nordic countries show the potential for them to steer the change, such as The Finnish Action Plan for an Economy of Wellbeing, Denmark's Green Accounting and Iceland's quality of life framework among others. Given their exceptional social performance, if the Nordics can use their innovation capacity to design and implement innovative ways of delivering sustainable and inclusive wellbeing, they can act as a vanguard for global transformation. Their favourable social conditions mean they are very well placed to do so, and we encourage them to work together to turn this potential into reality.

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Bibliography

- 2030-panelet, & Danmarks Statistik. (2020). Make global goals our goals.
- 2030-panelet. (n.d.). Om panelet. Retrieved June 18, 2024, from <https://www.2030-panelet.dk/om-panelet/>
- A-track. (2024). <https://a-track.info/>
- Alatalo, J., Larja, L., Räisänen, H. (2019). Työllisyysaste-erot Pohjoismaissa ja eräitä taustatekijöitä niille (TEM) <https://urn.fi/URN:ISBN:978-952-327-442-6>
- Barth, J., Lavorel, C., Miller, C. Hafele, J., (2021), 'A Compass towards 2030. Navigating the EU's economy beyond GDP by applying the Doughnut Economics framework' (ZOE Institute for Future-fit Economies, Bonn)
- Benczur, P., Boskovic, A., Cariboni, J., Chevallier, R., Le Blanc, J., Sandor, A. and Zec, S., Sustainable and Inclusive Wellbeing, the road forward, Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/828060, JRC137910.
- Birkjær, M., Gamerding, A., & El-Abd, S. (2021). Towards a Nordic wellbeing economy. Nordic Council of Ministers. Nord No. 2021:049 Analysis / Nordic Council of Ministers No. 02/2021. <https://doi.org/10.6027/nord2021-049>
- Bridgman, B., G. Duernecker, and B. Herrendorf, 2018. "Structural Transformation, Marketization, and Household Production Around the World," Journal of Development Economics 133, 102-126.
- Butt, A.P., Berkhout, E., Zaghbour, C.M., Bush, A., Verma, R., Pheko, L.L. (2023). Radical Pathways Beyond GDP. Why and How We Need to Pursue Feminist and Decolonial Alternatives Urgently, London: Oxfam
- Climate Act (423/2022), Finland.
- Cook, D. and Davíðsdóttir, B. (2021). An appraisal of interlinkages between macro-economic indicators of economic well-being and the sustainable development goals. 184 Ecological Economics 106996
- Council of the European Union (2019). Council Conclusion on the Economy of Wellbeing (19 October 2019). <https://data.consilium.europa.eu/doc/document/ST-13432-2019-INIT/en/pdf>
- Council of the European Union (2021), Beyond GDP: Measuring What Matters (19 May 2021)
- Coscieme, L. Mortensen, L., Anderson, S., Ward, J., Donohue, I., Sutton, P. (2020), Going beyond Gross Domestic Product as an indicator to bring coherence to the Sustainable Development Goals, 248 Journal of Cleaner Production 119232

De Schutter, O. (2024) *A/HRC/56/61: Eradicating Poverty beyond Growth - Report of the Special Rapporteur on Extreme Poverty and Human Rights*. OHCHR. Available at: <https://www.ohchr.org/en/documents/thematic-reports/ahrc5661-eradicating-poverty-beyond-growth-report-special-rapporteur> (Accessed: 27 September 2024).

Det Kongelige Kommunal- og Moderniseringsdepartement. (2021). Meld. St. 40 (2020-2021), Melding til Stortinget. Mål med mening: Norges handlingsplan for å nå bærekraftsmålene innen 2030.

Directorate-General for Research and Innovation. (2021). Transitions Performance Index (TPI). Retrieved June 14, 2024, from https://research-and-innovation.ec.europa.eu/strategy/support-policy-making/support-national-research-and-innovation-policy-making/transitions-performance-index-tpi_en

Directorate-General for Research and Innovation. (n.d.-b). The European Commission's priorities. Retrieved July 2, 2024, from https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en

Doughnut Economics Action Lab (2021) 'New analysis reveals that no country is living in the doughnut'. Available at: <https://doughnuteconomics.org/news/new-analysis-reveals-that-no-country-is-living-in-the-doughnut> (Accessed: 27 September 2024).

Energistypelsen. (n.d.). CCS – fangst og lagring af CO₂. Retrieved June 27, 2024, from <https://ens.dk/ansvarsomraader/ccs-fangst-og-lagring-af-co2>

European Commission, Directorate-General for Communication. (n.d.). 2030-mål – EU's politik og lovgivning for miljø-, energi- og klimamål for 2030. Retrieved June 18, 2024, from https://commission.europa.eu/energy-climate-change-environment/overall-targets-and-reporting/2030-targets_da

European Commission, Directorate-General for Research and Innovation, Vigier, P. (2020). Towards fair and prosperous sustainability: transitions performance index 2020, Publications Office. <https://data.europa.eu/doi/10.2777/909838>

European Commission, Directorate-General for Research and Innovation, Prevost, S., Benavente, D., Stevenson, A. (2022). Transitions performance index 2021: towards fair and prosperous sustainability, Publications Office of the European Union.

European Commission, Directorate-General for Research and Innovation, Vladimirov, M., Gerganov, A., Petrova, V. (2023). Developing alternative visions for assessing progress to sustainable development 'Beyond GDP': constructing new measurement indicator sets, Publications Office of the European Union. <https://data.europa.eu/doi/10.2777/888071>

European Commission, Directorate-General for Research and Innovation, Charveriat, C., Abdallah, S., Jong, S. (2024). New metrics for sustainable prosperity: options for GDP+3: a preliminary study, Publications Office of the European Union.

European Commission (2024). CCRI success: Tampere region gives new life to used building materials and industrial material flows (19 August 2024): <https://circular-cities-and-regions.ec.europa.eu/news/ccri-success-tampere-region-gives-new-life-used-building-materials-and-industrial-material>

European Commission (2023) 'Speech by the President at the Beyond Growth Conference'. Available at: https://ec.europa.eu/commission/presscorner/detail/da/speech_23_2761 (Accessed: 22 July 2024).

European Environmental Agency. (2019). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. <https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>

European Environmental Agency. (2023). Europe's material footprint. Retrieved Aug 21 2024 from <https://www.eea.europa.eu/en/analysis/indicators/europes-material-footprint?activeAccordion=309c5ef9-de09-4759-bc02-802370dfa366>

European Environmental Agency. (2024). EEA greenhouse gases – data viewer. Retrieved June 14, 2024, from <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

Eurostat. (2023a). Guidance note on ecosystem extent accounts. Technical note.

Eurostat. (2023b). Ecosystem extent accounts_questionnaire_2023.xls

Fanning, A., O'Neill, D., Hickel, J. and Roux, N. (2022). The social shortfall and ecological overshoot of nations 5 Nature Sustainability 26–36

Finansministeriet. (2021). Regeringen styrker fokus på verdensmål i lovarbejdet. <https://fm.dk/nyheder/nyhedsarkiv/2021/marts/regeringen-styrker-fokus-paa-verdensmaal-i-lovarbejdet/>

Finansministeriet. (2023). Danmark rustet til fremtiden. Regeringens 2030-plan. Retrieved June 28, 2024, from <https://fm.dk/nyheder/nyhedsarkiv/2023/november/regeringen-praesenterer-2030-plan-danmark-rustet-til-fremtiden/>

Finnish Institute for Health and Welfare (2024). Building a knowledge-based wellbeing economy in Finland – a project to develop policy tools, See <https://thl.fi/en/web/thl/research-and-development/research-and-projects/building-a-knowledge-based-wellbeing-economy-in-finland-a-project-to-develop-policy-tools>. Accessed 5 September 2024.

Gábos, A., Lelkes, O., Cammeo, J. (2023). Report on mapping indicators and composite indices relevant to measure transition performances. SPES Report no. 3.1, SPES project – Sustainability Performances, Evidence and Scenarios. Florence: University of Florence. Available at: <https://www.sustainabilityperformances.eu/publications-deliverables/>

Gapminder (n.d.) World Health Chart. Available at: <https://www.gapminder.org/fw/world-health-chart/> (Accessed: 22 July 2024).

Giovannini, E. and Rondinella, T. (2018), Going beyond GDP: theoretical approaches in D'Ambrosio, C (ed.), Handbook of Research on Economic and Social Well-being (Edward Elgar) 1-51.

Government of Finland (2021). Sustainable Growth Programme for Finland. Recovery and Resilience Plan. *Publications of the Finnish Government* 2021:69.

https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163363/VN_2021_69.pdf?sequence=1&isAllowed=y Accessed 5 September 2024.

Government of Finland (2024). Budget 2025. Prime Minister Orpo's Government: Long-term economic adjustment continues, focus shifts to growth. 3 September 2024.

<https://valtioneuvosto.fi/en/-/prime-minister-orpo-s-government-long-term-economic-adjustment-continues-focus-shifts-to-growth>. Accessed 6 September 2024.

Grimstad, S., & Støren, K. S. (2023). Livskvalitetsundersøkelsen 2023. Statistisk sentralbyrå.

Hass, J. and Palm, V. (2012), Using the right environmental indicators: tracking progress, raising awareness and supporting analysis (Nordic Council of Ministers, 2012)

Hayden A. & Dasilva C. (2022). The wellbeing economy: possibilities and limits in bringing sufficiency from the margins into the mainstream. *Front Sustain* 3.

<https://doi.org/10.3389/frsus.2022.966876>. Accessed 4 September 2024.

Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). (2024). *World Happiness Report 2024*. University of Oxford: Wellbeing Research Centre.

Helse- og omsorgsdepartementet. (2023). Folkehelsemeldingar, Meld.St.15 (2022-2023). Nasjonal strategi for utjamning av sosiale helseforskjellar.

Helse- og omsorgsdepartementet, Barne- og familiedepartementet. (2021). Ny nasjonal strategi for livskvalitet. Regjeringen.no. Retrieved July 31, 2024, from

<https://www.regjeringen.no/no/dokumentarkiv/regjeringen-solberg/aktuelt-regjeringen-solberg/hod/nyheter/2021ny/ny-nasjonal-strategi-for-livskvalitet/id2866603/>

Helse- og omsorgsdepartementet. (2024). Utkast til innspillsrunde. Nasjonal livskvalitetsstrategii, fra måling til politikkutforming 2024-2030. Retrieved July 30, 2024, from <https://www.regjeringen.no/no/dokumenter/innspill-til-nasjonal-livskvalitetsstrategi/id3027679/?expand=horingssvar&lastvisited=>

Hickel, J., (2019). 'Is it possible to achieve a good life for all within planetary boundaries?' 40 *Third World Quarterly* 18-35

Hickel, J., (2020). The sustainable development index: Measuring the ecological efficiency of human development in the anthropocene, 176 *Ecological Economics* 106331

Hoekstra, R. (2022), This is the Moment to go Beyond GDP

Jansen, A., Hoekstra, R., Kaufmann, R., Gerer, A. (2023). A synthesis of Beyond-GDP metrics for Wellbeing, Inclusion, and Sustainability including a deep-dive into EU metrics and their role in governance. Final version of WISE Horizons deliverable 1.1.

Jansen, A., Wang, R., Behrens, P., Hoekstra, R., (2024) Beyond GDP: a review and conceptual framework for measuring sustainable and inclusive wellbeing, *The Lancet Planetary Health*, Volume 8, Issue 9, [https://doi.org/10.1016/S2542-5196\(24\)00147-5](https://doi.org/10.1016/S2542-5196(24)00147-5).

- Jansson M. (2022). Complementary measures beyond GDP to measure prosperity and well-being - design, use and experiences. KTH Royal Institute of Technology, Degree Project in Strategies and Sustainable Development. <http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-320907>
- Jeroen C.J.M. van den Bergh, (2022). A procedure for globally institutionalizing a 'beyond - GDP' metric. 192 Ecological Economics <https://doi.org/10.1016/j.ecolecon.2021.107257>
- Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. Journal of Economic Perspectives, 20(1), 3-24.
- Kaufmann, R., Barth, J., Steffens, L., Le Lannou, L-A., Gerer, A., Kiecker, S. (2023): Mainstreaming wellbeing and sustainability in policymaking: technical and governance levers out of the institutional GDP lock-in. ZOE Institute for Future-fit Economies: Cologne.
- Keith, H., Vardon, M., Stein, J.A. et al. (2017). Ecosystem accounts define explicit and spatial trade-offs for managing natural resources. Nat Ecol Evol 1, 1683–1692 (2017). <https://doi.org/10.1038/s41559-017-0309-1>
- Kormann da Silva, N., Lampropoulos, D., Schrijver, I., Arntzen, J., Cui, L., Zhu, J. (2023). A review of policy strategies around the world through the lens of Wellbeing, Inclusion, and Sustainability. Final version of WISE Horizons Deliverable 1.3.
- Kovacic, Z. and Giampietro, M. (2015) Beyond "beyond GDP indicators:" The need for reflexivity in science for governance, 21 Ecological Complexity 53-61
- Kragesteen, H., & Lauritzen, D. (2023). Økonomer klar med ny grøn regnemodel til Finansministeriet: Skader på miljø og klima koster milliardbeløb om året. Altinget. Retrieved May 24, 2024, from <https://www.altinget.dk/klima/artikel/oekonomer-klar-med-ny-groen-regnemodel-til-finansministeriet-skader-paa-miljoe-og-klima-koster-trecifret-milliardbeloeb-om-aaret>
- Kubiszewski, I., Costanza, R., Franco, C., Lawn, P., Talberth, J., Jackson, T., Aylmer, C., (2013). Beyond GDP: Measuring and achieving global genuine progress, 93 Ecological Economics 57-68
- Københavns Kommune. (2021). Doughnut-modellen i Københavns Kommune. Retrieved May 24, 2024, from <https://www.kk.dk/dagsordener-og-referater/Borgerrepræsentationen/møde-24062021/referat/punkt-5>
- Københavns Kommune. (2023). Københavns Doughnut 2023. Retrieved May 24, 2024, from <https://www.kk.dk/om-kommunen/fakta-og-statistik/noegletalsanalyser>
- Københavns Kommune. (2024). Københavns Doughnut 2024. Retrieved May 24, 2024, from <https://www.kk.dk/om-kommunen/fakta-og-statistik/noegletalsanalyser>
- Lafortune, Sachs et. al. (2020). It's called the Sustainable Development Goals Index for a reason. Foreign Policy Magazine. Accessed 9th August 2024 via <https://foreignpolicy.com/2020/10/26/its-called-the-sustainable-development-goals-index-for-a-reason/>

- Lov om klima [Klimaloven]. (2021). LOV nr 965 af 26/06/2020. Retsinformation.dk.
<https://www.retsinformation.dk/eli/lt/2020/965>
- Malay, O., (2019), Do Beyond GDP indicators initiated by powerful stakeholders have a transformative potential? 162 *Ecological Economics* 100-107
- MAPS (2024). <https://portalreerca.uab.cat/en/projects/models-assessment-and-policies-for-sustainability-2>
- Martela, F., Greve, B., Rothstein, B., & Saari, J. (2020). The Nordic exceptionalism: what explains why the Nordic Countries are constantly the happiest in the world in Helliwell, R. et. al. *The World Happiness Report* (Oxford) 128-146
- Mason, N. and Büchs, M. (2023) 'Barriers to adopting wellbeing-economy narratives: comparing the Wellbeing Economy Alliance and Wellbeing Economy Governments', *Sustainability: Science, Practice and Policy*, 19(1). doi: 10.1080/15487733.2023.2222624.
- Marttinen, A., and Turtinen, H. (2023). Hyvinvointitalous seuraavan hallitus-ohjelman keskiöön! SOSTEn ehdotukset hyvinvointitalouden toimenpiteiksi (Helsinki) see https://www.soste.fi/wp-content/uploads/2023/04/Hyvinvointitalous-seuraavan-hallitusohjelman-keskioon_SOSTE_3_3023-ver-2.pdf. Accessed 6 September 2024.
- Mattson, Eriksson, Malmaeus et al. (2022). Ecosystem Accounting in the Nordic countries. Nordic Council of Ministers. <https://www.norden.org/en/publication/ecosystem-accounting-nordic-countries>. Accessed on 5 September 2024.
- Ministry of Finance (2024). NetZeroGovernment Initiative (NZGI) Finland. <https://www.sustainability.gov/pdfs/finland-nzgi-roadmap.pdf> Accessed 5 September 2024.
- Ministry of Social Affairs and Health (2024). Budget Proposal 2025. <https://valtioneuvosto.fi/documents/1271139/4338088/STM+ehdotus+talousarvioksi+2025.pdf/c4787e2b-6e84-d06b-824b-671961ae562e/STM+ehdotus+talousarvioksi+2025.pdf?t=1723188619507>. Accessed on 5 September 2024.
- Ministry of Social Affairs and Health (2023). Finland's National Action Plan for the Welfare Economy 2023-2025 (Helsinki)
- Natural Capital Coalition. (2023). Aligning Accounting Approaches for Nature. [Aligning Accounting Approaches for Nature - Capitals Coalition](#). Access on 12th June 2024.
- Nettverket Smultringøkonomi i Norge. Retrieved September 5 2024 at <https://www.smultringokonomi.no/>
- Nordea. (2016). Sweden - The Industrial era is over. Retrieved August 21, 2024, from <https://corporate.nordea.com/article/32427/sweden-the-industrial-era-is-over>
- Nozal, A., Martin, N., Murtin, F. (2019), The Economy of Well-being: Creating Opportunities for People's Well-being and Economic Growth (OECD, SDD Working Paper No. 102)
- Nyman, H., Jónsdóttir, S., Blöndal, L., Etwil, P., Helgeson, T., Rønning, E., Tanninen, T (2016)
- A Nordic Welfare Indicator System (NOVI) - Report for the Nordic Council of Ministers

O'Neill, D.W., Fanning, A.L., Lamb, W.F., Steinberger, J.K., (2018). A good life for all within planetary boundaries. 1 *Nature Sustainability* 88-95

OECD. (2022). OECD Environmental Performance Review Norway: 2022. DOI: <https://doi.org/10.1787/59e71c13-en>

OECD. (2023a). Public policy uses of the SEEA stocks and flows accounts. SDD Working Paper No. 116. Accessed on 2nd august 2024 via [https://one.oecd.org/document/SDD/DOC\(2023\)2/en/pdf](https://one.oecd.org/document/SDD/DOC(2023)2/en/pdf)

OECD. (2023b). OECD Economic Surveys: Iceland 2023, OECD Publishing, Paris, <https://doi.org/10.1787/b3880f1a-en>

Okulicz-Kozaryn, A., Nash, T. & Tursi, N.O. (2015). Luxury car owners are not happier than frugal car owners. *Int Rev Econ* 62, 121–141 (2015).

Our World in Data (n.d.) *Average Learning Outcomes vs. GDP per Capita*. Available at: <https://ourworldindata.org/grapher/learning-outcomes-vs-gdp-per-capita> (Accessed: 22 July 2024).

Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A. and Spangenberg, J.H. (2019) *Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability*. European Environmental Bureau.

Pettersen, A. M., & Støren, K. S. (2020). Livskvalitetsundersøkelsen 2020. Statistisk sentralbyrå.

Pirkanmaan nykytila-analyysi, kohti sosiaalisesti oikeudenmukaista ja ekologisesti kestävää Pirkanmaata (2021).

See: <https://www.materiaalitkiertoon.fi/download/noname/%7BC0781121-521B-4823-B559-07DDB23D3A2C%7D/172166>

Rambøll Management Consulting. (2023). Notat 1 – Analyse af barriere og drivkræfter i forbindelse med konsekvensvurderinger af lovforslag i forhold til verdensmålene.

Raworth, K. (2012). *A Safe and Just Space for Humanity: Can We Live within the Doughnut?* (Oxfam International, Oxford).

Raworth, K. (2017). *Doughnut Economics: Seven Ways to Think like a 21st-Century Economist* (Random House) REAL (2024). <https://www.realpostgrowth.eu/>

Rockstrom, J., Steffen, W., Noone, K., Persson, A., Chapin, F.S., Lambin, E., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., De Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sorlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Foley, J., 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecol. Soc.* 14 (2), 32

Røpke, I. (2024). Det grønne BNP i økologisk og økonomisk perspektiv. DOI: <https://doi.org/10.7146/okonomi-og-politik.v97i1.144937>

Rum, I., Hoekstra, R., Jansen, A., Eastoe, J., Kubiszewski, I., Constanza, R., Kaufmann, R. and Biggeri, M. (2024) *Are beyond-GDP metrics converging? Consolidation of the measurement of sustainable and inclusive wellbeing*. MERGE Project deliverable D1.1. Available at: <https://mergeproject.eu/publications-consolidation-metrics/>

Sachs, J. D., Lafortune, G., & Fuller, G. (2024). The SDGs and the UN Summit of the Future. Sustainable Development Report 2024. Paris: SDSN, Dublin: Dublin University Press. <https://doi.org/10.25546/108572>

Secretariat of the Convention on Biological Diversity. (2020). Global Biodiversity Outlook 5. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

SEEA.un.org. (2018). Green national accounts for Denmark. Retrieved May 24, 2024, from <https://seea.un.org/news/green-national-accounts-denmark>

Selina. (2024). <https://project-selina.eu/about>

Shrotrya, V. and Singh, S.V., (2021). Measuring Progress Beyond GDP: A Theory Perspective, Emerging Economy Studies 1-23

SPES (2023). <https://www.sustainabilityperformances.eu/>

Stiglitz, J., J. Fitoussi and M. Durand (2018), Beyond GDP: Measuring What Counts for Economic and Social Performance, OECD Publishing, Paris, <https://doi.org/10.1787/9789264307292-en>.

Stiglitz, J., Sen, A. and Fitoussi, J-P. (2008) Report by the Commission on the Measurement of Economic Performance and Social Progress. Available at: <https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf> (Accessed: 27 September 2024).

Statistics Denmark. (2024). Complete national accounts. Accessed 23rd August 2024 via <https://www.dst.dk/en/Statistik/emner/oekonomi/nationalregnskab/samlet-nationalregnskab>

Statistics Denmark. (2015). Livskvalitet. Retrieved June 27, 2024, from <https://www.dst.dk/da/Statistik/emner/sociale-forhold/levevilkår/livskvalitet>

Statistics Denmark. (2024). Baggrundsrapport 2023: Status for udvalgte målepunkter for bæredygtig udvikling.

Statistics Denmark. (n.d.-a). De Globale Verdensmål. Retrieved June 27, 2024, from <https://www.dst.dk/da/Statistik/temaer/SDG/globale-verdensmaal#12-ansvarligt-forbrug-og-produktion>

Statistics Denmark. (n.d.-b). Statbank Denmark. Environment and Energy. Retrieved June 28, 2024, from <https://www.statbank.dk/20293>

Statistics Iceland. (2018). Iceland has the highest per capita CO2 emissions from the economy. <https://statice.is/publications/news-archive/environment/carbon-dioxide-emission-per-capita/>

- Svarer, M., Cordtz, J. F., Juhl, S., Kreiner, C. T., Sørensen, P. B., & Termansen, M. (2024). Grøn skattereform, endelig afrapportering. Ekspertgruppen for en grøn skattereform. <https://skm.dk/aktuelt/publikationer/rapporter/groen-skattereform-endelig-afrapportering>
- Sørensen, P. B. (2021). Green national accounts and green GDP. Retrieved June 28, 2024, from <https://susy.ku.dk/research/developing-and-implementing-green-national-accounts-and-the-green-gdp/>
- Sustainable Development Index. (2024). Accessed on 19th June 2024 via <https://www.sustainabledevelopmentindex.org/>
- ToBe (2023). <https://toberesearch.eu/>
- Turner, R. and Wills, J. (2022). Downscaling doughnut economics for sustainability governance, 56 *Current Opinion in Environmental Sustainability* 1-10.
- United Nations. (2021). System of Environmental-Economic Accounting— Ecosystem Accounting (SEEA EA). White cover publication, pre-edited text subject to official editing. Available at: <https://seea.un.org/ecosystem-accounting>.
- United Nations. (2024a). Department of Economic and Social affairs. Towards the 2025 SNA. List of 2025 SNA Chapters. https://mdgs.un.org/unsd/nationalaccount/SNAUpdate/2025/2025SNA_CH34_V11.pdf
- United Nations. (2024b). System of Environmental-Economic Accounting. <https://seea.un.org/>
- United Nations (2024c) 'Press Release: With Less than One Fifth of Targets on Track, World Is Failing to Deliver on Promise of the Sustainable Development Goals, Warns New UN Report'. Available at: <https://www.un.org/en/unis-nairobi/press-releasewith-less-one-fifth-targets-track-world-failing-deliver-promise> (Accessed: 22 July 2024).
- United Nations (2024d) *Pact for the Future*. https://www.un.org/sites/un2.un.org/files/sotf-pact_for_the_future_adopted.pdf (Accessed: 27 September 2024).
- United Nations. (n.d.a). System of Environmental-Economic Accounting. New Progress in Mexico on the SEEA after the NCAVES Project. Accessed on 2nd august 2024 via <https://seea.un.org/news/new-progress-mexico-seea-after-ncaves-project>; https://seea.un.org/sites/seea.un.org/files/NCAVES_reports_briefs/ncaves_-_mexico_-_policy_brief_-_final_0.pdf
- Utenriksdepartementets. (2017). Common responsibility for a common future. Report to Stortinget.
- Veng, A., Papazu, I., & Ejlsing, M. (2023). Is Denmark a green entrepreneurial state? STS Encounters, 15(2).
- Walker, C. and T Jackson (2019). Measuring Prosperity—Navigating the options. CUSP Working Paper No 20. Guildford: University of Surrey. See <https://www.cusp.ac.uk/wp-content/uploads/WP20%E2%80%94Measuring-Prosperity.pdf>

Wang, B.; Chen, T. (2022). Social Progress beyond GDP: A Principal Component Analysis (PCA) of GDP and Twelve Alternative Indicators. 14 Sustainability 6430

WEALL DK. (2024). Retrieved August 20 2024 at: <https://www.weall.dk/>

Weber, K., Malm Henriksen, S., Borgman, E., Barkardóttir, F., Standal, K., Aamodt, S., Michael, K., Gustavsson, M., and Tanhua, I. (2024) *Policy brief: A review of the Nordic implementation of the UNFCCC Gender Action Plan*. Nordic Council of Ministers, Nordic Council of Ministers Secretariat. Available at: <https://norden.diva-portal.org/smash/record.jsf?pid=diva2%3A1854252&dswid=9577> (Accessed: 27 September 2024).

WISE Horizons (2024). <https://wisehorizons.world/>

WISER (2023). <https://www.itc.nl/news/2023/9/1124036/wiser-well-being-in-a-sustainable-economy-revisited>

World Health Organisation. (2016). Urban green spaces and health. Copenhagen: WHO Regional Office for Europe.

WWF. (2024). Fair Finnish Footprint – Finland’s pathway to consumption aligned with global sustainability boundaries.

WWF. (2022). Reducing Norway’s Footprint. – bringing our production and consumption within planetary boundaries. Norway.

Zeidler, L (2022), The Shared Ingredients for a Wellbeing Economy: A discussion paper, Centre for Thriving Places

Økonomiministeriet. (2024). Regeringen og parterne i Grøn trepart indgår historisk aftale om et grønt Danmark. Retrieved July 30, 2024, from <https://oem.dk/nyheder/nyhedsarkiv/2024/juni/regeringen-og-parterne-i-groen-trepart-indgaar-historisk-aftale-om-et-groent-danmark/>

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