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Agenda 2030 in Finland: Key questions and indicators of sustainable development

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Tiivistelmä

Yhdistyneiden kansakuntien kestävä kehityksen toimintaohjelma Agenda 2030 astui voimaan vuoden 2016 alussa. Toimintaohjelmaan sisältyy 17 kestävä kehityksen tavoitetta ja 169 alatavoitetta, jotka tulee saavuttaa vuoteen 2030 mennessä. Tässä raportissa hahmotetaan kokonaiskuva Suomen lähtötilanteesta, haasteista ja mahdollisuuksista Agenda2030:n toimeenpanossa ja tehdään ehdotus niistä aihealueista, joihin tulisi Suomessa kiinnittää huomiota kiireellisimmin. Esitetyt arviot perustuvat indikaattoripohjaisiin kansainvälisiin vertailuihin, osallistavan sidosryhmäprosessin tuloksiin ja asiantuntija-arvioihin. Tulokset tukevat kansallisen kestävä kehityksen toimintasuunnitelman valmistelua.

Liite 1 Suomen kehitys OECD:n indikaattoreiden valossa

Liite 2 Suomen sijoitus valikoiduissa viimeaikaisissa kansainvälisissä maavertailuissa

Liite 3 Avain2030-hankkeen sidosryhmä- ja asiantuntijatyöpajojen osallistajat

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Sammandrag

Förenta nationernas handlingsprogram för hållbar utveckling Agenda 2030 trädde i kraft i början av 2016. I handlingsprogrammet ingår 17 mål för hållbar utveckling och 169 delmål, som ska uppnås senast 2030. I denna rapport skisserar vi en helhetsbild av utgångsläget i Finland, dess utmaningar och möjligheter i implementeringen av Agenda 2030 och ger ett förslag om de temaområden som i Finland bör fästa brådskande uppmärksamhet vid. De presenterade bedömningarna bygger på indikatorbaserade internationella jämförelser, resultaten från en deltagande intressegruppsprocess och expertbedömningar. Resultaten stöder beredningen av en nationell handlingsplan för hållbar utveckling.

Bilaga 1 Finlands utveckling i ljuset av OECD:s indikatorer

Bilaga 2 Finlands placering i utvalda internationella jämförelser under den senaste tiden

Bilaga 3 Deltagarna i Avain2030 (Nyckel2030)-projektets intressegrupps- och expertworkshopar

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Abstract

The Agenda 2030 action plan for sustainable development by the United Nations came into effect on the 1 January 2016. The Agenda 2030 consists of 17 goals and 169 targets of sustainable development to be achieved by 2030. This report outlines the overall picture of the current situation, challenges and opportunities and identifies key topics of primary concern regarding the implementation of Agenda 2030 in Finland. The assessment is based on international indicator-based country comparisons, results from national participatory stakeholder process and expert evaluations. The report aims to support the formulation of national level action plan for sustainable development.

Appendix 1 The development in Finland based on OECD indicators

Appendix 2 Finland in the selected recent country comparisons

Appendix 3 Participants of the stakeholder and expert workshops by the Avain2030-project

This publication is part of the implementation of the Government Plan for Analysis, Assessment and Research for 2016 (tietokaytoon.fi).

The content is the responsibility of the producers of the information and does not necessarily represent the view of the Government.



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The project's steering group was chaired by Marja Innanen (Prime Minister's Office) and its members were Annika Lindblom and Taina Nikula (Ministry of the Environment), Heli Mikkola and Sami Pirkkala (Ministry for Foreign Affairs) and Katja Matveinen (Ministry of Agriculture and Forestry). In addition to the steering group, we would like to thank Eeva Hellström (Sitra) and Ari Tyrkkö (Statistics Finland) for their interest, comments and support during the project.

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It is probably impossible to achieve complete unanimity on the contents of sustainable development and the best indicators. By nature, sustainable development is a dynamic, evolving process that should be examined from various perspectives. That said, we hope that this report contributes to promoting constructive discussion of the key aspects of sustainability as a whole.

1. INTRODUCTION: THE AVAIN2030 PROJECT SIGNPOSTED THE WAY TO SUSTAINABLE DEVELOPMENT

The UN Agenda 2030 action plan for sustainable development came into effect on 1 January 2016. The 17 universally accepted goals and 169 targets at its core apply equally to all states (UN 2016). In Finland, the Government has defined the preparation of a national programme, for the implementation of the global sustainable development action plan, as a cornerstone project. The action plan is closely linked to another Government cornerstone project, the formulation of Finland's development policy.

Implementation of Agenda2030 will require determined efforts at global, national and local level and involve a range of open questions and information needs (Odlekov et al. 2016). However, it is clear that greater effort will be required for the goals to be implemented at every regional level. In many cases, it is likely that previous practices will have to be replaced with completely new activities.

It will be challenging, in many respects, to reconcile internationally defined goals and the related indicators with operations at national and local level. One such challenge lies in so-called “cockpit-ism” (Hajer et al. 2015) i.e. the formulation of goals at international top level, as if from the cockpit of an aeroplane. This involves the risk of neglecting grassroots activities and the participation of actors involved in the concrete implementation of the goals.

Finland has excellent opportunities to meet the challenge of cockpit-ism – the starting point when planning the national implementation of Agenda2030 is cooperation, spanning the next 15 years, between central government as a whole and broad-based stakeholder groups.¹ In addition, the process of committing to Finland's national strategy for sustainable development already involves a wide range of actors.² As explained in later chapters of this report, Finland has fared well in several international comparisons of the implementation of sustainable development.

This report presents the key results of the Avain2030 project – Sustainable Development Key Issues and Action Plan 2030. The project aimed to support national sustainable development efforts by building an analytical and neutral knowledge base for the implementation of Agenda2030. Its primary purpose was to perform an analysis supporting the implementation of sustainable development goals and targets, identifying the most urgent key challenges and opportunities for sustainable development from the national perspective. The following objectives were defined in the original project plan:

“The general objective of the Avain2030 project is to provide an overview of the initial situation, challenges and opportunities for Finland in implementing Agenda2030. On the basis of international comparisons and domestic experiences, the project will also identify key development areas for the Agenda2030 indicators.

¹ Sustainable development Action Plan Agenda2030: <http://kestavakehitys.fi/agenda-2030>

² Sustainable development commitments: www.sitoumus2050.fi

A special methodological aim involves testing the use of infographics in communications and interaction related to sustainable development. The key results will be visualised and communicated through infographics. The aim is to develop infographics that explicate the central contents and purposes of Agenda 2030's implementation in fresh, interesting and – in some cases – surprising ways. The project also involves testing the cost-effectiveness and assessing the impacts of infographics, particularly in comparison to traditional, indicator-based sustainable development communications.

The result will be evidence-based proposals on the themes, targets and actions that require special attention in Finland. Finland's ranking in international comparisons based on various subject areas will form a key criterion for identifying these focal points. An assessment will be provided of a) the focus areas in which Finland is lagging, b) subject areas that are particularly critical for Finland and c) focus areas where Finland can be considered a forerunner and on the basis of which good practices can be replicated for other subject areas and actors.”

The Avain2030 project was implemented by the Finnish Environment Institute and DEMOS Helsinki. It formed part of the implementation of the Government's analysis and research plan for 2016 and was completed during the period of 1 March to 30 June 2016.

2. AVAIN2030 MATERIALS AND RESEARCH METHODS

This chapter describes the materials and research methods used in the project. The materials comprised proposals by the United Nations Statistics Division for sustainable development 2030 indicators; a large number of international, indicator-based comparisons of countries; a seminar for stakeholder groups and a workshop for experts arranged as part of the project; feedback from two expert seminars; and information derived from research literature and previous analyses. The project naturally involved the charting of existing knowledge. The main method used comprised a qualitative expert assessment based on interpretations of sustainable development and using various sources of information. The project was restricted to the sustainable development subject areas provided within the framework of the goals and objectives of the United Nations Agenda 2030 Action Plan.

2.1 Main phases of the project

Avain2030 was a multidisciplinary and multisectoral project, combining various materials and making use of findings from a range of disciplines. In particular, it was based on a study of indicators and assessments and drew on participatory design based on which information users are interactively engaged in the knowledge-production process in accordance with a so-called transdisciplinary approach (Huutoniemi & Tapio, 2014).

The project was divided into three main phases, with partial chronological overlaps due to a tight schedule (Figure 1). The first empirical phase involved the preliminary mapping of areas in which – according to a survey by the Prime Minister's Office (1a) and an indicator-based meta analysis (1b) – Finland is either a forerunner or deficient in the implementation of Agenda2030. The mapping was supplemented with selected research literature in order to gain a comprehensive overview of the topical sustainable development goals most essential for Finland. Proposals for key areas to which particular attention should be paid at national level (2a) were interactively selected in collaboration with key Agenda2030 actors.

The first versions of the infographic prepared on the basis of the preliminary results were used when interacting with the stakeholder groups. On the basis of these, drafts were prepared of concise, generally intuitive infographics describing the national key areas of sustainable development (2b). The final set of infographics (3a) was created in order to visualise the deficiencies and possibilities involved in the implementation of Agenda2030 in a fresh and graphic manner. The infographics were also intended to be versatile, enabling their diverse future use in sustainable development communications on websites, in the social media and in PowerPoint presentations. The results of the process were also summarised in a concise, final report forming a kind of policy brief (3b). The project results were summarised as a basis for reporting to the United Nations on Finland's sustainable development.

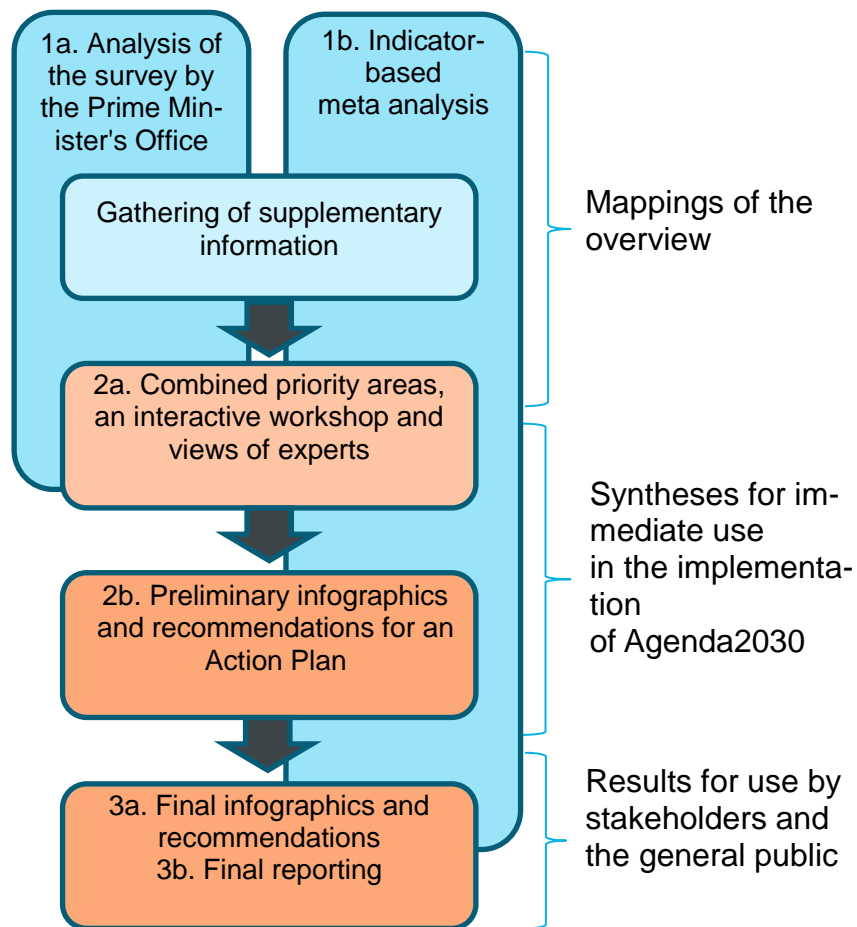


Figure 1. The main phases of the project

2.2. The partial assignments in more detail

Partial assignment 1a: Assessment of existing policy measures

Partial assignment 1a of the project's first phase assessed the comprehensiveness and sufficiency of current and planned administrative policy measures for implementing Agenda2030. *This partial assignment was, by nature, a synthesis of expert knowledge.* Its source was a survey performed by the Prime Minister's Office for various branches of government. Because the material involved considerable uncertainties, the analysis was carried out on a small scale.

Partial assignment 1b: Finland's ranking in the comparison of indicators

In partial assignment 1b, areas in which Finland is a forerunner and deficiencies in the implementation of Agenda2030 were identified on the basis of international indicator comparisons. *This partial assignment was, by nature, a meta analysis involving the extensive compilation of the most recent knowledge.* In the form in which they were available at the outset of

the project, the global indicators selected for the UN process formed the key starting point for the analysis. The project reviewed the proposals – which had not been officially approved at the time – by the UN expert group for indicators describing the targets of the Agenda. The project included a preliminary assessment of the availability of information on these indicators at national level in Finland; in addition, the UN's metadata forms were used to assess the development status of indicators at international level. The results revealed that the indicators proposed by the UN involved so many uncertainties that they could not be directly used for assessing sustainable development focus areas in Finland. However, the indicators provided guidance on the use of other information during the assessment.

A large number of relevant, indicator-based country comparisons and other statistical data were selected as the actual information used (particularly the OECD's country reviews and the Findicator.fi service). These were complemented by other topical studies and reports (e.g. Hoffrén et al. 2010; OECD 2015; 2016; Seppälä et al. 2016a; b; the World Economic Forum's comparisons of countries). The primary selection criteria for the various sources used included their 1) political impact, 2) their comprehensive and up-to-date inclusion of sustainable development subject areas, 3) public prominence and 4) scientific validity. The preliminary results of partial assignment 1a were taken into account in the analysis. The result was a general assessment, based on indicator data, of the Agenda 2030 focus areas, categorised in accordance with the sustainable development goals.

In addition to expert opinions and indicator data, partial assignments 1a and 1b used the latest peer reviewed research data and the extensive competencies of the research team, as well as their previous research work and reports, particularly in the assessment of policy measures, indicators and social experiments (e.g. Korhonen et al. 2015; Lyytimäki 2011; Rinne et al. 2013; Ritola et al. 2015). Research data was used to ensure that comprehensive account was taken of issues considered essential to sustainable development.

Partial assignment 2a: Selection of priority areas in a participatory design process

Partial assignment 2a, during the second phase, involved an interactive, participatory design process used to specify the areas in which Finland is either a forerunner or deficient in the implementation of Agenda2030. This included selecting key areas in which Finland is a forerunner and others considered critical to Finland, based on the UN's framework of 17 Sustainable Development Goals (SDGs). Participatory design refers to a process in which participants interactively strive towards jointly approved, good solutions. An interactive workshop process and expert comments were used to arrive at such solutions. The participants in the stakeholder group and expert work were assembled in close cooperation with the commissioner of the study. Key participants included the NGOs involved in the Finnish National Commission on Sustainable Development, the expert panel for sustainable development and the coordinating secretariat of sustainable development.

Real-time electronic Screen.io software was used in the first stage of the workshop for assessing the current status concerning the 17 Sustainable Development Goals from the perspective of Finland's strengths and weaknesses. A numerical assessment on a scale of 1 to 5 was conducted first. After this, the participants gave their reasons for assessing the attainment of each goal in the way they had. Everyone could see each others' reasons in real time. An open, general discussion was conducted after the assessment. The second stage of the workshop involved an in-depth study of the three key areas selected during the first stage. The participants were asked to choose the most interesting group and elaborate, alongside other group members, on the challenges related to the goal. The end result was a richer understanding of the challenges facing Finland in implementing the goal in question. The

method used in the third stage of the workshop was a dialogic group interview with key experts on sustainable development. In the third stage, the results of the first two stages were assessed and elaborated upon. The method and its results are described in more detail in Chapter 5.2.

Partial assignment 2b: Formulation of infographics on key priority areas

On the basis of the previous partial assignments, partial assignment 2b produced infographics visualising and crystallising Finland's key challenges and opportunities with regard to sustainable development in the implementation of Agenda2030 and its goals and targets. The purpose was to develop infographics highlighting various themes and the related actions and objectives in a fresh, concrete and intuitive manner. The infographics were implemented for flexible integration with many types of broad-ranging communications and interaction. These infographics can be used, either separately or together with other material, in other communications on sustainable development. Various language versions can also be created.

Partial assignment 3a: Communications and extended interaction

Partial assignment 3a involved expanding the project's interaction with various stakeholder groups and communicating the project's results. With the help of infographics, the preliminary results were presented at various stages of the project to key stakeholders, who provided comments. On the basis of these comments, the final infographics and other material were edited for use in external communications. Both traditional and social media channels were used in the project's communications. This was done in close collaboration with the parties responsible for sustainable development and with the financier of the project. Project communications were supported by the communications unit of the Finnish Environment Institute SYKE and the extensive communication expertise of Demos Helsinki. The use of infographics in social media was underscored in the project's communications and extended interaction. The success of such communications and interaction was assessed through self-monitoring by the researchers and monitoring by the participant organisations.

Partial assignment 3b. Final reporting

The key results of the project were separately communicated for each partial assignment to the commissioner of the study and, on a case-by-case basis, to other target groups as soon as the results were ready. The results were compiled on the project's website. The communications material produced was made openly available or links were posted on the project's website (<http://www.syke.fi/hankkeet/avain2030>). The materials will remain freely available after the conclusion of the project.

3. RESULTS OF THE SURVEY REGARDING THE AGENDA 2030 ACTION PLAN'S IMPLEMENTATION WITHIN CENTRAL GOVERNMENT

This chapter presents an analysis of the survey sent to central government actors by the Prime Minister's Office, for the preliminary assessment of the Agenda 2030 Action Plan's implementation in Finland. A broad range of measures implementing the action plan's goals and targets are being undertaken in Finland. These goals and targets are being fulfilled via the implementation of other national policies. However, the results of the survey of ministries indicate that within central government it is difficult to ascertain which measures are crucial to the implementation of sustainable development objectives. No measures have so far been determined for around one third of the targets. Measures have been most actively drawn up within the administrative branches of ministries focusing on environmental issues and natural resources. While the responses may not directly indicate the number of measures undertaken in various branches of government, they at least partially reflect how active each sector's representatives were in responding. The degree of detail in the responses varied. The material collected provides a basis for monitoring the implementation of the targets, but further work is required. We therefore recommend that a separate study be performed of the combined and side effects of the measures. Such a study should be targeted at measures taken to implement the national priority objectives.

3.1. Background of the survey

The UN 2030 Agenda for Sustainable Development consists of 17 goals and 169 more detailed targets³. These apply broadly to various policy segments, while their implementation requires measures in a range of sectors. The goals and targets have been formulated from the global aspect of sustainable development and all states are responsible for their implementation. The Avain2030 project summarised the results of a survey focused on mapping measures for the implementation of the targets in Finland.

The survey mapping the implementation of the Agenda 2030 targets was sent by e-mail on 11 February 2016 from the Prime Minister's Office to the registries of various ministries (Ministry of Agriculture and Forestry, Ministry of Defence, Ministry of Employment and the Economy, the Prime Minister's Office, Ministry of the Environment, Ministry of Transport and Communications, Ministry of Education and Culture, Ministry of Justice, Ministry of the Interior, Ministry of Social Affairs and Health, Ministry for Foreign Affairs, Ministry of Finance). The respondents were requested to enter any measures the various ministries were aware of – in relation to the global UN 2030 Agenda for Sustainable Development – in a file within the central government's joint VYVI service. The survey was based on a list, given in English, of the 169 targets grouped in accordance with the 17 Goals. Researchers involved in the Avain2030 project did not participate in the preparation or sending of the survey.

³ Finnish translation of the UN Agenda 2030 resolution:
http://kestavakehitys.fi/documents/2167391/2186383/Agenda2030_ep%C3%A4virallinen-suomennos.pdf/707fe444-6540-49d6-86a3-fd6bee1cf345

The cover letter – “Administrative measures for implementing the global Agenda for Sustainable Development (Agenda 2030)” – appended to the survey included a template of the material to be provided. The cover letter requested that all administrative branches report any key national and international measures known to them (Government decisions, agreements, strategies, policy outlines, other concrete measures etc.), appropriations, if any (item), other matters and parties relevant to the implementation of the target. The cover letter stated that Government policy and legislative measures, and the implementation of international and national agreements and commitments, provide the basis for the implementation of Agenda2030 in Finland. Recipients were encouraged to respond by a statement informing them that summarising the measures taken by the administrative branch was essential to providing an overview and identifying any gaps in Agenda2030's implementation. The cover letter also described the composition of the sustainable development coordination network. The deadline for responses was 11 March 2016, but it was possible to supplement the material after the deadline. The material available by 14 April 2016 is reviewed below. No precise information was available on the number of respondents or the ministries they represented.

3.2. General analysis of the material

The material includes measures related to most of the Agenda2030 targets, with several measures being listed for some. The types of measures listed vary greatly, including programmes, legislation, action plans, strategies and detailed measures. The timespan of implementation varies greatly. Some measures are one-off, while some are fixed-term and others are continuous. Most are being implemented at national level and initially apply to all citizens, while others are specifically targeted, either sectorally, regionally or at a certain group of people. The binding nature of the measures varies from statutory regulation to voluntary recommendations and awareness raising.

Based on the material, responsibility for measures relating to the Agenda2030 targets is unevenly distributed between branches of government. In particular, the Ministry of the Environment and the Ministry of Agriculture and Forestry were emphasised among the ministries responsible for implementation. It should be noted that the Ministry of the Interior and Ministry of Finance are mentioned in very few of the targets (Ministry of the Environment mentioned 117 times in relation to the measures, Ministry of Agriculture and Forestry 68, Ministry of Employment and the Economy 37, Ministry of Social Affairs and Health 34, Ministry of Education and Culture 22, Ministry of Justice 19, Ministry for Foreign Affairs 13, Ministry of Transport and Communications 12, Ministry of Defence 7, the Prime Minister's Office 6, Ministry of the Interior 2, Ministry of Finance 1). The material suggests that it is highly unclear which measures should be regarded as being related to Agenda 2030. This is partly due to the fact that major variations in precision and detail are involved in defining the targets. Because some of the targets have been formulated at a general level, a large number of societal measures can be classified as implementation measures. On the other hand, the survey was formulated to allow respondents to freely define the measures included. Because the response entry methods used by the responsible parties varied, the figures presented describe various degrees of magnitude and involve a high degree of interpretive latitude.

Sporadic mention is made of responsible parties outside the Government. The other parties mentioned represented a wide range of research institutes, universities, educational institutions and other expert organisations, private sector actors, municipalities, associations, interest organisations, enterprises, authorities and various networks. The degree of definition of

actors varied greatly between targets, from public actors (e.g. municipalities, business life) to precisely defined actors (e.g. the Finnish Landrace Association Maatiainen, which safeguards the genetic diversity of cultivated plants).

No central Government-level measures were listed for a total of 53 targets (35% of all targets). Some of these targets were not directly relevant to Finland, including ones already implemented in this country (e.g. the eradication of extreme poverty, measured as people living on less than \$1.25 a day) and those that are irrelevant for geographical reasons.

For SDGs 6 (clean water and sanitation) and 15 (life on land), at least one measure was listed for each target. The number of targets missing was highest for SDGs 10 (Reduced inequalities, 8) and 17 (Partnerships for the goals, 13). For other SDGs, entries of measures were missing for 1–4 targets, probably because the representatives of the administrative branch in question have not responded comprehensively to the survey. For this reason, no reliable conclusions can be drawn on whether or not some measures for implementing the Agenda2030 targets are being carried out in Finland. Furthermore, the survey did not ask respondents to comment on whether any specific targets had already been achieved in Finland, implying that no further measures would be required.

Based on work with stakeholder groups and indicator-based comparisons, the Avain2030 project set out to define critical subject areas related to sustainable development in Finland (see Chapter 5). These included SDGs number 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and number 13 (Take urgent action to combat climate change and its impacts). The responses involving these SDGs are examined in more detail below.

For the SDG on economic development (8), measures were not entered for four targets that are very different from one another. These were

- 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.
- 8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.
- 8.a Increase Aid for Trade support for developing countries, in particular the least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to the Least Developed Countries.
- 8.b By 2020, develop and operationalise a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization.

Target 8.1. is formulated on a very general level and is directly linked to the national policy objectives considered most central. The lack of entries on some measures could be considered surprising, despite the fact that the responses entered for SDG 8 could be interpreted as covering target 8.1 too. Target 8.10 includes the vague term “strengthen”, which leaves room for registering a very diverse range of measures. This target can be considered fundamental to Finland, as a survey by the Finnish Competition and Consumer Authority indicates that around 400,000 Finns do not have online banking codes (Raijas & Saastamoinen 2015) and the Ministry of Finance is preparing legislation complying with the EU Payment Accounts Directive, which defines online banking codes as a basic banking service. The clear requirement to increase funding, as stated in target 8.a, is probably difficult for Finland to implement

in the current situation, due to cuts in the funding of development aid. Target 8.b. is fairly precisely formulated, but refers to implementation at global level and to the implementation of a specific international agreement in Finland. The lack of responses is probably due to the unavailability of the respondent in question. The number of measures entered for eight other targets varied between one and nine. These measures were of different types and at different levels.

A high number of them were listed for three of the five targets of SDG 13 on climate change. No measures were entered for two targets, both of which were related to measures taken by prosperous nations to aid the poorest countries:

- 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilising jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation, and fully operationalise the Green Climate Fund, through its capitalisation, as soon as possible.
- 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in the least developed countries and small-island developing States, including focusing on women, youth and local and marginalised communities.

3.3. Conclusions and recommendations based on the responses to the survey

The key conclusion is that a reliable overview of the status of the national implementation of Agenda2030 cannot be gained from the available material. No measures were entered for more than one third of the total of 169 targets, which is probably mainly due to the lack of responses.

At least one measure was recorded for almost two thirds of the targets. The characteristics of the measures recorded varied greatly, from extensive programmes to precisely specified individual measures. The material does not directly reveal whether the measures recorded are sufficient for implementing the targets of Agenda2030. The available resources did not facilitate the assessment of the effectiveness of individual measures, nor, in this context, can an overall assessment be provided of the sufficiency of measures for the implementation of Agenda2030 targets.

The very general wording of the 17 goals and most of the 169 targets poses a further challenge to the recording of measures and assessment of their effectiveness. The number of measures taken to implement these can easily become very high, depending – in the main – on how actively measures are recorded by various actors. Collecting such information, monitoring the implementation of measures and conducting an impact assessment can be very arduous.

The table-format database produced for the survey provides an extensive basis for further work; however, making full use of it will require a more comprehensive but targeted compilation of data. We recommend that the compilation of data on measures taken to implement

sustainable development goals and targets continue, particularly for targets for which no measures were recorded. After this, it will be possible to group the measures in a way which facilitates the reliable identification of genuine defects. For example, measures could be divided on the basis of their chronological duration, geographical positioning, the actors in charge, or the degree to which they are binding. Following this, the database could be continuously complemented – on the basis of reasonable resources – with regard to the targets and measures considered most essential.

The primary objective cannot be the most comprehensive possible listing of measures for the implementation of individual goals and targets. When a sufficiently reliable general overview of the various types of measures is in place, key measures with a positive influence on the implementation of several goals or targets should be identified. It would be particularly important to identify any side-effects of measures that have a negative impact on the implementation of other targets.

In terms of efficient data compilation, it is essential that the database of measures is made openly and publicly accessible once it has been sufficiently completed and structured as required.

We recommend that the formulation of goals and targets considered essential for Finland be further specified, since the formulations and concepts used in some of them are vague and somewhat open to interpretation. This may result in a spread of interpretations, particularly when the implementation of global-level goals is evaluated at national level. The definition of concepts in English and the tone of the expressions used in translations could have a considerable impact on the interpretation of the goals and targets. The clearest possible translation of the targets, adapted to national special characteristics, is one of the keys to avoiding unnecessary ambiguities. The definition of national, additional specifications would also provide possible means of increasing the political relevance of sustainable development work and social visibility. The unofficial translation of the entire Agenda 2030 Action Plan was posted on the Finnish sustainable development website in April 2016.⁴ The Finnish translation follows the formulations of the original English texts.

⁴Sustainable development Action Plan Agenda2030:
http://kestavakehitys.fi/documents/2167391/2186383/Agenda2030_ep%C3%A4virallinen-suomennos.pdf/707fe444-6540-49d6-86a3-fd6bee1cf345

4. THE CURRENT STATUS OF UN SUSTAINABLE DEVELOPMENT INDICATOR WORK AND LINKS TO NATIONAL INDICATORS

This chapter provides an overview of how the currently available indicators describe the implementation of sustainable development goals and targets. The chapter presents the proposals on sustainable development indicators by the United Nations Statistical Commission's Inter-agency and Expert Group on SDG and evaluates the usability of such indicators at national level.

4.1. The Sustainable Development 2030 indicators proposed by the UN

The UN is developing an indicator framework to facilitate monitoring of the implementation of the 17 goals and 169 targets of sustainable development. Indicator development is underway at the Inter-Agency and Expert Group (IAEG). The IAEG website contains up-to-date information on the status of indicator development.⁵

The Group has produced a proposal, published in spring 2016, for 231 indicators for measuring sustainable development targets. Since some of the indicators are used to describe more than one target, the total number of proposed indicators is 240.

Each target has around 1.4 indicators on average (Figure 2). The highest relative (2 indicators/target) and absolute (26) number of proposed indicators is related to the SDG 3, Good Health and Well-being. The SDG 14, Life below Water, is the only one in whose case the aim is to use only one indicator to describe each target.

⁵ IAEG: <http://unstats.un.org/sdgs/iaeg-sdgs/>

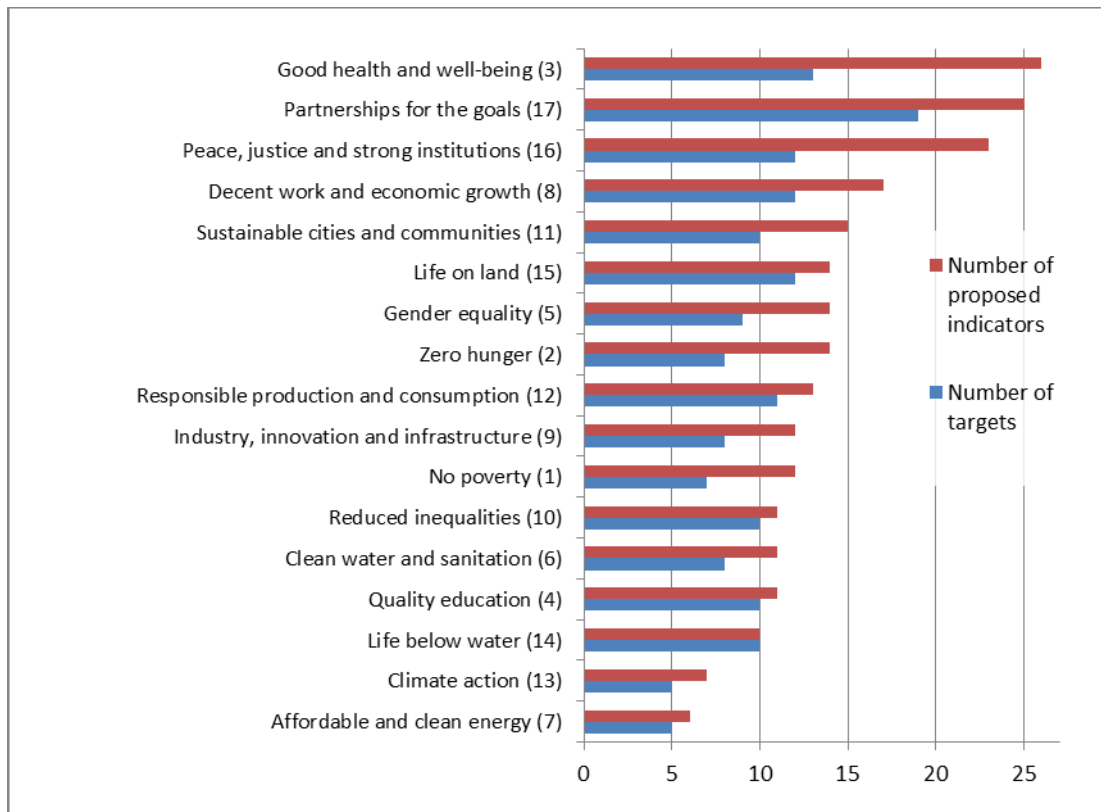


Figure 2. The number of sustainable development targets and the proposed indicators for them, in accordance with Agenda 2030 SDGs.
The number in parentheses is the number of the SDG in question.

4.2. The current status of the indicators proposed by the UN

The UN Expert Group has performed a preliminary classification of the indicators for various tiers, on the basis of the clarity of the indicator's methodological basis and how well-established information production is. The usability of the indicators proposed was evaluated on the basis of practical preparedness for producing the indicator in question at international level. The evaluation was based on the indicator metadata descriptions available in May 2016.

Such an approach suggests that there is sufficient preparedness for producing indicators at international level in the case of only around 50 indicators. Metadata descriptions are either unavailable for other indicators, or the indicators have significant shortcomings in terms of the availability of sufficiently comprehensive international data, the methodology on which the indicator is based, or in terms of both of these factors (Figure 3). This assessment is based on the sources of information given in the metadata forms and the methods described for the production of and reporting on the indicator.

Metadata is mainly provided by the international organisations that compile or produce information. Because the precision and quality of metadata descriptions varies greatly, a high degree of uncertainty is involved in their interpretation. In addition, the suppliers of metadata proposed new headings for some of the indicators (e.g. indicator 11.6.1.). Some of the pro-

posed indicators clearly overlap; these include the indicators for the SDG on health (2), several of which relate to malnutrition, describing the same phenomenon from a slightly different angle (see also indicators 9.5.1. and 9.5.2. for example).

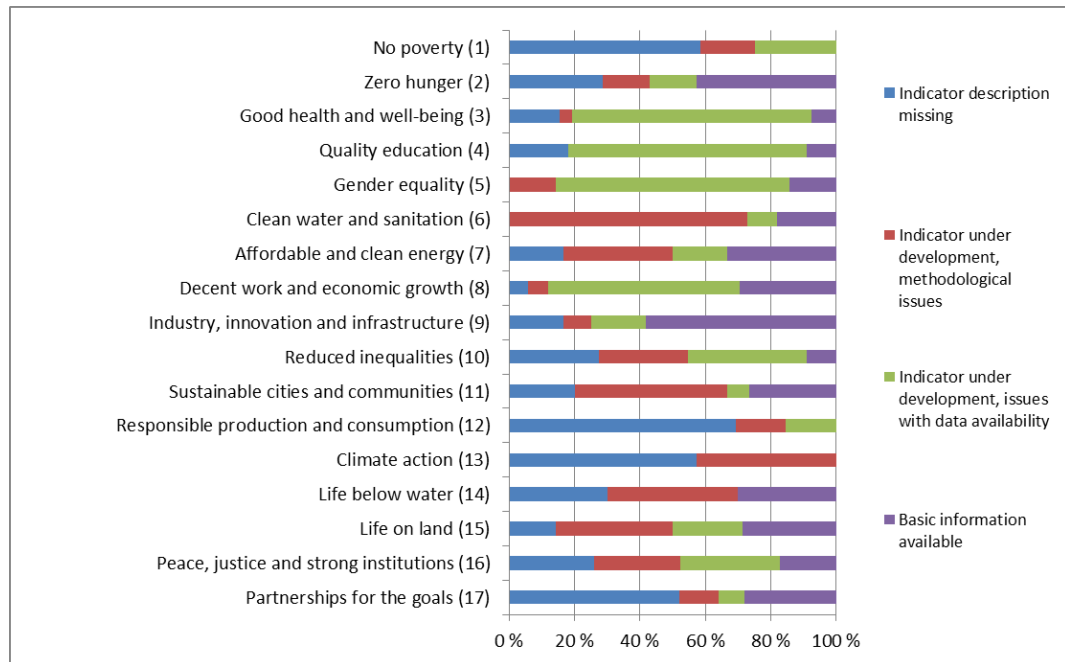


Figure 3. Assessment of the degree of readiness of the indicators, proposed by the UN Expert Group, for describing development at international level. The figure is based on the indicator metadata forms available by May and published by the UN Expert Group. The number in parentheses is the number of the SDG in question.

The assessment based on the metadata forms provides an overview of the development stage the indicators had reached by early 2016. The deficiencies in the indicators may be exaggerated, due to the fact that not all of the relevant data was necessarily recorded in the metadata forms. In addition, continuous progress is being made in the development of indicators at international and national level. For instance, the Institute for Economics & Peace (IEP 2016) has assessed the availability of data with regard to the indicators describing SDG 16. According to the IEP's assessment, considerable restrictions are involved in the availability, reliability, objectivity and timeliness of data. The SDG is described using 23 indicators. According to the assessment by the IEP, data for 15 indicators is available in international information sources. Data in compliance with all UN criteria is directly available in the case of only two indicators, whereas data is not directly available from existing information sources in the case of eight criteria. The IEP notes that a great deal of time and additional resources will be required by the national organisations responsible for statistics, in order to develop monitoring for the SDG 16. Furthermore, the participation of independent, external parties will be required for the production of additional data and the assessment of its reliability.

4.3. Preliminary assessment of the availability of data at national level

The UN has set highly ambitious qualitative objectives for the indicators. These should portray development over a sufficiently extended time period in all countries of the world. In addition, the indicators should indicate development in the case of the most vulnerable population groups in particular – by age and gender, for example. It is difficult to obtain such data for many of the indicators at international level in particular.

The Avain2030 project evaluated the availability of data in accordance with the indicators proposed by the UN at national level. This was based on the expert opinion of the researchers involved in the project on the existence – and availability from domestic sources – of the quantitative data required. The assessment is preliminary by nature and involves a considerable degree of uncertainty. Information on the proposed indicators, as available in May 2016, was used as the basis of the assessment. Account was taken of the formulation of sustainable development targets, particularly where the formulation of the indicator was open to interpretation.

The assessment uncovered significant problems in the availability of information describing development in Finland (Figure 4). Information related to around one hundred indicators is fairly easily available from existing Finnish sources, as in the case of the statistics generated by Statistics Finland, the National Institute for Health and Welfare and other information producers. Some of these indicators are qualitative, describing whether or not a certain country has met a certain obligation. In addition, some are of minor relevance to Finland, but information is available for them (e.g. the occurrence of certain tropical diseases).

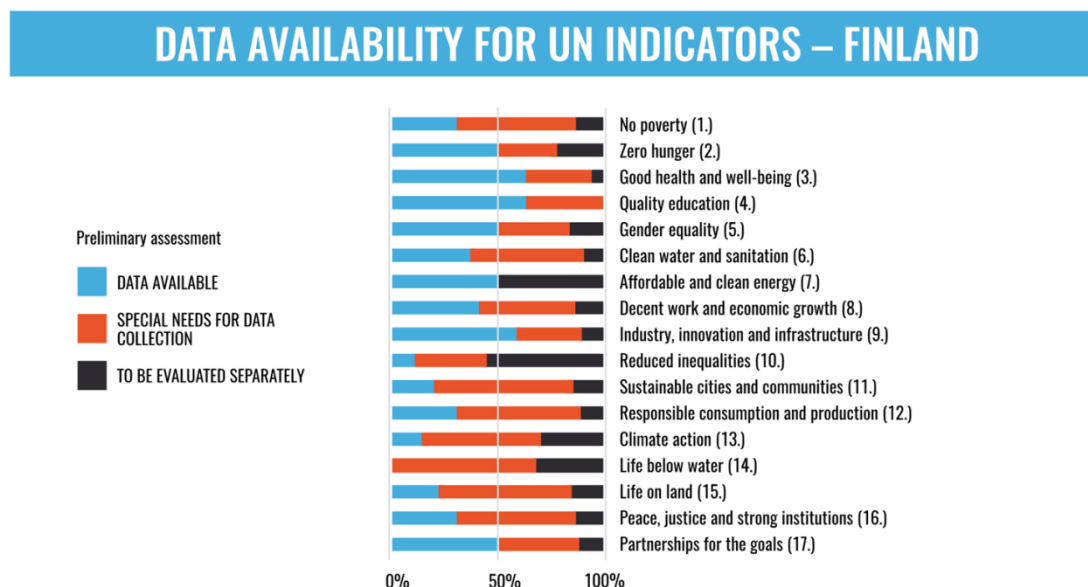


Figure 4. A rough estimate of the availability of information related to the international indicators proposed by the UN with regard to development in Finland. The figure is indicative. The number in parentheses is the number of the SDG in question.

According to the preliminary assessment performed for the project, separate investment in the acquisition or processing of additional information will be required in order to provide sufficient information for around a hundred indicators. Around thirty of the proposed indicators could not be assessed because no sufficiently unambiguous definition of the indicator was available, or a reliable assessment of the information sources could not be conducted within the framework of the Avain2030 project.

4.4. Links between international and national indicators

There are considerable overlaps between the international sustainable development goals and the subject areas of sustainable development used in Finland (Figure 5). Hence, the subject areas described by the indicators are largely the same. The UN SDG 6, Clean water and sanitation, is an exception because it received only indirect attention in the Finnish indicators.

Topic areas of the Finnish sustainable development indicators	UN sustainable development goals
Equal opportunities for well-being	1. No poverty
	2. Zero hunger
	3. Good health and well-being
Society of participating citizens	4. Quality education
	5. Gender equality
Sustainable work	6. Clean water and sanitation
	7. Affordable and clean energy
Sustainable communities and local communities	8. Decent work and economic growth
	9. Industry, innovation and infrastructure
Carbon-neutral society	10. Reduced inequalities
	11. Sustainable cities and communities
Resource wise economy	12. Responsible production and consumption
	13. Climate action
Sustainable lifestyles	14. Life below water
	15. Life on land
Respect for nature in decision-making	16. Peace, justice and strong institutions
	17. Partnerships for the goals

Figure 5. An assessment of the links between the sustainable development subject areas of the UN and Finland.
The figure is indicative. The breadth of the line indicates the strength of the link between subject areas.

Somewhat surprisingly, the proposed international sustainable development indicators have very few direct links with their Finnish equivalents. A comparison of indicators during the Avain2030 project demonstrated that only two of Finland's current sustainable development indicators are directly included in the SDG indicators proposed by the UN. These are "broad-band services" (indicator 17.6.2.) and "renewable energy's share of total final consumption" (indicator 7.2.1). Of Finland's indicators, more than one third describe similar themes to the SDG indicators, but have a different time series as their basis (Figure 6). In particular, the Finnish sustainable development theme "Society of participating citizens" includes indicators for which there are no equivalents in the international proposal.

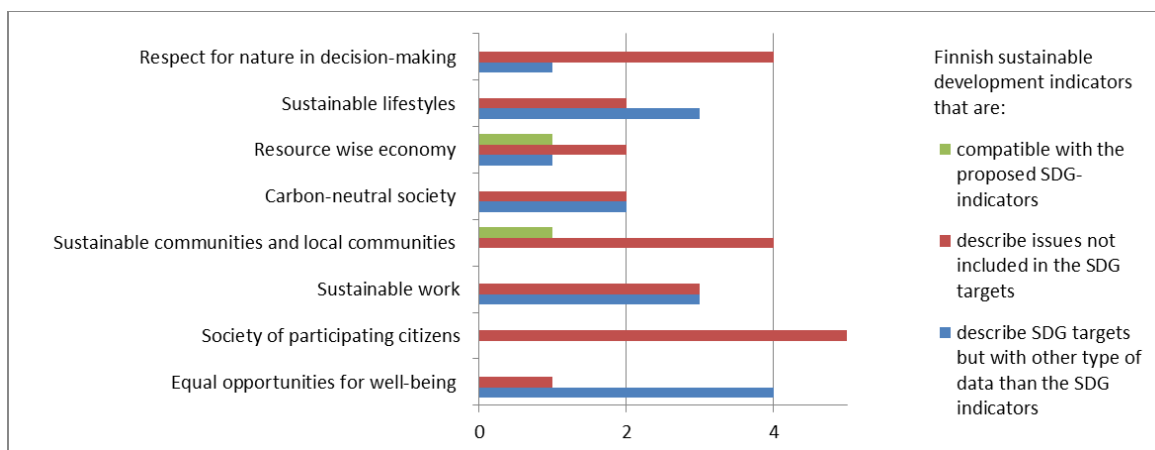


Figure 6. Links between the indicators proposed by the UN and Finland's national sustainable development indicators.

4.5. Conclusions and recommendations on the basis of UN sustainable development work

The indicators for global Sustainable Development Goals proposed by the United Nations form an extensive whole enabling the broad-based monitoring of Agenda2030 goals and targets. However, certain major challenges and needs for further development hinder the application of these indicators at national level. Such issues concern the number, information base, subject areas, usability and political relevance of the indicators.

The very high number of indicators proposed by the UN Expert Group creates major challenges in terms of the development and updating of and communication on the indicators (Rosenström 2009; Lyytimäki 2014). The high number of indicators involved would easily result in high resource intensity during indicator formulation, data collection and maintenance.

The proposed indicators have not yet been officially approved (May 2016). Most of the proposed indicators are incomplete and many involve clear deficiencies related to the availability of data or methodology. It will probably take years before the proposed set of indicators facilitates the concrete monitoring of progress in sustainable development at global level. However, the development process underlying the indicators separately and together will have a significant impact. At best, it will motivate countries to consider their national indicator needs and, from indicator sets developed at national level, create a basis of comparison for the final international set. It is essential that sets of indicators are adapted to the context in which they will be used and to user needs.

The fact that the phenomena described are widely spread between various branches of government hampers data compilation and the use of existing reporting mechanisms. The proposed SDG indicators involve major data collection challenges at national level; in addition, data is not easily available for all of the proposed indicators, even in countries such as Finland where statistical systems are highly advanced and comprehensive.

According to the assessment by the Avain2030 project, the SDG indicators proposed by the UN for international use are considerably limited with regard to their suitability for monitoring the 17 SDGs at national level. It would therefore be necessary to develop a complementary

or separate national mechanism for this purpose. This could be based on a number of approaches:

1. Develop a new, national set of sustainable development indicators, using the indicators proposed by the UN. This would probably require the allocation of major resources for data compilation and coordination. There is a clear risk of low national policy relevance given the fact that a significant number of the proposed international indicators have no national bearing. Another risk lies in overlapping work, if national reporting to the UN is mainly done by various international organisations to which Finland reports separately in any case, or which collect data themselves at national level.
2. Develop an updated national set of sustainable development indicators, taking the most comprehensive possible account not only of the new goals but also the indicators proposed in the UN process, while initially relying on data production and indicators already used in Finland, but updated on a continuous basis. The cost efficiency of indicator work could be improved and its effectiveness enhanced if use is made of nationally established and continuously maintained indicators. The risk involved lies in the long-term securing of resources required for indicator work.
3. Abandon the maintenance of separate national sustainable development indicators and transfer the focus of national sustainable development work to integration, while communicating on sustainable development themes by linking the Agenda2030 perspective to topical discussions in society. This would facilitate up-to-date, socially effective communications and interaction, addressing topical issues. There is a clear risk that the sustainable development perspective remains obscure and is buried under other communicated messages.

From the national viewpoint, it is essential that the proposed indicators do not directly describe the 17 SDGs, but the more detailed targets. Considerably more differences can be found in the national relevance of these targets than in that of the SDGs. It should also be noted that, in the case of some SDGs, the proposed indicators provide clearly inadequate descriptions of the SDGs under which the targets are set. This is particularly true for SDG 13, Climate action, action to combat climate change and its impacts. In the formulation of the targets and indicators for this SDG, the aim was to avoid overlaps with the UN International Climate Agreement and its implementation. For instance, the proposed indicators include no indicator describing greenhouse gas emissions. This makes the set of indicators clearly illogical, since no corresponding exclusions occur in the case of other SDGs, despite the fact that they involve parallel international agreement processes.

The proposed indicators are affected by significant structural issues. They do not constitute a theoretically strongly based whole in which they are grouped on the basis of 'causes and effects', for instance. Instead, the indicators reflect practical compromises, formed on the basis of political priorities during the negotiation processes, in order to have a large number of countries agree on common goals and targets. For instance, the clear overlaps in the indicators probably reflect the fact that, during the negotiations, different countries wanted to include the issues they considered important.

5. THE STATE OF SUSTAINABLE DEVELOPMENT IN FINLAND

This chapter provides an overview of the initial situation in Finland and the challenges and possibilities involved in implementing Agenda2030; and identifies national key areas of sustainable development by way of international indicator comparisons, the participatory stakeholder process and expert assessments. The analysis will place Finland within the global context and, more specifically, in relation to a peer group of countries (OECD countries). On the basis of various information sources, the aim is to identify the key national strengths and weaknesses to which particular attention should be paid in the near future when implementing global sustainable development goals and targets in Finland.

5.1. International indicator-based comparisons

5.1.1. Finland in the light of the Agenda 2030 indicators

The Inter-Agency Expert Group IAEG of the United Nations has proposed a large number of indicators for measuring the targets of Agenda 2030. These indicators are still being developed and inter-country comparisons are not yet available. Since the proposed indicators involve a large number of open questions related to the information base and methodology involved, they are likely to take several years to complete. In addition, many of them are far from ideal in describing national-level developments. For this reason, other sources of information are required when forming a picture of the national key areas of sustainable development. A similar analysis focussing on national starting points was conducted in Sweden in 2015 (Weitz et al. 2015).

As starting points for positioning Finland, the Avain2030 project used two available, indicator-based comparisons, directly based on the framework of the Agenda2030 and its 17 Sustainable Development Goals (SDGs) (Sachs et al. 2016, Kroll 2015). The most recent comparison is the preliminary and unofficial Preliminary Sustainable Development Goal (SDG) Index, published by Jeffrey Sachs' working group in spring 2016. The Avain2030 project used a working copy of the index, on the basis of which the final version will be published later. The working copy version included 147 countries, which were compared on the basis of 39 indicators. These were selected from the indicators proposed by the UN; those whose information basis was considered sufficiently comprehensive and reliable to facilitate international comparisons were chosen. The comparison published by the Bertelsmann Foundation in 2015 (Kroll 2015) was also used when selecting the indicators. This comparison focused on OECD countries and used two indicators to assess each of the 17 goals of sustainable development. A separate comparison of the OECD countries was conducted as part of the preliminary sustainable development index, using a more extensive and better information base than in the case of the worldwide study (Sachs et al. 2016).

The interpretations presented herein are based on a version of the comparison – published in February 2016 – forming part of the preliminary sustainable development index (Sachs et al.

2016). Based on the index, different countries were ranked according to their implementation of sustainable development. The ranking was calculated in three different ways, each reflecting a different aspect of sustainability (see Neumayer 2003). The calculation method for so-called weak sustainability is based on the arithmetical averages of the indicators. This calculation method gives a ranking based on the assumption that poor development in one sector can be offset by complete success in another. The calculation method based on geometric average values assumes that various sectors compensate for each other, at least to some extent. The calculation method based on the so-called Leontieff function assumes that no compensation occurs between the scores for fulfilling various objectives; success in the economic development or management of environmental issues cannot therefore compensate for poor performance in gender equality, for example.

Table 1 presents the results for Finland and the top ten countries, calculated using a range of methods. Finland and the other Nordic countries do well in the comparison, particularly if the assessment method based on weak sustainability is used. However, in the assessment based on strong sustainability, Finland comes 28th. This is because this ranking is primarily based on the sectors in which Finland does least well. The success of Sweden, in particular, is explained by its relatively good performance across all sectors. In light of the comparison, in certain sectors of sustainable development Finland's performance seems clearly inferior to those of its peer group of countries. However, in comparison with all countries in the world, Finland fares fairly well, regardless of the comparison method used.

Table 1. The ten leading countries in the world on the basis of different interpretations of sustainability (Sources: Kroll 2015; Sachs et al. 2016).

	Weak sustainability: full compensation		Partial compensation	Strong sustainability: no compensation
	<i>Kroll 2015</i>	<i>Sachs et al. 2016</i>	<i>Sachs et al. 2016</i>	<i>Sachs et al. 2016</i>
1	Sweden	Sweden	Sweden	Sweden
2	Norway	Denmark	Denmark	Spain
3	Denmark	Norway	Norway	Portugal
4	Finland	Finland	Finland	France
5	Switzerland	Iceland	Iceland	Hungary
6	Germany	Austria	Austria	Norway
7	The Netherlands	Switzerland	Germany	Denmark
8	Belgium	Germany	Switzerland	UK
9	Iceland	The Netherlands	UK	Tunisia
10	France	New Zealand	France	Ireland
				Finland (28)

The preliminary sustainable development index specifies limits for each indicator. Based on these, a commensurate but rough overview can be formed of the situation in various countries with regard to each sustainable development goal. A simplified set of codes, covering three categories, has been defined on the basis of the limit values in order to depict the performance of various countries. These are colour-coded. Green indicates that the country has already achieved the sustainable development goal, or that it can be achieved after fairly minor improvements. Yellow indicates that considerable measures are necessary in order to attain the goal. Red indicates that the country is still far from reaching the goal.

In this analysis, the goals in which Finland has made poor progress are number 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and number 13 (Take urgent action to combat climate change and its impacts). Table 2 displays the results for Finland by indicator.

The indicator on the number of physicians in SDG 3 was missing for Finland in the original source, where the source of information was WHO statistics (Sachs et al. 2016). Here, Table 2 is completed with information from the OECD (see Annex 1), on the basis of which the number of physicians in Finland per 1,000 inhabitants remained below the target value of three.

Interpretation of the indicators involves many value-based choices and those responsible for the comparison emphasise that the results provide no more than a starting point for discussion (Sachs et al. 2016). The most important value-based choice is the selection of the indicator. There tends to be considerable variance in the suitability of indicators for depicting the situation in different countries; due to the fairly low number of indicators, no account is taken of several issues of national importance to Finland.

When communicating the results of the comparison, the rough division into three categories may disproportionately emphasise the differences between countries, or disguise subtle variations. For instance, in SDG 15, the indicator for change in forest area shows that the situation is good in Finland, but in certain other comparisons Finland's success is undermined by the fact that its forested area has slightly reduced in recent years. In this comparison, the changes in Finland are so insignificant that they are not emphasised in the related interpretation. With regard to the indicator for the change in forest area, all other OECD countries are in the best category (green).

Table 2 does not reveal the indicators on which the colour codes are based. This may cause confusion, particularly if the assessment given does not correspond to expectations. For instance, the target related to the protection of land ecosystems in SDG 15 is yellow for Finland in the comparison even though, when measured by the overall size of protected areas, Finland is among the leading nations in Europe, with its overall protected areas assessed as exceeding the 17 percent share set as the international target (Ahokumpu et al. 2015). The yellow colour is explained by the fact that the comparison is not based on statistics on the overall size of protected areas, but a study published in 2015 (Butchart et al. 2015). Two databases (Important Bird and Biodiversity Areas (IBA) & Alliance for Zero Extinction Sites), regarded as internationally comparable provided the main source of data for this study.

It is difficult to obtain up-to-date information on international comparisons. For instance, the indicator on waste management in SDG 12 is for the years 2009–2013. The processing of municipal waste in Finland has undergone significant changes in recent years, due to the rapid transfer from the placement of waste in landfills to recovery as energy (Seppälä et al. 2016b).

Figure 7 presents the results calculated at the level of individual goals. In this case, Finland's performance is poorest for SDGs 8 and 13, because they are described with indicators classified yellow or red for Finland. The indicators for poor and good performance in SDGs 14 and 12 compensate one another, which makes it difficult to identify key subject areas at SDG level.

Table 2. Assessment of Finland's performance in the implementation of the Agenda2030 Goals and targets, based on indicators selected for the preliminary sustainable development index (Source: Sachs et al. 2016).

Sustainable development goal	Indicators	Estimated development in Finland
1	Poverty rate after taxes and transfers, Poverty line 50%	Green
2	Prevalence of obesity, BMI ≥ 30 (% of adult population)	Yellow
	Cereal yield (kg/ha)	Green
3	Physician density (per 1,000 people) [estimation added by the Avain2030 project]	Yellow
	Healthy life expectancy at birth, total (years)	Green
	Subjective Wellbeing (average ladder score)	Green
4	Expected years of schooling	Green
	Population aged 25-64 with tertiary education (%)	Green
	PISA score	Green
5	Proportion of seats held by women in national parliaments (%)	Green
	Gender wage gap (Total, % of male median wage)	Yellow
	Gender Inequality Index	Green
6	Water Stress Score	Green
7	Alternative and nuclear energy (% of total energy use)	Yellow
8	Unemployment (% of total labor force)	Yellow
	Real GDP Growth (%)	Red
9	Mobile broadband subscriptions per 100 inhabitants	Green
	Proportion of the population using the internet (%)	Green
	Patent applications filed under the PCT in the inventor's country of residence	Green
	Research and development expenditure (% of GDP)	Green
10	PISA Social Justice Index	Green
	Gini index	Green
11	Mean annual concentration of PM2.5 in urban areas	Green
	Rooms per person	Green
12	Municipal Waste Recycled (%)	Red
	Percentage of anthropogenic wastewater that receives treatment (%)	Green
13	CO2 emissions/GDP, PPP (tCO2/000\$)	Yellow
	CO2 emissions per capita (tCO2/capita)	Red
14	Ocean Health Index	Green
	Percentage of marine sites important to biodiversity that are completely protected	Red
15	Weighted Red List Change per year	Green
	Annual change in forest area (%)	Green
	Percentage of terrestrial sites important to biodiversity that are completely protected	Yellow
16	Homicides per 100,000 population	Yellow
	Prison population per 100,000 people	Green
	Proportion of the population who feel safe walking alone at night in the city or area where they live.	Green
	Corruption Perception Index	Green
17	For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% GNI)	Yellow

AGENDA 2030-GOALS AND STARTING LEVEL OF FINLAND



Source: Sachs et al. 2016. Preliminary Sustainable Development Goal (SDG) – Finland

Figure 7. Overall assessment of Finland's status in the implementation of the Agenda2030 goals and targets, based on indicators selected for the preliminary sustainable development index (Source: Sachs et al. 2016).

5.1.2. Finland in relation to other OECD countries

Grouped on the basis of Sustainable Development goals and targets, the global comparisons of indicators published so far give only a rough indication of the situation in various countries. Ample further information comparing various countries is available, particularly regarding developed nations. Appendix 1 includes selected statistical comparisons according to the 17 SDGs of the UN, sourced from the OECD's indicator database (<https://data.oecd.org/>). The material serves as background data for the assessments conducted under the Avain2030 project for the sustainable development themes most essential to Finland. The material also supports the project's analyses of the international availability of indicator data.

Databases compiled by the OECD were selected as the basis for the analysis, since the express purpose of the comparison was to position Finland's development with respect to other developed countries. Additionally, the statistical work of the OECD can be generally considered reliable and the political impact of the information it compiles as significant.

In addition to statistical information of this kind, the OECD has published several sector-specific assessments and country reviews. The publication "OECD360 Suomi 2015. Kuinka Suomi sijoittuu vertailussa?" (OECD 2015) is a fresh overview of the situation in Finland, while the "OECD Economic Surveys: Finland 2016" (OECD 2016) focuses on the most recent economic data. The OECD has also compiled data in country-specific profiles, which are

available, via an easy-to-use interface, (<http://www.oecd.org/finland/>) as sources of information on specific countries.

The review included in the Avain2030 project included only time series identified as indicators by the OECD. The OECD database contains 245 indicators. They comprise statistical data describing the countries in question and indicator descriptions. The information can be presented in map or diagram format. Users can choose various periods of time and limit their reviews to certain countries or groups of countries. The indicators are grouped into 12 thematic areas. They do not include any qualitative interpretations of development trends, or the related causes and effects.

Although the data provided by the OECD is fairly extensive, relying on a single source of information can increase the risk of distortions in the analysis. However, due to limited resources, in this case the analysis was conducted on the basis of a single source of information.

International comparisons can be conducted on the basis of information compiled by several other bodies, as well as the OECD databases. For instance, the World Bank (<http://data.worldbank.org/topic>) has extensive data resources which provide the most comprehensive possible coverage of all countries in the world. The Gapminder organisation has compiled more than 500 time series that facilitate comparison of the development of different countries based on dynamic visualisations (<http://www.gapminder.org/>). For instance, various UN bodies have compiled and maintain comparisons that are sector-specific and indicator-based, or focus on various topics.

Appendix 1 presents the indicators for each SDG, selected from the OECD website and assessed as being most significant for Finland. During selection, the most comprehensive possible account was taken of the sustainable development targets and proposed indicators for them. Indicators evaluated as essential with regard to achieving the SDG are included, even if they are not mentioned in the descriptions of the targets. Detected links with the indicators proposed by the UN are provided in connection with the indicators.

There is a considerable difference between the indicators used by the OECD and those proposed by the UN, and few of the indicators are fully consistent. In addition, the OECD indicators vary considerably in scope with respect to Sustainable Development Goals. The OECD uses indicators specifically related to the economy, whereas those proposed by the UN emphasise health, well-being and social issues. The OECD's indicators include very little data related to Sustainable Development Goals 11–13 in particular.

There is a clear overlap between some of the OECD's indicators and the UN's 17 Sustainable Development Goals (Appendix 1). However, in most cases the OECD's sources of data and definitions differ from the topics and approaches covered by the UN's targets and indicators. It is worth noting that, in almost all cases, the indicators proposed by the UN would provide much more detailed coverage than those of the OECD, although the data underlying the OECD's indicators on rich countries tends to be much easier to obtain than that on countries in general.

Most OECD indicators extend back a few decades only. This is problematic with regard to reviewing long-term development processes. However, some indicators facilitate long-term reviews for at least some countries. For instance, the indicator describing carbon dioxide emissions in Finland extends to the early 1960s, but does not facilitate a comprehensive comparison with other OECD countries before the 1970s (Figure 8). Due to the missing information, the indicator does not reveal the fact that Finland industrialised much later than

most other OECD countries. However, the indicator helps the reader to compare the pace at which emissions have recently been reduced in Finland with the rapid growth of emissions in the 1960s.

Air and GHG emissions Carbon dioxide (CO₂), Tonnes/capita, 1960 – 2012 Source: Indicators for CO₂ emissions

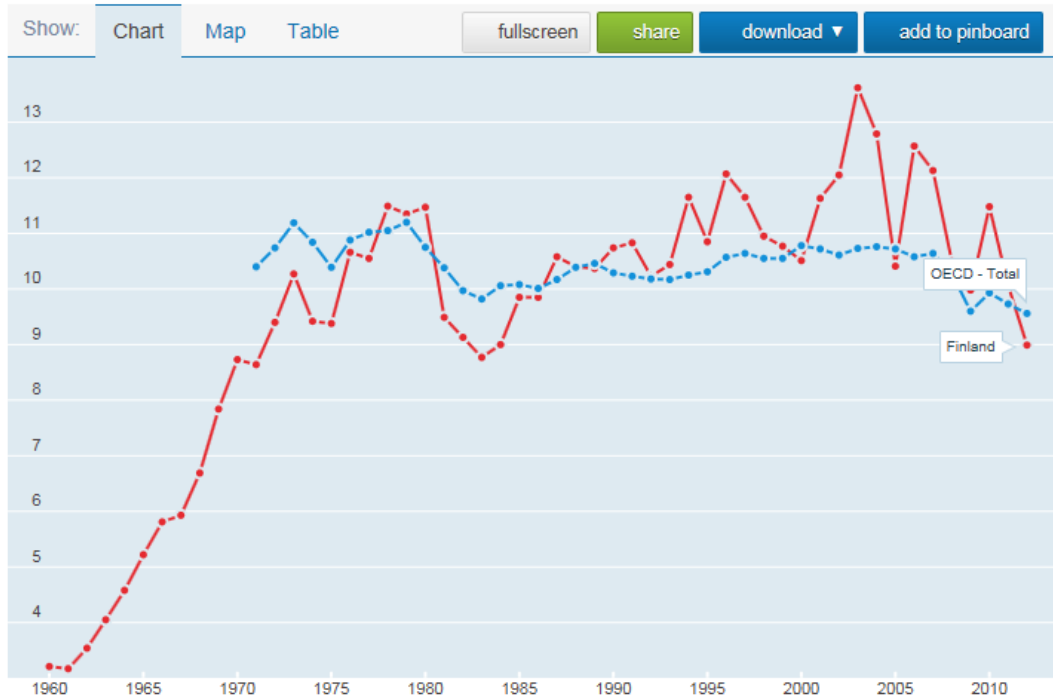


Figure 8. OECD indicator of air emissions.
 (Source: OECD 2016, Air and GHG emissions (indicator). doi: 10.1787/93d10cf7-en (Accessed on 02 June 2016) <https://data.oecd.org/air/air-and-ghg-emissions.htm>)

Information is most comprehensively available from the 2000s. For instance, the OECD unemployment rate indicator shows Finland's weak development in recent years in comparison with other OECD countries (Figure 9). This indicator clearly shows how the employment rate in Finland weakened after 2013, even though OECD countries have, on average, recovered from the weakening employment trend that began in 2008.

The unemployment rate indicator proves that the availability of information varies greatly by country. The time series for employment is available for the United States, Canada and Japan from the 1950s onwards, but data for Finland begins only in the late 1990s. Comprehensive comparative data for all OECD countries begins in the 2000s.

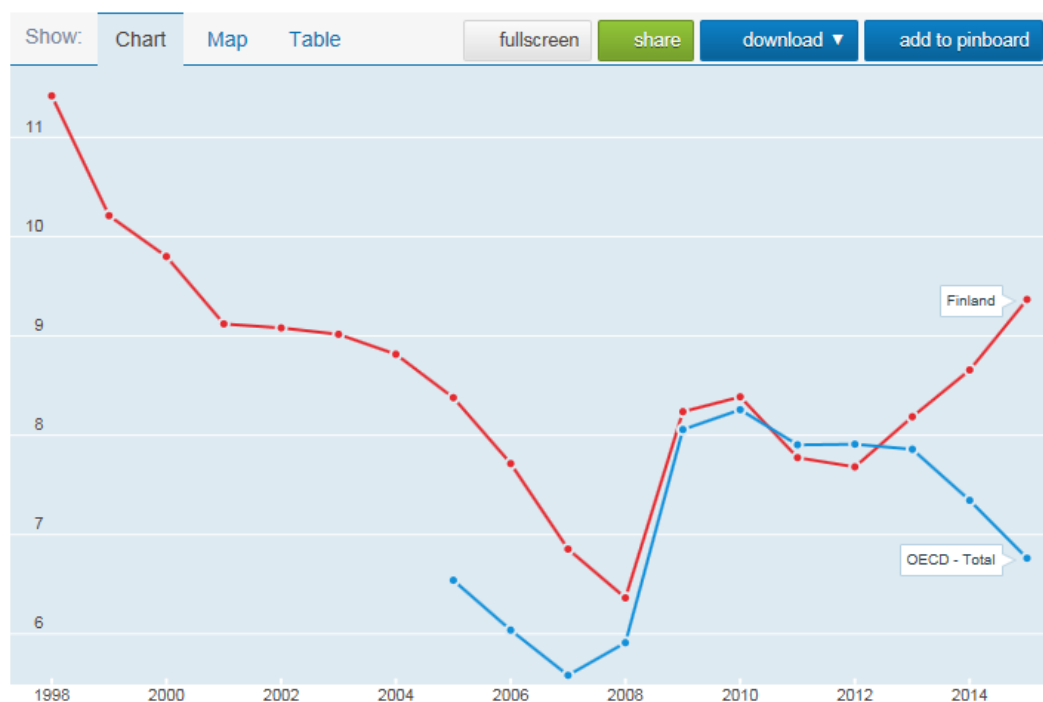


Figure 9. OECD unemployment rate indicator.
 (Source: OECD (2016), Unemployment rate (indicator). doi: 10.1787/997c8750-en (Accessed on 02 June 2016) <https://data.oecd.org/unemp/unemployment-rate.htm>)

Finland's development cannot be systematically described – with respect to all of the sustainable development goals – solely on the basis of the OECD indicators. However, with regard to individual issues, at best the OECD indicators provide a sound basis for comparison between Finland and other rich nations.

5.1.3. Finland in light of index-based international comparisons

In the Avain2030 project, Finland's situation was described on a broader basis by collecting data from more than 40 inter-country comparisons and assessing Finland's development. The following criteria were used for identifying and selecting the comparisons in question:

- The comparison is based on reliable information and provides the most comprehensive possible description of countries around the world.
- The themes and indicators used provide the most comprehensive description possible of each theme related to a particular Sustainable Development Goal.
- The comparison was published recently and is based on the latest data.
- The results of the comparison and descriptions of the data sources and comparison methodology are freely available.

- The comparison is performed recurrently, enabling the chronological follow-up of development both in comparison to other states and based on absolute values within each state.
- From Finland's perspective, the comparison is a matter of public interest or has led to a general public discussion.

An additional criterion was that the comparisons overlap as little as possible. However, this was a secondary criterion, since there are several overlaps – which can be legitimately described using comparisons – between the various Sustainable Development goals and targets. When selecting the comparisons, the aim was that, as a whole, they would represent the highest possible number of information providers and background organisations, in order to ensure the maximum possible representation of the various value bases and information sources related to sustainable development.

Some of the selected comparisons do not meet all of the criteria due to the limited number of comparisons available. The resources available for the analysis also set limitations on searching for and identifying comparisons. When interpreting the results, it should be noted that, in the main, the comparisons take no account of the goals set by the UN, but are produced in line with the goals, information sources, definitions and target groups of each background organisation. From the viewpoint of the users of the indicators, these definitions are often difficult to determine (Bell & Morse 2011; Hoffrén et al. 2010). In addition, at least the following uncertainties should be taken into account when interpreting the comparisons:

- International comparisons between various countries provide a general overview that supersedes smaller-scale variation. The comparisons are based on indicators that do not take full account of the various economic, cultural or geographical conditions and special features of different countries.
- The knowledge base of countries is different. In the case of developing countries in particular, information deficiencies in the comparisons may have been replaced by assessments based on expert views, so-called proxy indicators that indirectly describe the issue measured, or by basing the comparison on a less comprehensive knowledge base than for other countries.
- Comparisons do not typically describe the current situation, but that of several years prior to the comparison being published. For some time series, there may be delays of up to a decade due to the slow production of information (Lyytimäki 2012).
- Comparisons include overlaps. Only a limited number of globally comparable data series are available. For this reason, even comparisons describing other issues may use the same data sources, combined and emphasised in different ways in line with the objectives of the comparison in question.
- In particular, differences between the top countries tend to be minor, which means that even a very slight change can have a considerable impact on a country's relative placement in relation to other top countries. Variations in a country's relative placement according to the best-known indices tend to be overemphasised, especially in public discussions (Morse 2016).

For Figure 10, 17 international comparisons were selected that best met the aforementioned criteria and best described each of the 17 SDGs. No comparison specifically describing the

subject area was available for all SDGs, but as a whole the figure provides a concise overview of the various subject areas of sustainable development.

In the figure, comparisons in which Finland ranks particularly highly compared to other rich, industrialised countries are highlighted in green. Those in which Finland performs poorly are highlighted in red. The 17 SDGs are grouped into three sectors, which describe the economic, societal and ecological dimension of development (Costanza et al. 2015).

It should be noted that there has been no marked improvement in Finland's ranking for any of the comparisons; indeed, on the basis of many, both Finland's relative development compared to other countries and its absolute development have been slightly or clearly negative in recent years. However, in the case of most comparisons, Finland still ranks among the world's 20 best-performing countries. The comparisons are described in more detail below. Appendix 2 shows Finland's placement in comparison with other countries within a more extensive group of selected comparisons.

FOSTERING WELLBEING AND CAPABILITIES



Goal and starting level	Comparison	Ranking	Recent development
1	SSI Economic Wellbeing	9.	
2	Global Food Security Index	17.	
3	World Happiness Index	5.	
4	PISA	12.	
5	Global Gender Gap Index	3.	
10	Human development Index	24.	
16	Fragile state index	1.	
17	Good country index	2.	

BUILDING A LIVING ECONOMY



Goal and starting level	Comparison	Ranking	Recent development
7	Energy Architecture Performance Index	12.	
8	Legatum prosperity index	12.	
9	Global Entrepreneurship Index	18.	
11	Global Liveability Ranking	10.	
12	Ecological footprint	136.	

STAYING WITHIN PLANETARY BOUNDARIES



Goal and starting level	Comparison	Ranking	Recent development
6	Water Poverty Index	1.	
13	RECAI	36.	
14	Ocean Health Index	69.	
15	SSI Environmental wellbeing	126.	

Starting level – Finland: ■ EXCELLENT ■ MODERATE ■ POOR

Recent development: ⬇ NEGATIVE ⬇ SOMEWHAT NEGATIVE ⬇ NO CHANGE ⬆ POSITIVE

Figure 10. Finland's ranking in selected global comparisons and an assessment of its initial level and recent development.

The international comparisons selected for Figure 10 are described in more detail below. A link to a web page with further information on the comparison is given in each case. In addition, other comparisons taken into account when describing the sustainable development goal in question are named. The comparisons presented in this report are intended to serve as a starting point for discussion. Comparisons can also be selected and grouped in other ways, based on various perspectives.

1. *End poverty in all its forms everywhere.*

This SDG is described using the Economic Wellbeing sector of the Sustainable Society Index, depicting the development of the national economy and employment rate, and the accumulation of wealth. In this comparison, although its development has been slightly negative, Finland has remained among the top ten.

Link to the index: <http://www.ssfindex.com/>

Other possible comparisons to use when describing the SDG: Legatum Prosperity Index; Inclusive Wealth Index.

2. *End hunger, achieve food security and improved nutrition and promote sustainable agriculture.*

This SDG is described using the Global Food Insecurity Index. Its three core issues are the affordability, availability in all circumstances, and quality and safety of food in terms of nutrition. Finland's ranking is 17 and the trend has been slightly declining.

Link to the index: <http://foodsecurityindex.eiu.com/Index>

Other possible comparisons to use when describing the SDG: SSI Human wellbeing.

3. *Ensure healthy lives and promote well-being for all at all ages.*

This SDG is described using the World Happiness Index, which is based on a comprehensive, comparative study of the quality of life experienced by people in different countries. Finland has succeeded in the comparison. After the first comparison, published in 2012, in which Finland came second, its ranking fell to number 7 but rose to number 5 in the latest comparison. In practice, the changes are minuscule.

Link to the index: <http://worldhappiness.report/>

Other possible comparisons to use when describing the SDG: Human Development Index; SSI Human wellbeing.

4. *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*

This SDG is described using the PISA assessment (Programme for International Student Assessment), which examines the functioning of the education system through tests measuring the knowledge and skills of students. Finland has been a leading country in this aspect until the most recent assessment, in which it was overtaken by developing regions of Asia.

Link to the index: <https://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>

Other possible comparisons to use when describing the SDG: World's Most Literate Nations; Fairness for Children; U21 Ranking of National Higher Education Systems; World Press Freedom Index.

5. *Achieve gender equality and empower all women and girls.*

The SDG is described using the Global Gender Gap Index, which uses four dimensions to depict gender equality: economic opportunities, education, health and politi-

cal participation. Finland's ranking has varied between two and three in the last ten years.

Link to the index: <http://reports.weforum.org/global-gender-gap-report-2015/rankings/>

Other possible comparisons to use when describing the SDG: Gender Inequality index; Glass-Ceiling Index.

6. *Ensure the availability and sustainable management of water and sanitation for all.*

The SDG is described using the Water Poverty Index, published in 2002, which refers to water resources, the availability and use of water and environmental issues related to water. Based on the comparison, Finland is the world's richest country in terms of water resources. No significant changes in the quantity or quality of water resources have occurred in Finland since the publication of the comparison. Water availability and the amounts of water used have remained almost unchanged. The most significant new legislation concerns water treatment in sparsely populated areas. Challenges include maintaining high standards of water supply and issues such as managing the risks caused by climate change.

Link to the index: <http://econwpa.repec.org/eps/dev/papers/0211/0211003.pdf>

Other possible comparisons to use when describing the SDG: Aqueduct country and river basin rankings; Water Scarcity Index, Water Footprint of Nations.

7. *Ensure access to affordable, reliable, sustainable and modern energy for all.*

The SDG is described using the Energy Architecture Performance Index, which describes the performance of national energy systems based on energy security and energy-related economic and environmental issues. In the 2016 index, Finland came 12th, five places above the previous year, even though the indicators suggest that there was no significant change in Finland's development.

Link to the index: <http://reports.weforum.org/global-energy-architecture-performance-index-report-2016/>

Other possible comparisons to use when describing the SDG: SSI Environmental Wellbeing; RECAI-Index.

8. *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.*

The SDG is described using the Legatum Prosperity Index, which describes economic development broadly through eight dimensions. Finland was number one in 2009 but fell to 12th place in 2015.

Link to the index: <http://www.li.com/activities/publications/2015-legatum-prosperity-index>

Other possible comparisons to use when describing the SDG: Gross National Product; Global Entrepreneurship Index; Global Dynamism Index; Global Competitiveness Index.

9. *Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.*

The SDG is described using the Global Entrepreneurship Index, which describes entrepreneurship in particular and the social system which supports it. Finland's performance clearly declined from 8th place in 2014 to 18th in 2015.

Link to the index: <https://thegedi.org/global-entrepreneurship-and-development-index/>

Other possible comparisons to use when describing the SDG: Legatum Prosperity Index; Global Dynamism Index; Global Innovation Index.

10. *Reduce inequality within and among countries.*

This SDG is described using the Human Development Index, which takes education, life expectancy and economic development into account. Finland's placement in the comparison has weakened to number 24 in the latest index.

Link to the index: <http://hdr.undp.org/en/content/human-development-index-hdi>

Other possible comparisons to use when describing the SDG: SSI Human wellbeing.

11. *Make cities and human settlements inclusive, safe, resilient and sustainable.*

At the level of cities, the SDG is measured using the Global Liveability Ranking. Helsinki is in 10th place. The comparison takes account of the stability and infrastructure of cities and the education and health care of residents, as well as environmental issues.

Link to the index:

http://www.eiu.com/public/topical_report.aspx?campaignid=Liveability2015

Other possible comparisons to use when describing the SDG: Corruption Perception Index; City Prosperity Index; air quality comparisons.

12. *Ensure sustainable consumption and production patterns.*

The implementation of this SDG is measured using Ecological Footprint accounting, which describes how much biosphere is required to produce the food, materials and energy consumed by a certain group of people, and for the processing of the waste generated. Finland and other wealthy countries tend to perform poorly in this evaluation. In particular, Finland's large footprint is explained by high energy consumption and the related carbon dioxide emissions, and the high quantities of wood used by the forest industry. In Finland, biocapacity, which describes the sufficiency of renewable natural resources, is considerably higher (13.4 global hectares per person in 2012) than the ecological footprint describing consumption (5.4 gha/per capita). The estimated, global maximum level of sustainable consumption is an ecological footprint of 1.7 global hectares per capita.

Link to the index:

http://www.footprintnetwork.org/ecological_footprint_nations/ecological_per_capita.html

Other possible comparisons to use when describing the SDG: SSI Environmental wellbeing; Environmental Performance Index.

13. *Take urgent action to combat climate change and its impacts.*

The implementation of this SDG is described using the RECAI index (Renewable Energy Country Attractiveness Index), which indicates the level of active investment in renewable energy by various countries. Finland did not do well in this comparison.

Link to the index: <http://www.ey.com/GL/en/Industries/Power---Utilities/EY-renewable-energy-country-attractiveness-index-our-index>

Other possible comparisons to use when describing the SDG: SSI Environmental wellbeing; Environmental Performance Index; greenhouse gas emissions.

14. *Conserve and sustainably use oceans, seas and marine resources for sustainable development.*

The Ocean Health Index uses ten goals to describe the state and sustainable use of oceans and coastal areas. Small island states, for which the sustainable use of oceans is critical, are placed 1 to 9 in the comparison. Germany, ranked 10th, is the highest-ranked coastal state. Finland's ranking, of 69th, is very close to the global average. The trend has been slightly negative for Finland.

Link to the index: <http://www.oceanhealthindex.org/>

Other possible comparisons to use when describing the SDG: Not identified.

15. *Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.*

The implementation of the SDG is described by the Environmental Wellbeing section of the Sustainable Society Index, which includes indicators on biodiversity and the use of natural resources. The index also includes climate and energy indicators, which do not directly describe the state of land ecosystems. In the long term, however, climate change is the key factor influencing the state of land ecosystems. Curbing climate change is particularly important to preventing desertification. Finland has done poorly, mainly due to its energy consumption and greenhouse gas emissions that are high in international comparison.

Link to the index: <http://www.ssfindex.com/>

Other possible comparisons to use when describing the SDG: Environmental Performance Index; GEF benefits index for biodiversity; Red List Index.

16. *Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.*

This SDG is measured using the Fragile State Index, which describes the stability of societies. Finland has had the top ranking since 2011.

Link to the index: <http://fsi.fundforpeace.org/>

Other possible comparisons to use when describing the SDG: Corruption Perception Index; Legatum Prosperity Index; Open data index, Global Peace Index.

17. *Strengthen the means of implementation and revitalise the global partnership for sustainable development.*

The SDG has been described using the Good Country index, which depicts the impact of countries outside their own borders in seven subject areas. So far, the index has only been published once. Finland came second. Due to cuts in development aid, it is thought that Finland's recent development has been negative.

Link to the index: <http://goodcountry.org/index/about-the-index>

Other possible comparisons to use when describing the SDG: Not identified.

Value-based thinking plays a major role when selecting comparisons – emphasis on one perspective or another could justify the selection of very different comparisons describing the 17 Sustainable Development Goals. The analysis was unable to take account of a large number of comparisons outside the more than forty reviewed.

Because the comparisons measure a spread of phenomena, they cannot provide an irrefutable basis for the prioritisation of theme areas. Even comparisons based on similar indicators can emphasise and define subject areas in a range of ways, leading to very diverse results. For instance, in the Better Life Index published by the OECD, Finland's ranking varies from first to 22nd, depending on the weighting placed on the various components of the index (Figure 11). If all 11 components were neutrally weighted, Finland would rank 10th. Allocating the maximum weighting to the component describing education, and the minimum to all others, gives Finland the top ranking.

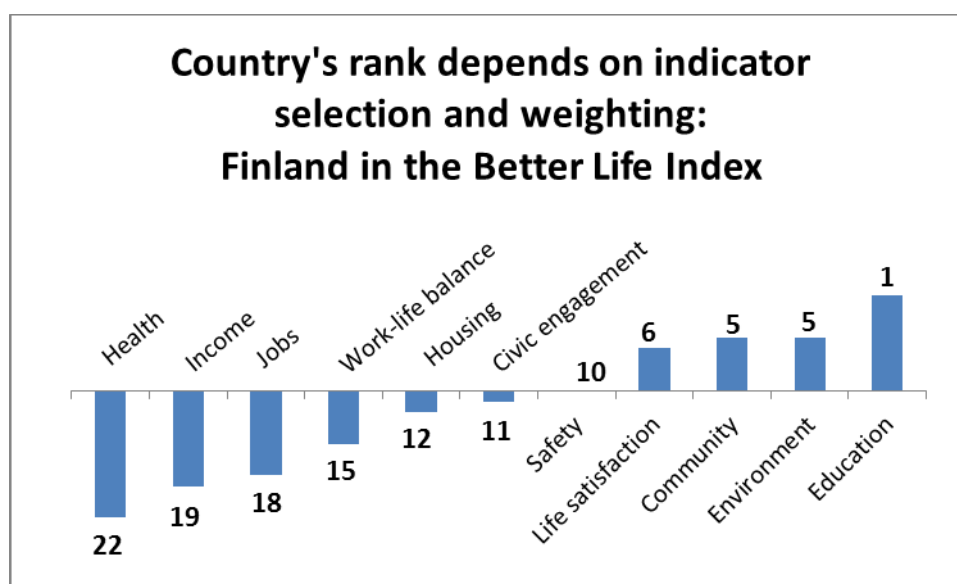


Figure 11. Variation of Finland's placement in the OECD's Better Life Index, weighting the components differently
(Source: <http://www.oecdbetterlifeindex.org>).

Most of the index-based comparisons presented above are based on a high number of individual indicators; in each case, these have been combined into an overall indicator on the basis of a certain, predetermined selection and valuation mechanism. This approach has the advantage of providing a clear overview of complex phenomena, but the disadvantage of concealing some uncertainties and distinctions. In addition, when communicating on the results, little attention tends to be paid to the subjective interpretations and valuations that occurred in the selection and weighting of the indicators.

To gain the most reliable overview of key areas of sustainable development, data must be combined from different types of comparisons. In addition to international comparisons, the most comprehensive use should be made of national databases; in the case of most countries, these offer the potential for a considerably more detailed and chronologically comprehensive, varied review that takes better account of different target groups. When meeting the goals and targets of sustainable development, the widest possible use should be made of the value-based perspectives of various stakeholder groups, in addition to statistical data and research-based knowledge.

5.2. Stakeholder groups' and experts' views

The Avain2030 project arranged two workshops on 29 April 2016, one for stakeholder groups (the member organisations of the Finnish National Commission on Sustainable Development and the Development Policy Committee) and the other for experts on sustainable development and indicators. The stakeholder group workshop had 30 participants, the expert workshop seven. The participants were broadly representative of NGOs and interest groups that are member or deputy member organisations of the committees. The aim of the workshop was to communicate the preliminary results of the project and explore which issues and phenomena stakeholders regard as Finland's strengths and weaknesses in implementing the

SDGs. The workshop was preceded by an analysis, by the project team, of Finland's strengths and weaknesses in implementing the Agenda. A large number of indicators were used for the analysis, the preliminary results of which were presented to the participants, who then considered Finland's strengths and weaknesses in greater detail.

The electronic Screen.io software was used in the workshop to provide a general assessment of the current status of the 17 SDGs from the viewpoint of Finland's strengths and weaknesses (Figure 3). Participants were requested to assess each SDG on a scale of 1–5 (1= Finland faces major challenges in implementing the SDG; 5= Finland leads the way in implementing the SDG worldwide). In addition, the participants recorded qualitative grounds for their views. An open, general discussion was conducted after the written assessment.

During the third stage, the participants were divided into three small groups to continue elaborating on the three key challenges. The participants were allowed to join whichever group they wished. The work in groups was in two parts, one exploring the status of the SDG and another in which a solution was sought. The participants took turns to assess each issue. They were asked to begin by writing (onto a post-it note) the key reasons why Finland faces challenges in implementing the SDG in question. They then discussed the reasons given. Next, they were asked to write down – again on post-its – proposals for measures that Finland could take to improve the issue, which were also presented to the group. Finally, the views of all the groups were summarised in a joint discussion.

The workshop ended with an expert panel discussion on the afternoon of 29 April, at which experts commented on the preliminary results emerging from the stakeholders' perspectives. Lists of participants in the stakeholder group workshop and expert panel form Appendix 3 of this report.

The views of the stakeholder groups were also discussed in two expert seminars, on 11 May 2016 (sustainable development expert panel) and 12 May 2016 (sustainable development indicator network). These gave the experts the opportunity to complement and comment on the preliminary results of the project.

The participants of the stakeholder group workshop viewed Finland as having fairly good, general prerequisites for fulfilling the Sustainable Development Goals of Agenda 2030 (Figure 12). It was thought that the best prerequisites existed for SDG 6 “Ensure availability and sustainable management of water and sanitation for all”. The greatest challenge was thought to lie in the implementation of SDG 8, “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. Other SDGs considered challenging for Finland included number 13, “Take urgent action to combat climate change and its impacts”, and SDG 12, “Ensure sustainable consumption and production patterns”.

AGENDA 2030 GOALS AND STARTING LEVEL OF FINLAND



Figure 12. Stakeholder group representatives' views of Finland's key areas in terms of sustainable development.

The participants in the stakeholder group workshop had the opportunity to comment on all SDGs separately via the electronic Screen.io platform. Summaries of the written comments received are listed below for each SDG:

1. *End poverty in all its forms everywhere.*
 The responses emphasised the fact that although – in international comparisons – Finland absolutely is a wealthy country, subjective poverty is real. Unemployment, social exclusion and inequality were viewed as problems for Finland. The respondents believed that a strong social security system would help mitigate these issues. Technological development was regarded as a threat to employment and the social security system reform as an opportunity, particularly in terms of the proposed basic income system. Cuts to Finland's development aid were viewed as impeding intervention to ease global poverty.
2. *End hunger, achieve food security and improved nutrition and promote sustainable agriculture.*
 The responses to SDG 2 focused on the fact that domestic food security is at a high level in general. So-called breadlines (people queueing for free food distributed by charities) were highlighted as one of the problems related to inequality. However, obesity and unhealthy diets were considered bigger problems for Finland than lack of food. With respect to agriculture, the reduction of harmful environmental impacts was emphasised. In addition, farmers' dwindling prospects of investing in sustainable production methods and deploying innovations were regarded as critical issues.
3. *Ensure healthy lives and promote well-being for all at all ages.*
 For SDG 3, challenges related to mental well-being were given a particular emphasis in relation to Finland. The answers suggest that different responses should be made to the specific challenges facing certain population groups. Special groups mentioned included those suffering from mental health problems, physically inactive young people, the elderly and substance abusers. The responses emphasised the fact that

plenty of information is available on the prerequisites of a healthy lifestyle and well-being.

4. *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*

In general, the responses acknowledged Finland's exemplary performance in educating its citizens and that considerable future investment will be required to maintain this level of success. The recent education cuts were considered a clear threat. The education system was generally considered equal, but better integration of immigrants was regarded as particularly challenging. Greater flexibility was called for in vocational education.

5. *Achieve gender equality and empower all women and girls.*

The responses regarding SDG 5 revealed that views differ: in the view of some respondents, there is plenty of room for improvement in Finland, while others regarded the situation as fairly good. Equality was regarded as one of Finland's strengths, particularly in international comparisons. Inequality in pay between men and women emerged as the clearest flaw. Concerns included violence and harassment directed at women and the risk of social exclusion among men due to lower educational attainment.

6. *Ensure availability and sustainable management of water and sanitation for all.*

With regard to SDG 6, the sufficient quantitative availability of water was not viewed as a problem for Finland. Finland's water resources were viewed as ample and the water infrastructure as advanced, but water quality issues emerged with regard to the supply of clean water. Mining industry wastewater was mentioned as one of the risks. So-called virtual water, the hidden flow of water used by Finns through consumption, was viewed as a problem in areas where water is scarce.

7. *Ensure access to affordable, reliable, sustainable and modern energy for all.*

The responses suggest that Finland's greatest challenge in developing its energy system lies in its ability to predict changes in energy technology and systematically develop new solutions suitable for Finnish conditions. Reform of the energy system was viewed as considerably lagging behind the need for change. A policy based too exclusively on bioenergy was considered risky and the potential of new, diversified forms of energy production was emphasised. Energy saving and other approaches targeting energy consumption were not mentioned in the responses.

8. *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.*

Various types of labour market inflexibility – viewed as hindering employment and undermining Finland's international competitiveness – were viewed as the key single issue in the implementation of SDG 8. Proposed solutions included more freedom to make local agreements between employers and employees, less rigid regulation and support for entrepreneurship and new operating models. The responses emphasised competitiveness as the source of economic growth, while – on the other hand – questioning the need for such growth. They suggest that Finland has ample but suppressed or underused economic potential.

9. *Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.*

With regard to SDG 9, Finland's innovation basis was considered strong but prob-

lems were detected in the implementation of effective, expertise-based solutions. Support was called for with respect to development activities and the involvement of citizens in particular. The responses saw room for improvement in the leveraging of home markets, particularly with regard to cleantech investments.

10. *Reduce inequality within and among countries.*

The responses related to SDG 10 regarded Finnish society as equal in international comparisons, but as a place in which a trend towards inequality has begun. Additional measures were required in order to reduce inequality. Cuts to development aid were criticised as was unwillingness to actively address the economic mechanisms and structures that foster inequality. One of the examples mentioned was the discussion on so-called tax havens, which was a topical issue at the time of the workshop.

11. *Make cities and human settlements inclusive, safe, resilient and sustainable.*

The current state of SDG 11 and the possibilities for its implementation were considered good, particularly if plans for smart and clean cities are realised. The possibility of political extremism undermining the basis of Finland's free and open society was cited as a threat.

12. *Ensure sustainable consumption and production patterns.*

Sustainable public contracts and genuine consumer choice were considered key issues in the implementation of SDG 12. Energy and material consumption were considered high in Finland. Concern was expressed on how to cover offshored production in indicators depicting the sustainability of development.

13. *Take urgent action to combat climate change and its impacts.*

For SDG 13, the responses emphasised the need to act considerably more rapidly than now, to pursue an active, determined national climate policy, and to take broad account of climate protection within society. More boldness was called for in introducing new technologies.

14. *Conserve and sustainably use the oceans, seas and marine resources for sustainable development.*

The need for international cooperation was emphasised in the implementation of SDG 14. Finland has drawn attention to the state of the Baltic Sea, for instance by means of a survey of underwater biodiversity. Deficiencies in the implementation and supervision of international conventions and national legislation were highlighted.

15. *Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.*

Views were divided with regard to SDG 15, particularly concerning the sustainability of forest use. Potential conflicts between promoting the bioeconomy and the protection of forest ecosystems were highlighted. The responses emphasised the need to take better account of ecosystem services.

16. *Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.*

Finland's preconditions for implementing SDG 16 were considered good, but its recent performance was criticised with respect to issues such as lack of grip in solving problems related to international taxation. Finland was viewed as a peaceful society, but with the proviso that civic society may now be moving in the wrong direction. The

responses bemoaned the lack of general knowledge of what makes societies stable and peaceful.

17. *Strengthen the means of implementation and revitalise the global partnership for sustainable development.*

The recent cuts to development cooperation funds were regarded as the key risk to the implementation of this objective. However, the starting points were considered good. Engaging in a commitment to a genuine global partnership at the highest political level was viewed as the key issue. Long-term cooperation between various actors based on seeking new initiatives was considered important.

The three most critical goals

The responses from stakeholder groups and the general workshop discussion suggest that Finland's greatest challenges lie in the management of environmental and climate-related issues, and in employment and the economy (Goals 8, 12 and 13). The situation in Finland was generally regarded as good with respect to goals related to social issues (education 4, health 3), but a particular challenge lies in cuts to education expenditure and the expanding well-being gap between social groups. These views tended to echo the results of international, indicator-based comparisons of Finland's strengths and weaknesses. Feedback from experts was mainly in agreement with the order of priority of goals proposed by the stakeholder groups.

With regard to goal 8 (promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all), many participants in the stakeholder group workshop highlighted the current transition in working life and the structural barriers to new forms of work. Such barriers include welfare traps within social security and insufficient security for start-ups. Lifelong learning, retraining and support for entrepreneurship were considered key factors in adapting to the ongoing change:

“Entrepreneurship and new business models should be supported and business activities made as easy as possible. At present, bureaucracy and the administrative burden hamper development while, for example, the introduction of a range of excellent operating models promoting sustainable development is prevented by legislation or excessively strict interpretations by the authorities.”

“Structural change in production is essential in Finland, in order to keep abreast of international development and competition for sustainable economic growth, sustainable services and products. In addition, societal structures and labour market organisations must provide more effective and flexible support for change.”

Growing income differences in Finland were regarded as a threat, not only to the implementation of SDG 8 but for the attainment of other sustainable development goals:

“Preventing the growth of the income gap is the key way of facilitating the realisation of other sustainable development goals and targets.”

“A floundering economy and failures in economic policy involve the risk of longer term ‘impoverishment’. => danger of social exclusion”

Participants within the small group pointed out that one explanation for Finland's situation lies in the fact that the current measures support large enterprises rather than economic reform through small start-ups. It was also stated that sustainable economic growth will be difficult to achieve if the focus remains on traditional industries. The objective of economic growth and competitiveness was viewed as problematic, because greater competitiveness will not lead to global sustainability. Three key measures for improving Finland's situation emerged from the group's discussions: adaptation of labour legislation and changes in Finland and internationally, investments in future industries (e.g. renewable energy) and new methods of assessing such measures.

The idea that the economy should never be the top priority was raised in the expert workshop. Unemployment was viewed as a major problem but stunted economic growth was not considered as clearly problematic as within the stakeholder groups. Attention should also be paid to the relationship between inequality and economic growth. Committing politicians to sustainable development objectives was considered a key issue. Analyses and indicators regarding so-called decouplings were viewed as useful in this discussion. Decouplings refer to a form of development in which well-being and sustainability do not necessarily require economic growth.

In many comments, Goal 12 (ensure sustainable consumption and production patterns) was regarded as a particularly difficult issue from Finland's perspective.

“This would require a clear change in overall public attitudes. That would be very challenging but not impossible. We would need good examples that ‘lead the way’ for the masses.”

“This is a major challenge for Finland, both in terms of consumption and production.”

Several participants emphasised the role of public procurement, hoping for a closer linkage between the principles of sustainability and such procurements. Citizens were viewed as having rather limited opportunities to influence the achievement of this goal:

“Wider use than now must be made of solutions based on renewable raw materials. Public procurement plays a key role in consumption. Should renewable raw materials be defined as a criterion for public procurement?”

“Public procurement is still very often unsustainable. That should change.”

“Citizens have few opportunities to influence this issue. Consumption is basically non-sustainable and sustainable products and services are only made available through special measures. For instance, the availability of local food is more the exception than the rule.”

While society's knowledge of the issue was regarded as high in general, it had not resulted in changes in behaviour. Mere awareness does not necessarily result in lifestyle changes:

“The Finnish people are already fairly well-informed consumers. More incentives must be provided for genuine choice. Price policy is challenging => how to ensure a reasonable income for both producers and consumers, while promoting a circular economy. Control waste/wastage”

At the teamwork stage, the participants named the following as specific reasons for the current situation: centralised markets, production and services, unsustainable public procurement, bureaucratic barriers and too large an environmental footprint related to food, housing and transport. The group proposed the following solutions: enhancing the sustainability and transparency of public procurement, a transition from ownership to service consumption, and an experimental society. Members of the expert panel, on the other hand, emphasised the importance of increasing service exports and called for more discussion of the bioeconomy and innovative building.

With regard to Goal 13 (take urgent action to combat climate change and its impacts), the scale of the required measures and, in particular, the urgency of the matter emerged as the primary challenges. The participants pointed out that Finland's current climate policy is inadequate. Other causes of concern included the lack of urgency in actions taken and Finland's lack of political boldness. Finland was viewed as lagging behind its peer group of countries, although it was also pointed out that Finland is doing plenty to combat and adapt to climate change.

“We are clearly lagging behind our neighbouring countries in climate action, much could already have been done and we are still reacting slowly. We do not consider combating climate change as important as we should.”

“This is one of the key goals of the Agenda and Finland is nowhere near pursuing sufficiently ambitious objectives at EU level and at home. We need to shape up, if we want the implementation of the entire Agenda to be possible on a global scale. And act NOW, not tomorrow.”

“Finland would have the opportunity to deploy new technologies in curbing climate change, but seems to lack the courage to invest in them.”

“We have strong, internationally acknowledged expertise that could be used more efficiently. National policy measures are lagging behind.”

At the teamwork stage, group members cited the following reasons for the current situation: a feeble, conservative steering policy impeded by lack of ambition; Finland's special climate and geographical location; change resistance within society and the incapacity of the current economic system to encourage measures that mitigate climate change. The solutions listed included modifying support policy to make it investment-driven; the reform of transport policy and enhancement of business opportunities related to curbing climate change on the basis of factors such as open data; support for start-ups and the export of cleantech. The expert workshop discussed the extent to which Finland's climate policy problems can genuinely be grounded in issues related to climate and the economic structure. Proposed additional measures included environmental taxes and a “systematic transition” throughout society.

Feedback obtained from stakeholder group workshop participants

After the workshop, a feedback questionnaire was sent to the participants in the stakeholder group. They were asked to rate the workshop on a scale of 1 to 5 (poor – excellent) and make free-form comments. Highly positive feedback was received, revealing that the workshop's opinion-gathering methods were regarded as its best aspect. On the other hand, too little time was allocated to the formulation of responses and discussion. The majority of the respondents found the workshop useful and personally beneficial. Most described the workshop as “inspiring”.

6. CONCLUSIONS AND SUMMARY OF RECOMMENDATIONS

6.1. Summary of key areas of sustainable development in Finland

On the basis of the indicator-based materials, views of stakeholder groups and literature-based information collected for the project, Finland's particular strengths were identified as strong educational provision and competencies (Agenda 2030 Goal 4 in particular) and societal stability (Goal 16 in particular). Particular attention should be paid to these subject areas in order to maintain and improve on their current good status. Finland could set an example at global level by developing these areas, even if Finnish operating models cannot be directly transferred to different circumstances and societies.

Within education, methods must be found of securing equal learning opportunities for all. To ensure social stability, Finland requires improved foresight with respect to rapidly changing internal and external threats – and opportunities. The key subject areas outlined in the Avain2030 project relate to these goals and the related observations are listed in tables 3 and 4.

Table 3. Key factors in terms of education and competencies.




 EDUCATION AND KNOW-HOW		GOAL 4: Ensure inclusive and quality education for all and promote lifelong learning.
INDICATORS OF DEVELOPMENT:	REASONS FOR EXCELLENT PERFORMANCE	POSSIBILITIES FOR IMPROVEMENT
World's best literacy level World's most literate nations index.	Education system providing equal learning opportunities	 Maintaining the excellent performance requires substantive resources on continuous basis Educational system must be flexible. It must support life-long learning and transformation towards carbon-neutral society. Educational system must prevent social inheritance of educational inequalities and support integration of the immigrants
Top of the OECD-countries in education Better life index education – 1st place.	Publicly funded education, free for all students	
Excellent performance in PISA-comparison - At least so far	Extensive participation in pre-school education, well-functioning primary and secondary schools, skilled and highly motivated teachers	
Equal opportunities for children UNICEF: fairness for children index – 2nd place.	Comprehensive laws and regulations, high general appreciation of knowledge and know-how	

Table 4. Key factors in terms of social stability.

 SOCIAL STABILITY		GOAL 16: Promote just, peaceful and inclusive societies.
INDICATORS OF DEVELOPMENT:	REASONS FOR EXCELLENT PERFORMANCE	POSSIBILITIES FOR IMPROVEMENT
<p>Finland is the most stable country in the world Fragile State Index index.</p> <p>Good governance and democratic institutions Sustainable Governance Indicators: 5th place</p> <p>Low level of corruption Transparency International, 2. place.</p> <p>Transparent and open society Open data index, 5. place.</p>	<p>Stability of institutions, respect for laws and regulations, integrity of civil servants</p> <p>High level of corporate responsibility</p> <p>Decision-making culture based on consensus, transparent and democratic practices.</p> <p>Social equality, low hierarchies.</p>	<p>More efficient prevention of socio-economic inequalities and marginalisation of vulnerable groups.</p> <p>Renewal of social structures and practices of governance to meet the challenges of globalisation.</p> <p>Use of public procurements to promote responsible and sustainable choices.</p>



On the basis of the indicator-based materials, stakeholder group views and literature-based information collected for the project, combating climate change and excessive use of natural resources (Goal 13 in particular), alongside economic development and employment trends (Goal 8 in particular) were recognised as Finland's key weaknesses. Compared to many other countries, Finland is performing well in both theme areas but development has been unsatisfactory in recent years. Key features related to these goals and outlined in the Avain2030 project are presented in tables 5 and 6.

In recent years, climate policy has been a key sector of international environmental policy. The related sustainable development goal 13 was therefore highlighted as a key national challenge. It is important to address environmental challenges to ensure that, for instance, enhancing energy efficiency or transitioning to renewable energy sources do not lead to the unsustainable use of natural resources. That is why climate and resource issues should be considered together. In terms of climate policy, the sheer magnitude and speed of the required changes are challenging, since they exceed the customary pace of societal change. Development of the energy system in particular is slow in many respects. It is difficult to accelerate long-term investments in energy production in a cost-efficient manner. A high initial level and so-called rebound effects make the improvement of energy efficiency challenging. On the other hand, decentralised bioenergy in particular has promising development potential for Finland.

In terms of economic policy, the challenge lies in finding new ways of creating employment and maintaining well-being amongst more stringent global competition and the global transformation in production. The stakeholder group workshop, in particular, criticised economic growth as a target of sustainable development. Some participants also questioned viewing full employment and traditional jobs as self-evident social objectives. On the other hand, some stakeholder groups specifically regarded full-time, traditional, paid employment as a key goal for society.

Specific common factors among environmental and employment challenges include the discussion of the circular economy (e.g. Seppälä et al. 2016a) and green economy (Seppälä et al. 2016b) and the more general debate on decoupling well-being, economic growth and environmental hazards. At best, simultaneous management of these challenges will contribute to finding completely new ways of maintaining the sustainable well-being of both people and the environment.

Table 5. Key factors in terms of employment and the economy.





 EMPLOYMENT AND THE ECONOMY			GOAL 8: Promote inclusive and sustainable economic growth, employment and decent work for all.
INDICATORS OF DEVELOPMENT:	REASONS FOR INADEQUATE PERFORMANCE	POSSIBILITIES FOR IMPROVEMENT	
<p>High level of unemployment Unemployment rate: 9,4% 2/2016.</p> <p>Weakening of the competitiveness Global competitiveness index: 8th place; Global entrepreneurship index: 18th place.</p> <p>High but weakening economic prosperity Legatum prosperity index; 12th place.</p>	<p>Finland has partially failed to meet the challenges brought to worklife by globalisation.</p> <p>Structural hindrances preventing the adoption of new forms of working and sustainable consumption.</p> <p>Deterioration of the former strong areas of the economy and policies maintaining old and inefficient structures and practices.</p> <p>Poor success of turning innovations into commercial success. Low amount of successful start-up entrepreneurs</p>	<p>Changes of laws and regulations aiming for more flexible working culture.</p> <p>Investments allocated to renewable energy and other emerging areas.</p> <p>Comprehensive assessment of the well-being impacts of key decisions.</p> <p>Attention to the decoupling of economic growth and environmental effects.</p>	

Table 6. Key factors in terms of climate change and the use of resources.

 CLIMATE CHANGE AND USE OF NATURAL RESOURCES			GOAL 13: Take urgent action to combat climate change and its impacts.
INDICATORS OF DEVELOPMENT:	REASONS FOR INADEQUATE PERFORMANCE	POSSIBILITIES FOR IMPROVEMENT	
<p>Emissions of greenhouse gases have decreased, but targets are becoming more difficult to meet.</p> <p>High use of natural resources. Ecological footprint: 15th largest in the World.</p> <p>Much room for improvement in renewable energy RECAI-index, 36th place.</p> <p>Nevertheless, the "greenest" country in the world: Environmental performance index.</p>	<p>Climate policies have been too reactive and inadequate.</p> <p>Heavy industry, northern location and long distances creating high level of energy consumption and emissions.</p> <p>High use of natural resources.</p> <p>Room for improvement in recycling and resource productivity.</p>	<p>Transformation of energy system towards renewable small-scale energy production.</p> <p>Structural changes of the economy and industry: low-carbon high value added products and – in particular – services.</p> <p>Climate targets and policies supporting the renewal of traffic system and construction sector.</p>	

6.2. Recommendations on the implementation of the national sustainable development action plan

The Sustainable Development Key Issues and Action Plan 2030 (Avain2030) project analysed Finland's focus areas within the framework of the UN's sustainable development programme, Agenda 2030. The project identified national strengths and weaknesses at the level of the 17 Sustainable Development Goals (SDGs) specified during the Agenda 2030 process and assessed the effectiveness of the indicators proposed for defining the Agenda 2030 targets. The project aimed not only to provide an overview of development in Finland, but to identify weak signals of development trends, particularly on the basis of a stakeholder group process. Specific proposals on the implementation of the national sustainable development implementation plan can be formulated on the basis of the project's results.

Avain2030 project's recommendations for the implementation of the national sustainable development action plan:

1. Introduce a participatory internal process within administration

While the survey of administrative departments provides an interesting basis for further discussion, complementary work is required.

The stakeholder group workshop method used for this project seems effective in terms of the internal collection of information within the administration and further consideration of the subject. It is recommended that the survey material (see Chapter 3) be completed on the basis of participatory information collection, requesting respondents to consider the previous responses and assess which deficiencies regarding measures taken to attain the targets are genuine. The resulting database will enable the development of open monitoring of the sustainable development measures still involving various target groups.

2. Discussion of the starting points of national information collection

The indicators for global Sustainable Development Goals form a broad-based overview of sustainable development. However, they also involve major challenges and needs for further development. Reconciling the requirements of international-level indicator monitoring with that done at national level will be particularly challenging.

On the whole, the Agenda 2030 indicators proposed by the UN are more suitable for depicting developing, rather than rich, countries. For rich countries, different indicators are required in certain respects, in order to provide genuine support for ambitious national implementation plans. The UN's proposed indicator set is a poor tool for describing nationally essential issues in a concise and policy-relevant form.

At best, the process of developing monitoring indicators that describe the implementation of sustainable development goals and targets serves as an incentive mechanism for various actors. However, these indicators must be adapted to meet the needs of their users and the context in which they are used, and to ensure that they genuinely describe development towards implementing a certain goal or target. The identification of local, sector-specific and national monitoring requirements would provide an opportunity to help shape the international development of indicators. Direct dialogue with other countries and actors implementing the UN's sustainable development goals and targets is important.

A national analysis in line with the indicators proposed by the UN would be highly resource intensive, due to the high number of indicators and the fact that information is not directly available from domestic statistical systems in the case of all of the indicators. In addition, the proposed indicators continue to involve a high degree of uncertainty and leave room for interpretation; this calls for the allocation of adequate resources to the formation of individual indicators in order to ensure international compatibility.

3. International comparative data and work with stakeholder groups to expand the knowledge base

An open-minded trial should be performed on the broader exploitation of existing information production in the monitoring and communication of sustainable development. For instance, country reviews that are a fit with sustainable development topics could be developed from international comparisons produced by various parties. These would enable a rough description of the fulfilment of the goals and targets and engage various parties in a discussion of the best ways of measuring development. In the best case scenario, this would bring parties into the discussion that are currently engaged in work which overlaps or competes with sustainable development reporting.

It would be important to broadly involve the expertise of stakeholder groups in the monitoring of sustainable development. The participatory stakeholder group working methods deployed in this project provide an example of a fruitful approach.

The Commitment 2050 process⁶ is one of the operating models used in relation to sustainable-development stakeholder groups in Finland. This process would be worth using in the preparation of the national action plan, in order to collect information on the concrete impacts of the measures taken by various actors.

4. Action plan to pave the way for sustainable development

The main observation of the 2030 project is that, in international comparisons, Finland began well in the implementation of sustainable development, but has managed no clearly positive development in the implementation of sustainable development goals in recent years. We therefore need an action plan that provides a basis for monitoring progress and identifying the measures required to initiate positive trends in various sectors. Such a national action plan must be ambitious and bold. On the basis of various information sources, the Avain 2030 project highlighted areas at which measures should be specifically targeted.

The project clearly revealed the numerous uncertainties and viewpoints open to interpretation with respect to sustainable development goals and indicators. One of the tasks of the action plan is to create a process for updating the knowledge base used with regard to monitoring data and arriving at new, multiple-impact solutions in support of sustainable development.

⁶ <https://commitment2050.fi/>

SOURCES AND BACKGROUND MATERIALS

Ahokumpu, A-L., Auvinen, A-P., Pylvänäinen, M., von Weissenberg, M. (2015). Fifth National Report to the Convention on Biological Diversity, Finland. Ministry of the Environment.

<http://www.ym.fi/download/noname/%7B3A1ECE39-2CA3-475B-87CF-F4ED0988F51A%7D/99144>

Butchart, S.H.M., Clarke, M., Smith, R.J., Sykes, R.E., Scharlemann, J.P.W., Harfoot, M., Buchanan, G.M., Angulo, A., Balmford, A., Bertzky, B., Brooks, T.M., Carpenter, K.E., Comeros-Raynal, M.T., Cornell, J., Ficitola, G.F., Fishpool, L.D.C., Fuller, R.A., Geldmann, J., Harwell, H., Hilton-Taylor, G., Hoffmann, M., Joolia, A., Joppa, L., Kingston, N., May, I., Milam, A., Polidoro, B., Ralph, G., Richman, N., Rondinini, C., Segan, D.B., Skolnik, B., Spalding, M.D., Stuart, S.N., Symes, A., Taylor, J., Visconti, P., Watson, J.E.M., Wood, L., Burgess, N.D. (2015). Shortfalls and Solutions for Meeting National and Global Conservation Area Targets. *Conservation Letters* 8(5): 329-337. DOI: 10.1111/conl.12158

Costanza, R., McGlade, J., Lovins, H., Kubiszewski, I. (2015). An overarching goal for the UN sustainable development goals. *Solutions* 5(4): 13-16. <http://www.thesolutionsjournal.com/node/237220>

Hajer, M., Nilsson, M., Raworth, K., Bakker, P., Berkhout, F., de Boer, Y., Rockström, J., Ludwig, K., Kok, M. (2015). Beyond cockpit-ism: Four insights to enhance the transformative potential of the sustainable development goals. *Sustainability* 7(2): 1651-1660. <http://www.mdpi.com/2071-1050/7/2/1651/htm>

Hoffrén, J., Lemmetyinen, I., Pitkä, L., (2010) Esiselvitys hyvinvointi-indikaattoreista. Mittareiden vertailu ja kehittämiskohteet. SITRA, Helsinki. <http://www.sitra.fi/julkaisut/Selvityksi%C3%A4-sarja/Selvityksi%C3%A4%2032.pdf>

Huutoniemi, Katri & Tapio, Petri (toim.) Transdisciplinary Sustainability Studies: A Heuristic Approach. Routledge, London and New York.

IEP (2016). Global Peace Index 2016. Institute for Economics & Peace.

http://static.visionofhumanity.org/sites/default/files/GPI%202016%20Report_2.pdf

Korhonen, S., Koponen, J., Parkkinen, M., (2015). Terveys 2050, Neljä skenaariota ihmislähtöisestä terveydestä ja valinnanvapaudesta. TEKES & Demos Helsinki. <http://www.demoshelsinki.fi/wp-content/uploads/2015/06/Terveys2050.pdf>

Kroll, C. 2015. Sustainable Development Goals: Are the rich countries ready? Gütersloh: Bertelsmann Foundation. <https://www.bertelsmann-stiftung.de/en/publications/publication/did/sustainable-development-goals-are-the-rich-countries-ready/>

Lyytimäki J. (2014). Communicating sustainability under increasing public budget constraints. *Latin American Journal of Management for Sustainable Development* 1(2/3): 137-145. DOI: 10.1504/LAJMSD.2014.065476

Lyytimäki J. (2012). Evaluation of sustainable development strategies and policies: The need for more timely indicators. *Natural Resources Forum* 36(2): 101-108. DOI: 10.1111/j.1477-8947.2012.01447.x

Lyytimäki, J. (2011). Kestävään kehitykseen liittyvien vaikutusten ennakoarvointi politiikansuunnittelussa ja päätöksenteossa. Suositus arvioinnin työkaluksi. Reports of the Ministry of the Environment 24/2011. Ministry of the Environment, Helsinki. <https://julkaisut.valtioneuvosto.fi/handle/10138/41443>

Morse, S. (2016). Measuring the Success of Sustainable Development Indices in Terms of Reporting by the Global Press. *Social Indicators Research* 125(2): 359-375. DOI: 10.1007/s11205-014-0847-8

Morse, S., Bell, S. (2011). Sustainable Development Indicators: The Tyranny of Methodology. *Consilience* 6(1): 222-239. DOI: 10.7916/D8H994WH

Neumayer, E. (2003). Weak versus Strong Sustainability. Exploring the Limits of Two Opposing Paradigms. 2nd ed. Edward Elgar, Sheltenham, UK.

OECD 2015. OECD360 Suomi 2015. Kuinka Suomi sijoittuu vertailussa? OECD, Paris.
http://www.oecd360.org/finland?utm_source=oecdorg&utm_medium=focusbox&utm_campaign=oecd360launch

OECD 2016. OECD Economic Surveys: Finland 2016. OECD Publishing, Paris.
DOI:10.1787/eco_surveys-fin-2016-en. http://www.keepeek.com/Digital-Asset-Management/oecd/economics/oecd-economic-surveys-finland-2016_eco_surveys-fin-2016-en

Odlekop, J.A., Fontana, L.B., Grugel, J., Roughton, N., Adu-Ampong, E.A., Bird, G.K., Dorgan, A., Vera Espinoza, M.A., Wallin, S., Hammett, D., Agbarakwe, E., Agrawal, A., Asylbekova, N., Azkoul, C., Bardsley, C., Bebbington, A.J., Carvalho, S., Chopra, D., Christopoulos, S., Crewe, E., Dop, M.C., Fischer, J., Gerretsen, D., Glennie, J., Gois, W., Gondwe, M., Harrison, L.A., Hujo, K., Keen, M., Laserna, R., Miggiano, L., Mistry, S., Morgan, R.J., Raftree, L.L., Rhind, D., Rodrigues, T., Roschnik, S., Senkubuge, F., Thornton, I., Trace, S., Ore, T., Valdés, R.M., Vira, B., Yeates, N., Sutherland, W.J. (2016). 100 key research questions for the post-2015 development agenda. *Development Policy Review* 34(1): 55-82. <http://onlinelibrary.wiley.com/doi/10.1111/dpr.12147/full>

Raijas, A., Saastamoinen, M. (2015) Pankkipalvelut 2015: Kuluttajien näkemyksiä pankkien tarjonnasta. Reports of the Finnish Competition and Consumer Authority 5/2015. Finnish Competition and Consumer Authority, Helsinki. <http://www.kkv.fi/globalassets/kkv-suomi/julkaisut/selvitykset/2015/kkv-selvityksia-5-2015-pankkipalvelut-2015-kuluttajien-nakemyksia-pankkien-tarjonnasta.pdf>

Rinne, J., Lyytimäki, J. & Kautto, P. (2013). From sustainability to well-being: Lessons learned from the use of sustainable development indicators at national and EU level. *Ecological Indicators* 35: 35-42. DOI: 10.1016/j.ecolind.2012.09.023

Ritola, M. Annala, M., Hulkkonen, S., Lahtinen, V., Lätti, R., Noponen, E., Mäkelä, K., Mizera, R., Neuvonen, A., Hietaniemi, J. (2015) Cleantech takes over consumer markets. Demos Helsinki & TEKES. https://www.tekes.fi/globalassets/julkaisut/consumer_cleantech_report.pdf

Rosenström, U. (2009). Sustainable Development Indicators: Much Wanted, Less Used? Monographs of the Boreal Environmental Research No. 33, Finnish Environment Institute, Helsinki. <http://hdl.handle.net/10138/39328>

Rosenström, U., Palosaari, M. (2000). Kestävyyden mitta. Suomen kestävän kehityksen indikaattorit 2000. The Finnish Environment 404. Ministry of the Environment, Helsinki. <http://hdl.handle.net/10138/40426>

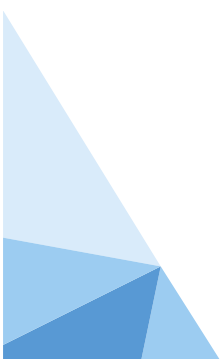
Sachs, J.D., Schmidt-Traub, G., Durand-Delacre, D. (2016). Preliminary Sustainable Development Goal Index and Dashboard. SDSN Working Paper. 15 February 2016. <http://unsdsn.org/resources/publications/sdg-index/>

Seppälä, J., Sahimaa, O., Honkatukia, J., Valve, H., Antikainen, R., Kautto, P., Myllymaa, T., Mäenpää, I., Salmenperä, H., Alhola, K., Kauppila, J., Salminen, J. (2016a). Kiertotalous Suomessa – toimintaympäristö, ohjauskeinot ja mallinnetut vaikutukset vuoteen 2030. Publications of the Government's analysis, assessment and research activities 25/2016. Prime Minister's Office, Helsinki. <http://tietokayttoon.fi/julkaisu?pubid=11902>

Seppälä, J., Kurppa, S., Savolainen, H., Antikainen, R., Lyytimäki, J., Koskela, S., Hokkanen, J., Känkänen, R., Koltola, L., Hippinen, I. (2016b). Vihreän kasvun sekä materiaali- ja resurssitehokkuuden avainindikaattorit. Publications of the Government's analysis, assessment and research activities 23/2016. Prime Minister's Office, Helsinki. <http://tietokayttoon.fi/julkaisu?pubid=11312>

UN (2016). Sustainable development goals. United Nations. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Weitz, N., Persson, Å., Nilsson, M. Tenggren, S. (2015). Sustainable Development Goals for Sweden: Insights on Setting a National Agenda. Stockholm Environment Institute Working paper no. 2015-10. <https://www.sei-international.org/mediamanager/documents/Publications/SEI-WP-2015-10-SDG-Sweden.pdf>



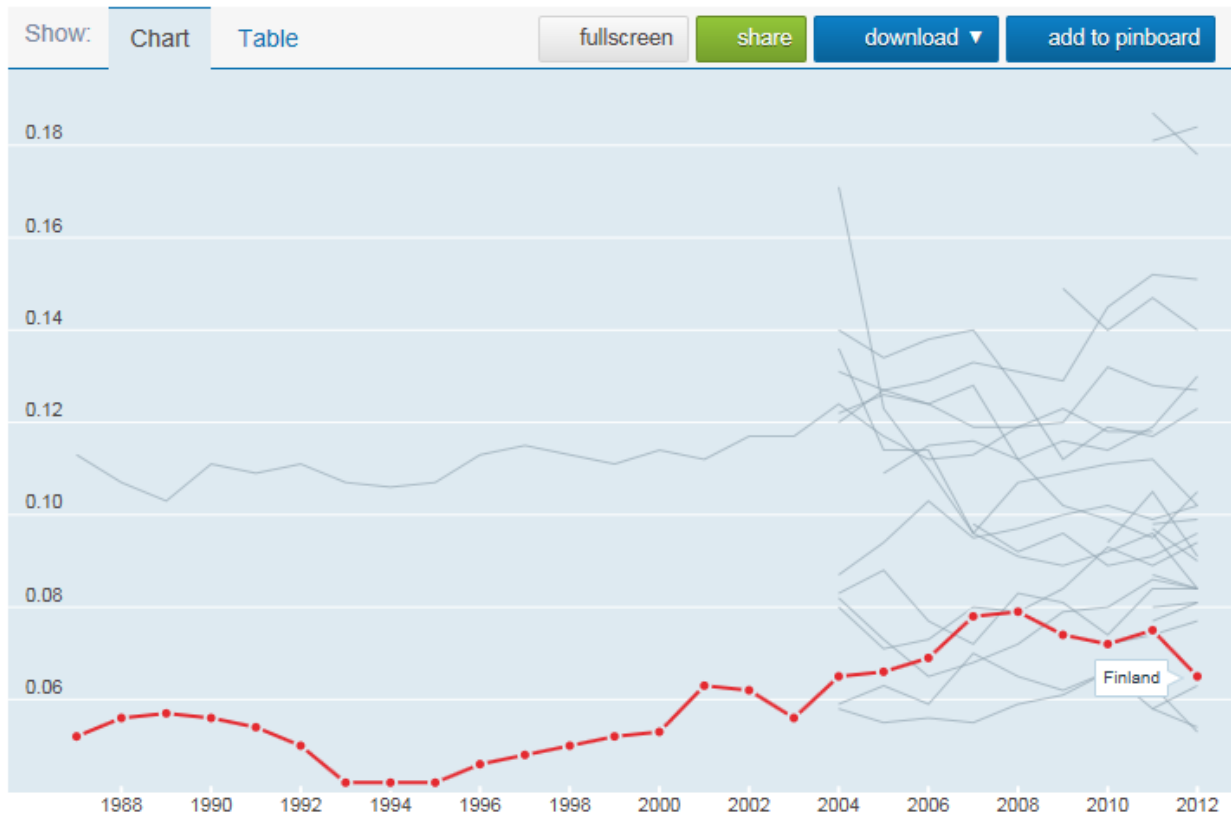
APPENDIX 1. The development in Finland based on OECD indicators

Appendix 1 includes selected statistical comparisons according to the 17 SDGs of the UN, sourced from the OECD's indicator database (<https://data.oecd.org/>). During the selection of comparisons, the most comprehensive account possible is taken of sustainable development targets and the proposed indicators for them. Indicators evaluated as essential with regard to achieving the SDG are included, even if they are not mentioned in the descriptions of the targets. Detected links with the indicators proposed by the UN are given in connection with the indicators.

1. End poverty in all its forms everywhere.

Poverty rate Total, Ratio, 1987 – 2012

Source: Income distribution



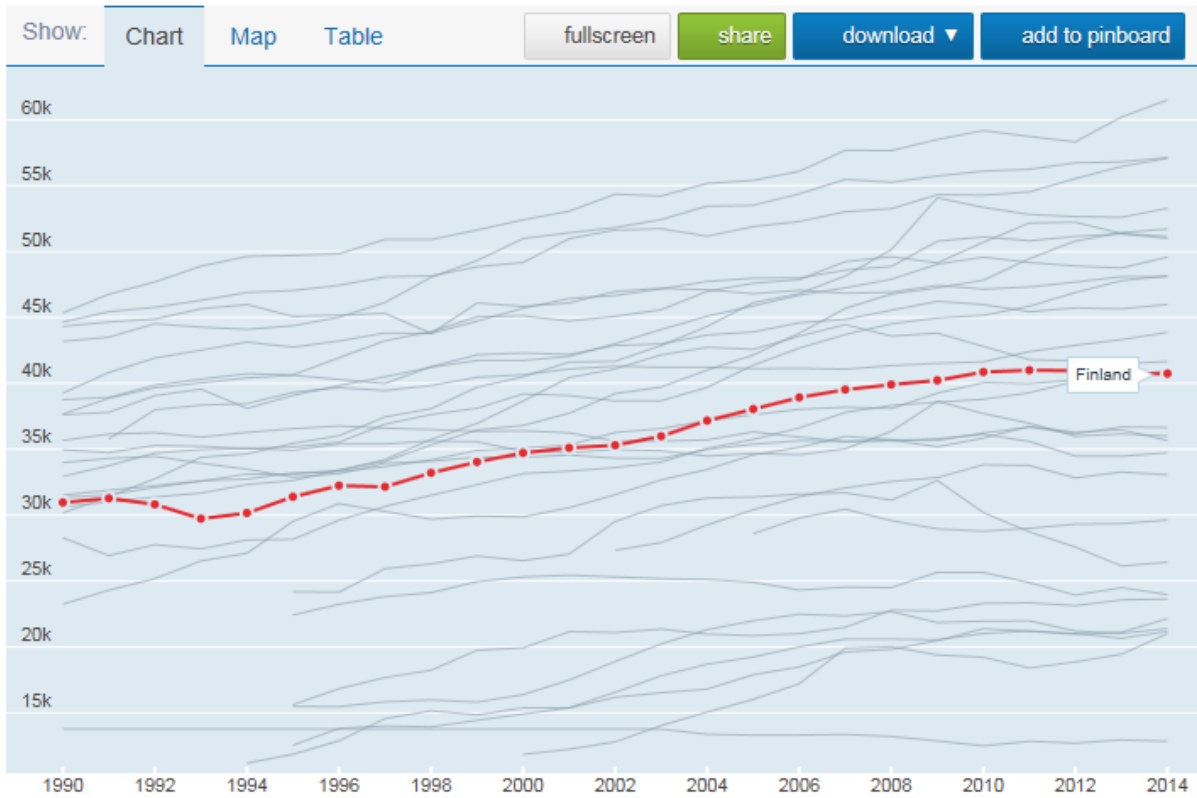
Source: <https://data.oecd.org/inequality/poverty-rate.htm>

The Agenda2030 indicator related to the topic:

1.1.2. Proportion of population living below the national poverty line, by sex and age

Average wages Total, US dollars , 1990 – 2014

Source: Average annual wages

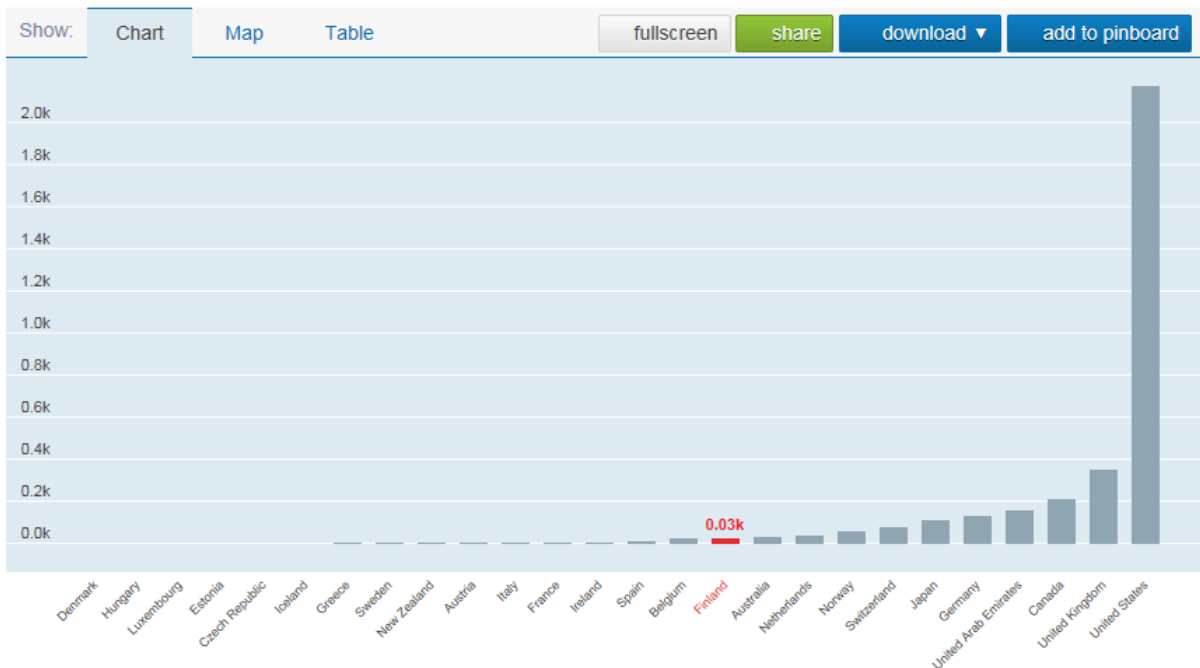


Source: <https://data.oecd.org/earnwage/average-wages.htm>

2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Food aid Total, Million US dollars, 2014

Source: Detailed aid statistics: Official and private flows

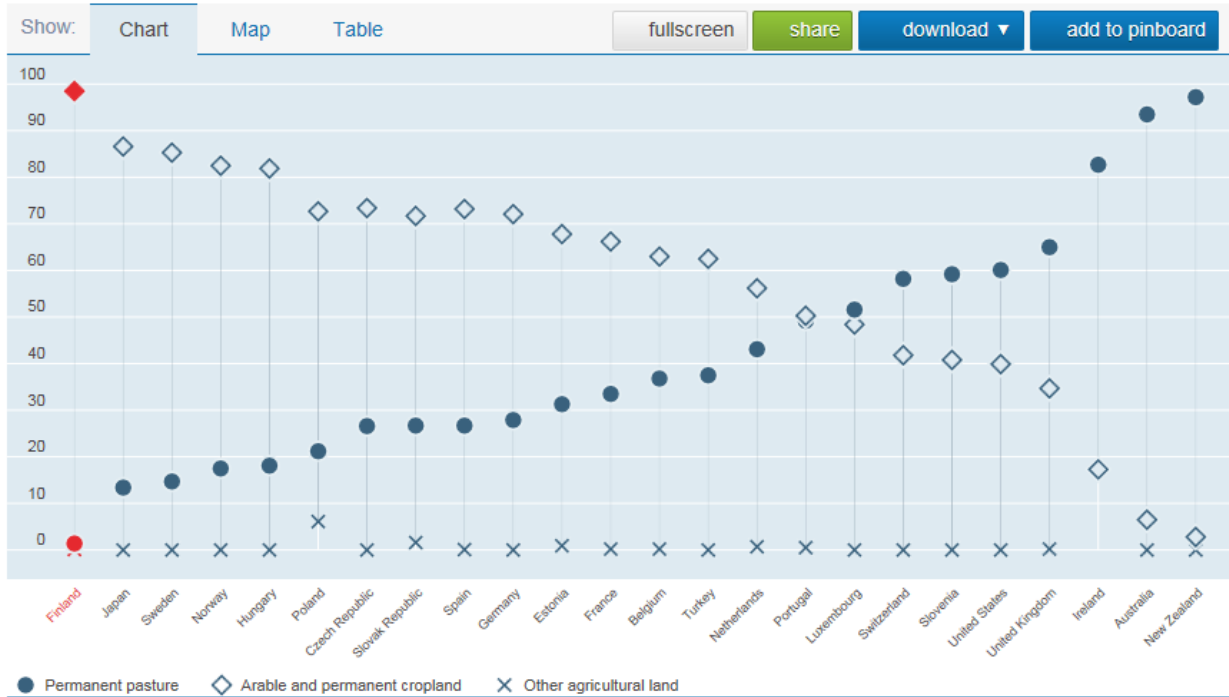


Source: <https://data.oecd.org/oda/food-aid.htm>

The Agenda2030 indicator related to the topic:
2.a.2 Total official flows (official development assistance plus other official flows) to the agriculture sector

Agricultural land Permanent pasture / Arable and permanent cropland / Other agricultural land, % of agricultural land, 2010

Source: Environmental Performance of Agriculture (Edition 2013)

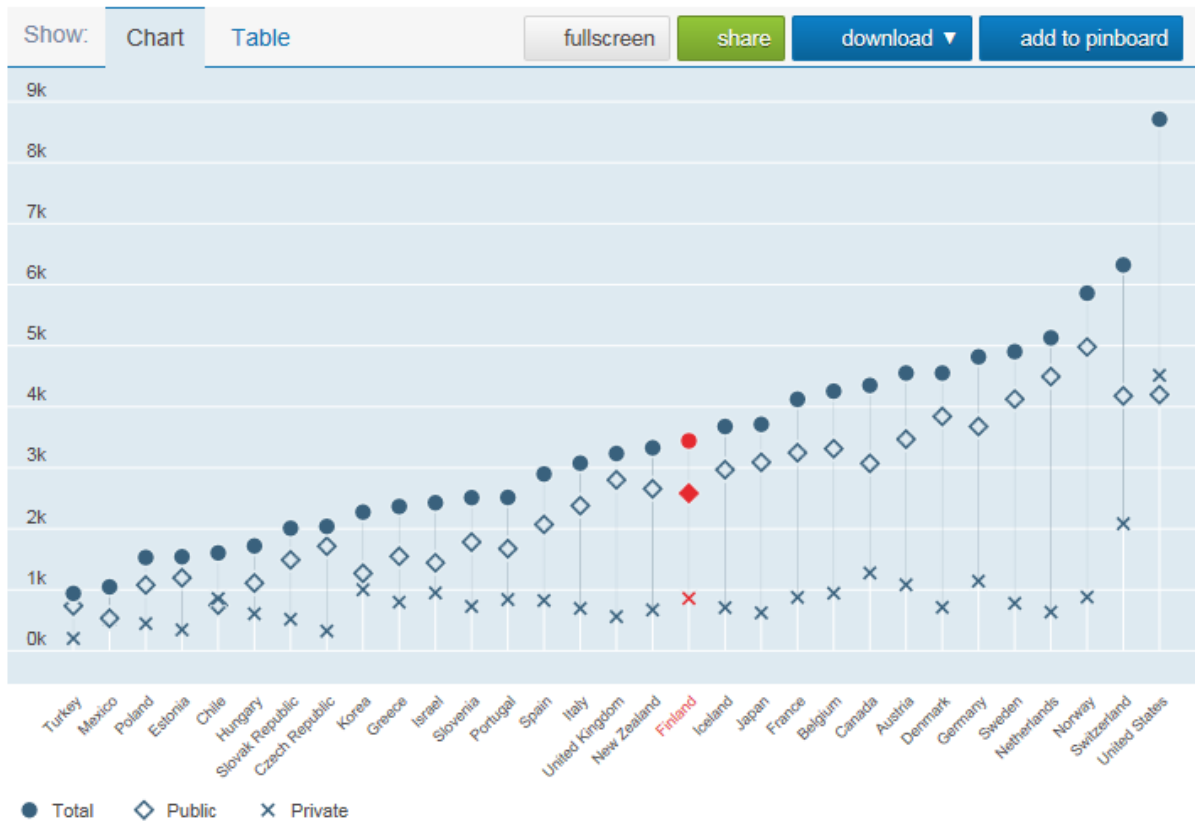


Source: <https://data.oecd.org/agrland/agricultural-land.htm>

3. Ensure healthy lives and promote well-being for all at all ages.

Health spending Total / Public / Private, US dollars/capita, 2013

Source: Health expenditure and financing: Health expenditure indicators

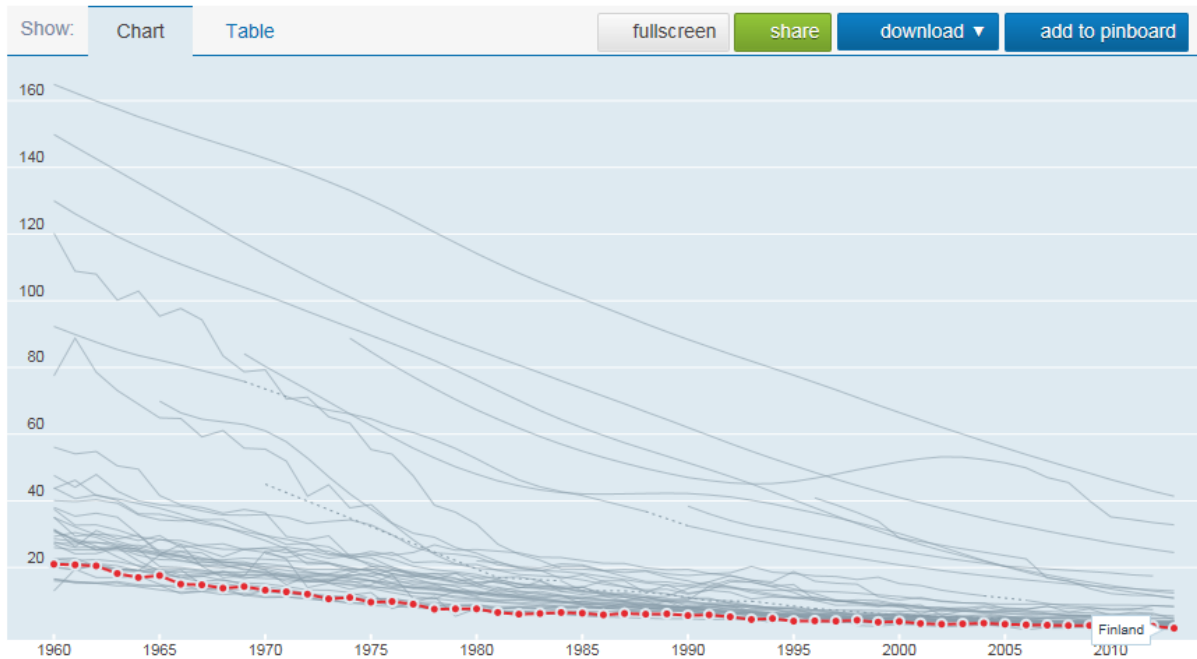


Source: <https://data.oecd.org/healthres/health-spending.htm>

Infant mortality rates

Total, Deaths/1 000 live births, 1960 – 2013

Source: Health status



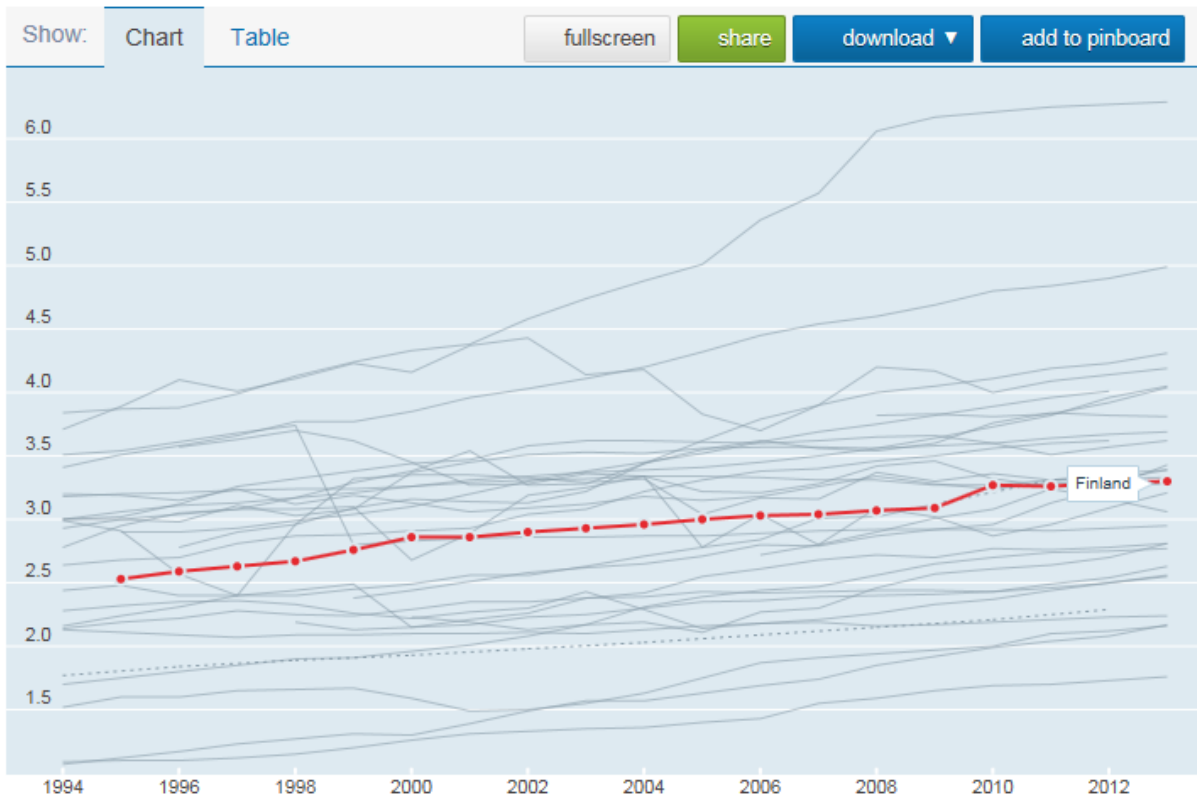
The Agenda2030 indicator related to the topic:

3.2.2. Neonatal mortality rate

Doctors

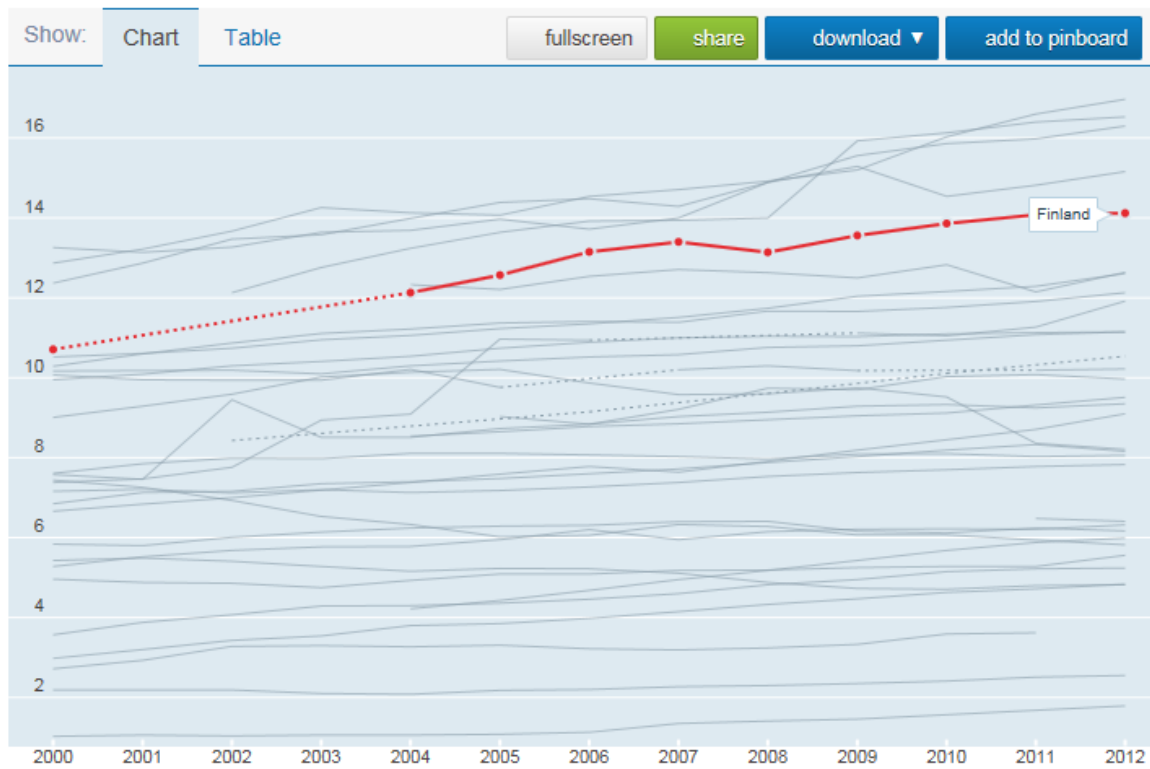
Total, Per 1 000 inhabitants, 1994 – 2013

Source: Health care resources



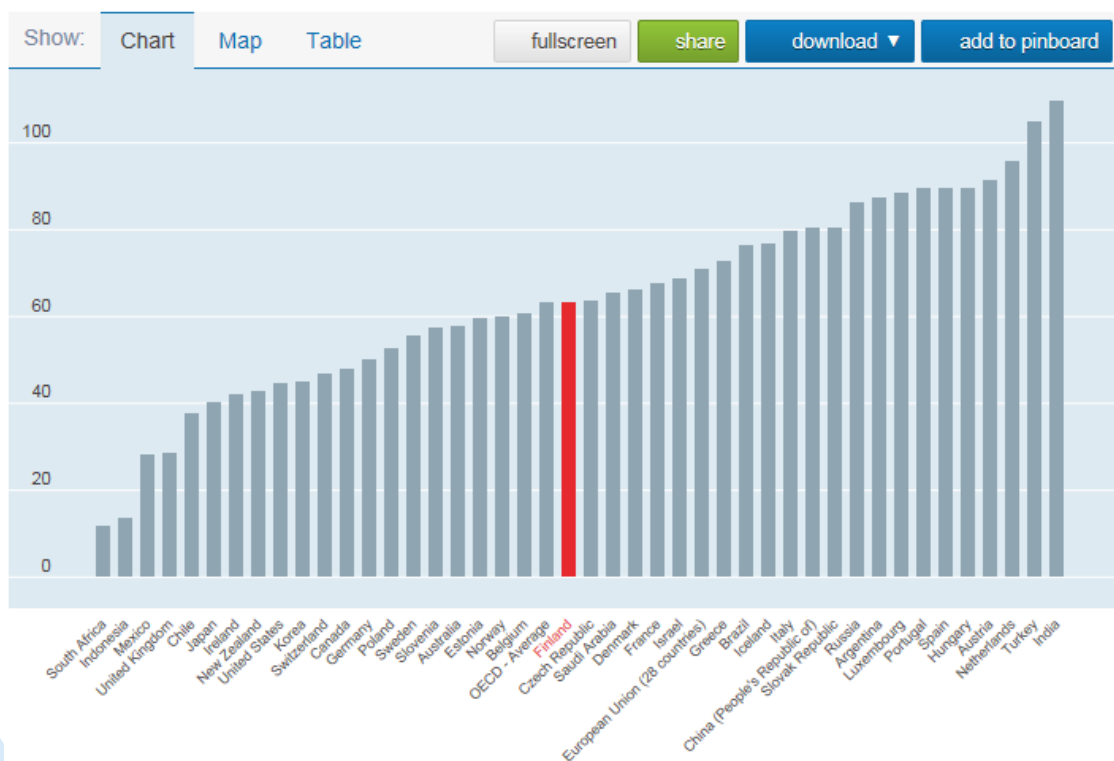
The Agenda2030 indicator related to the topic:

3.c.1. Health worker density and distribution



Source: <https://data.oecd.org/healthres/nurses.htm#indicator-chart>

The Agenda2030 indicator related to the topic:
3.c.1. Health worker density and distribution

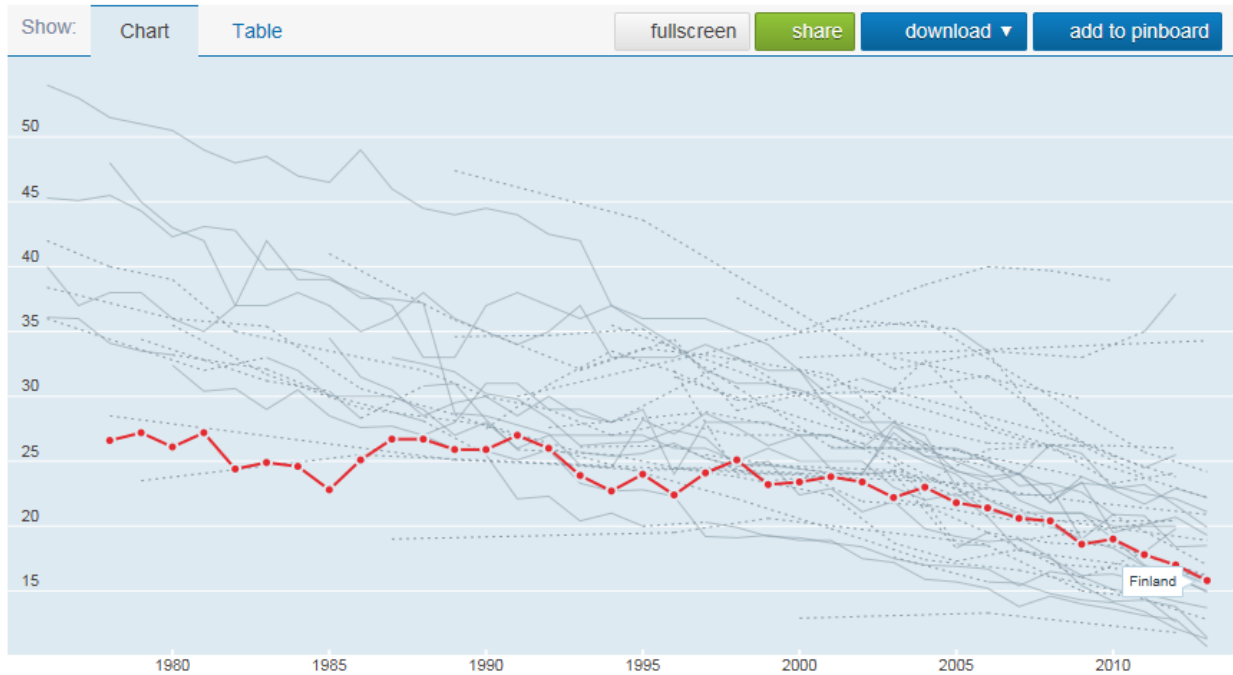


Source: <https://data.oecd.org/pension/net-pension-replacement-rates.htm>

Daily smokers

Total, % of population aged 15+, 1976 – 2013

Source: Non-medical determinants of health



Source: <https://data.oecd.org/healthrisk/daily-smokers.htm>

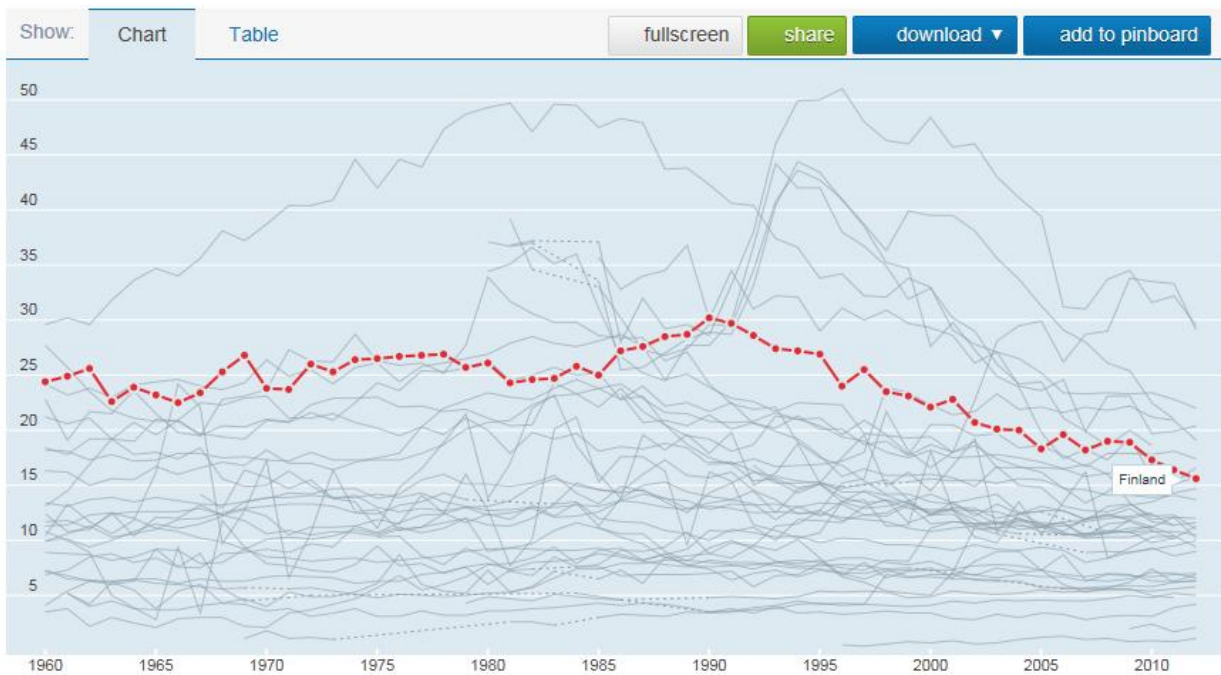
The Agenda2030 indicator related to the topic:

3.a.1. Age-standardized prevalence of current tobacco use among persons aged 15 years and older

Suicide rates

Total, Per 100 000 persons, 1960 – 2012

Source: Health status



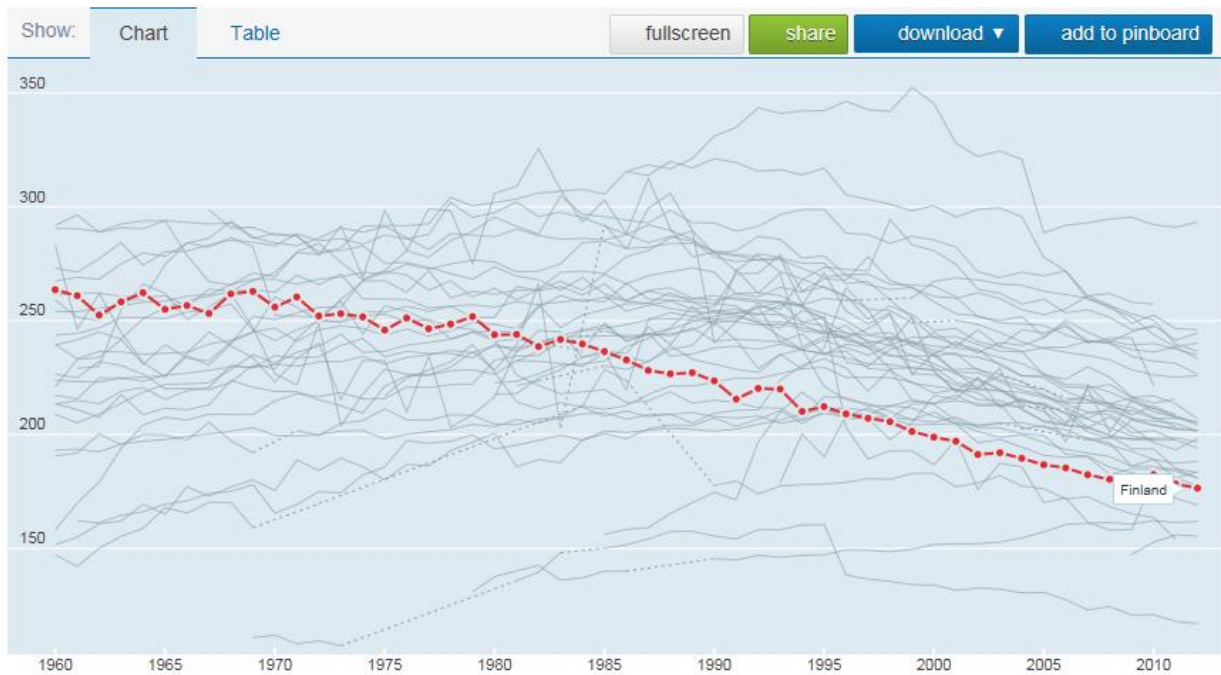
Source: <https://data.oecd.org/healthstat/suicide-rates.htm>

The Agenda2030 indicator related to the topic:

3.4.2. Suicide mortality rate

Deaths from cancer Total, Per 100 000 persons, 1960 – 2012

Source: Health status



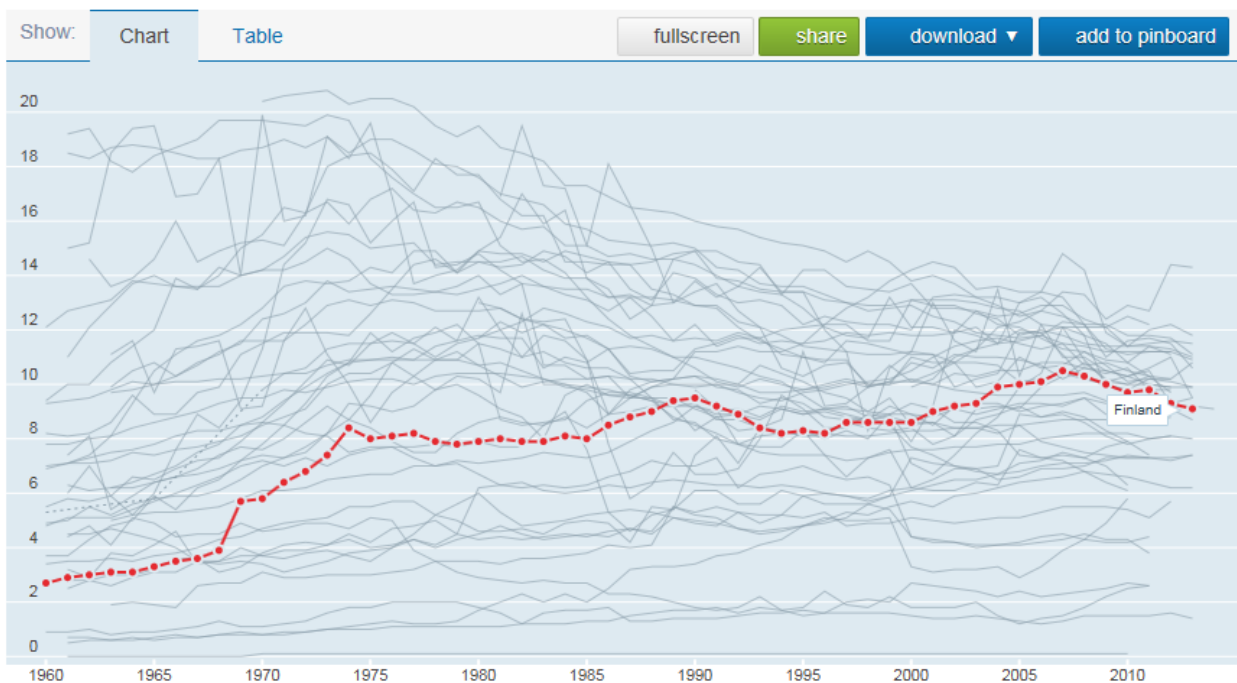
Source: <https://data.oecd.org/healthstat/deaths-from-cancer.htm>

The Agenda2030 indicator related to the topic:

3.4.1. Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease

Alcohol consumption Total, Litres/capita (aged 15 and over), 1960 – 2014

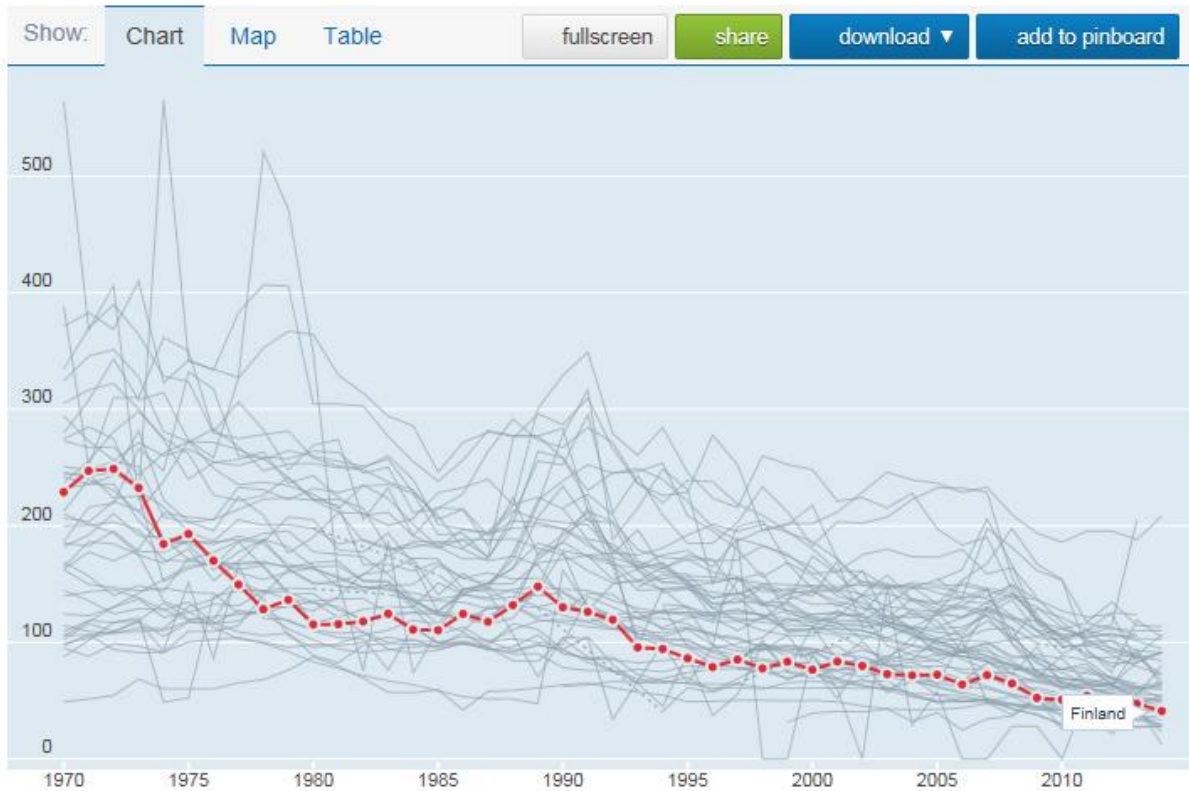
Source: Non-medical determinants of health



Source: <https://data.oecd.org/healthrisk/alcohol-consumption.htm>

The Agenda2030 indicator related to the topic:

3.5.2. Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol



Source: <https://data.oecd.org/transport/road-accidents.htm>

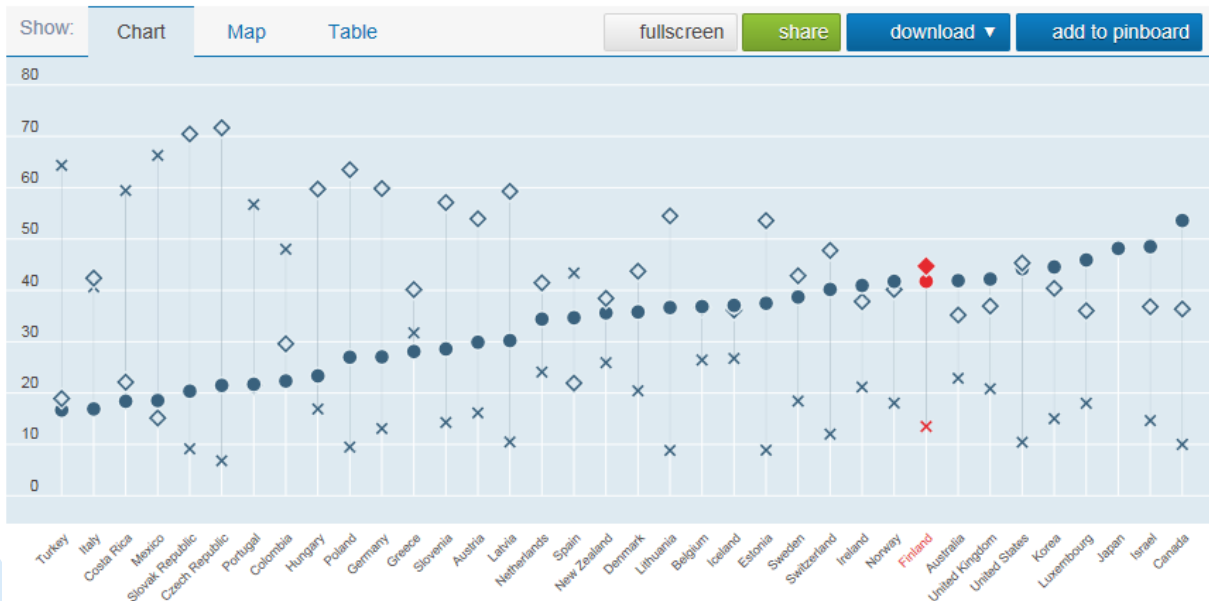
The Agenda2030 indicator related to the topic:

3.6.1. Death rate due to road traffic injuries

4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Adult education level Tertiary / Upper secondary / Below upper secondary, % of 25-64 year-olds , 2014

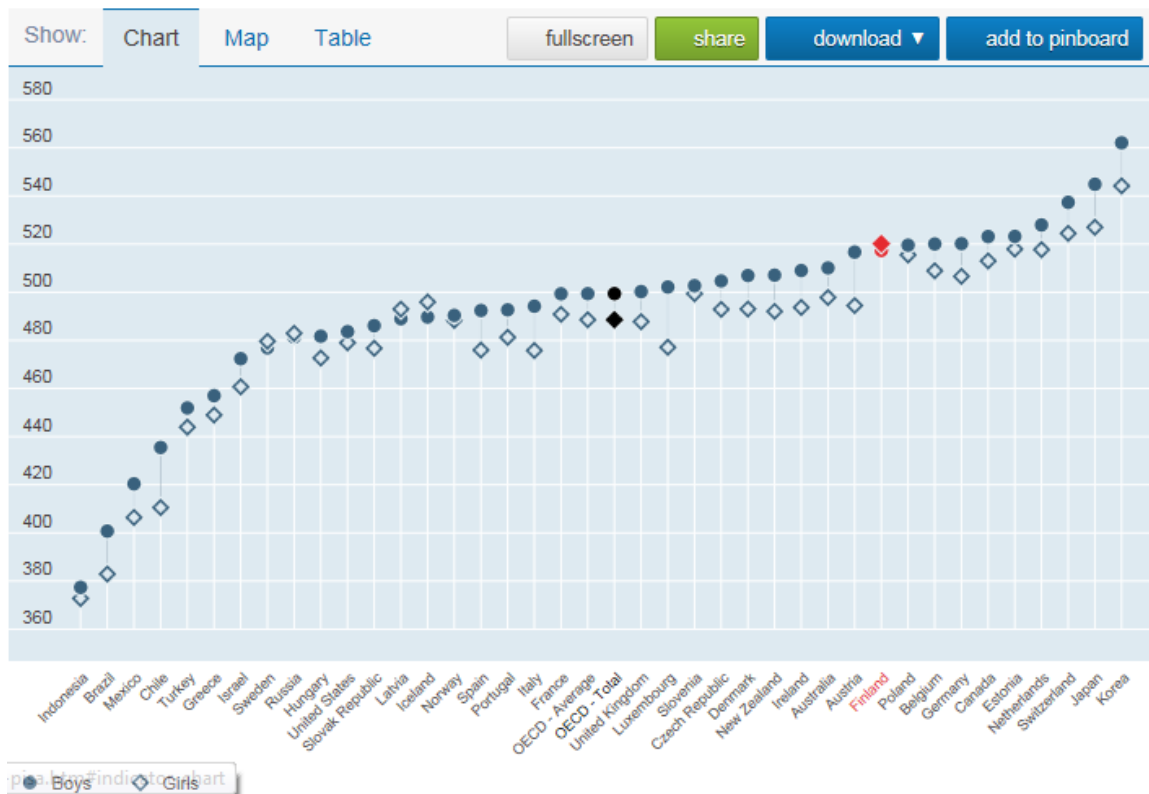
Source: Education at a glance: Educational attainment and labour-force status



Source: <https://data.oecd.org/eduatt/adult-education-level.htm>

Mathematics performance (PISA) Boys / Girls, Mean score, 2012

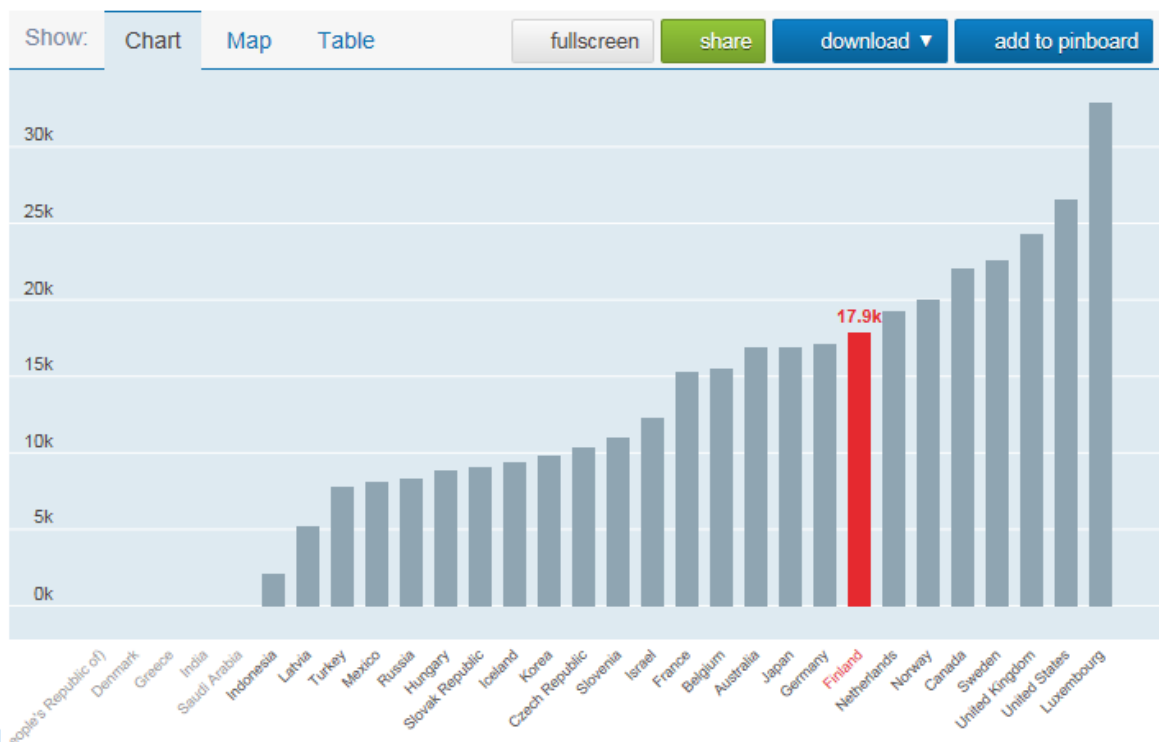
Source: PISA: Programme for International Student Assessment



Source: <https://data.oecd.org/pisa/mathematics-performance-pisa.htm>

Education spending Tertiary, US dollars/student, 2012

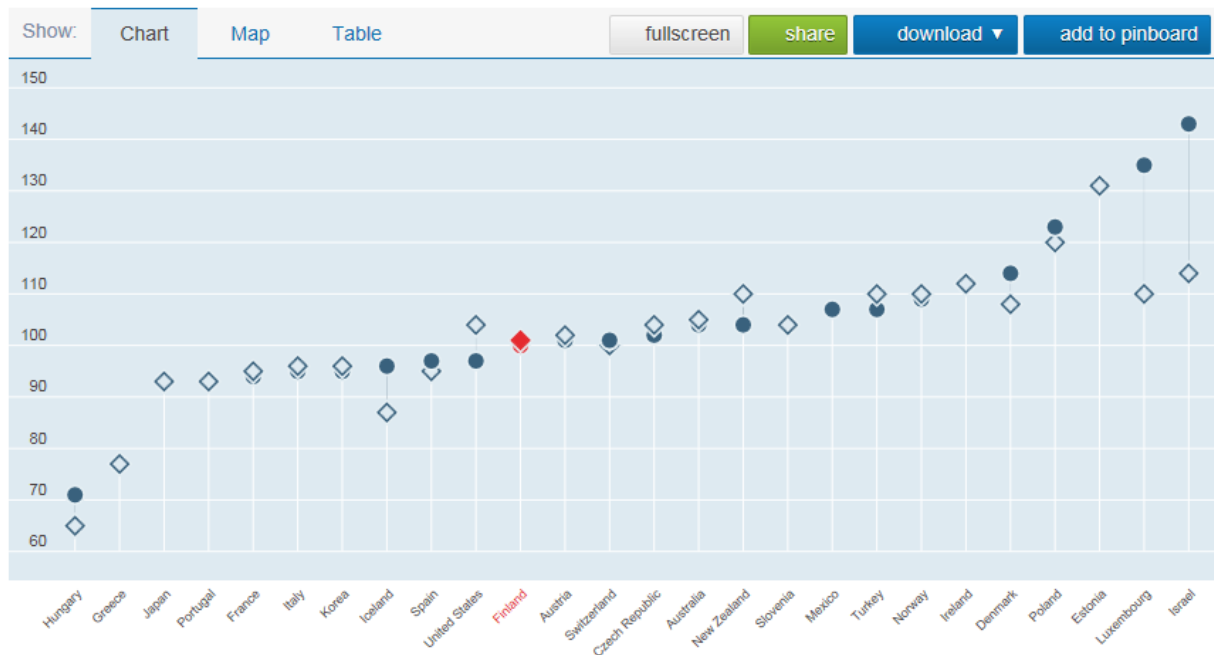
Source: Education at a glance: Educational finance indicators



Source: <https://data.oecd.org/eduresource/education-spending.htm>

Teachers' salaries Primary, 15 years' experience / Lower secondary, 15 years' experience, 2005=100, 2012

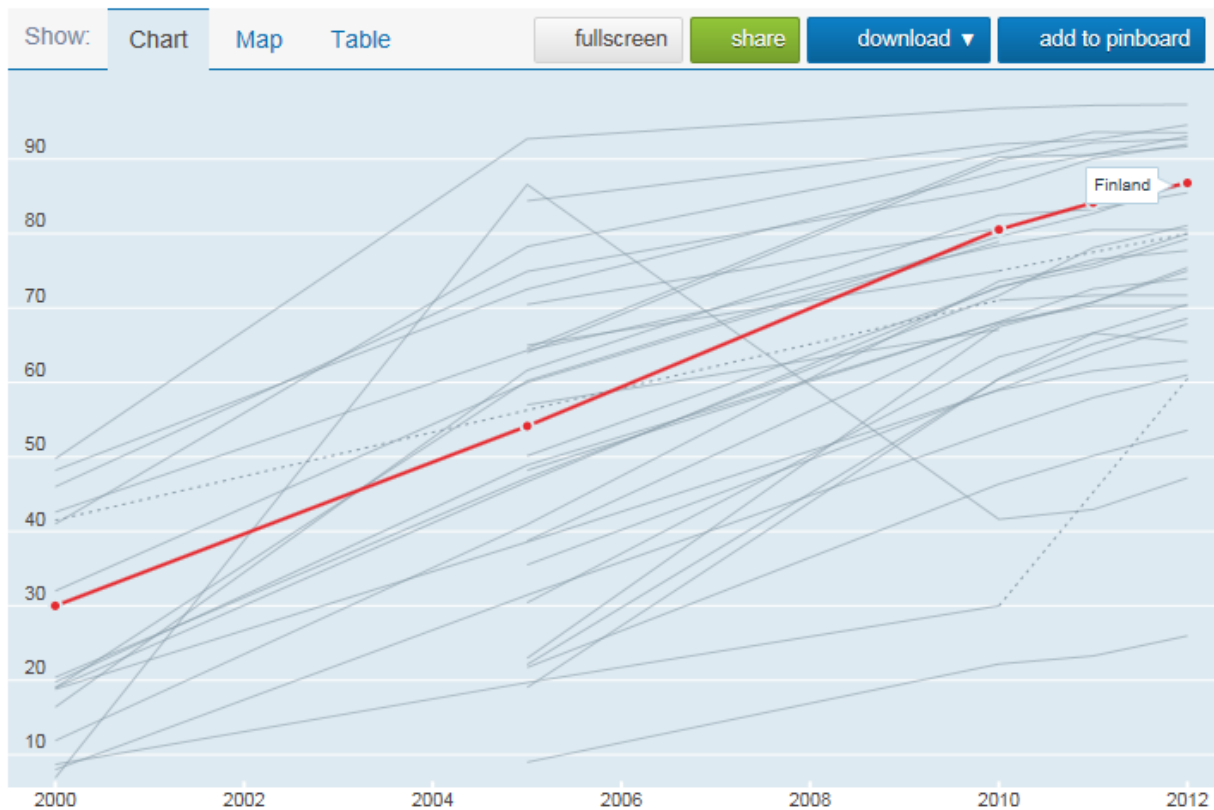
Source: Education Database: ISCED-97, Educational Personnel



Source: <https://data.oecd.org/eduresource/teachers-salaries.htm>

Internet access Total, % of all households, 2000 – 2012

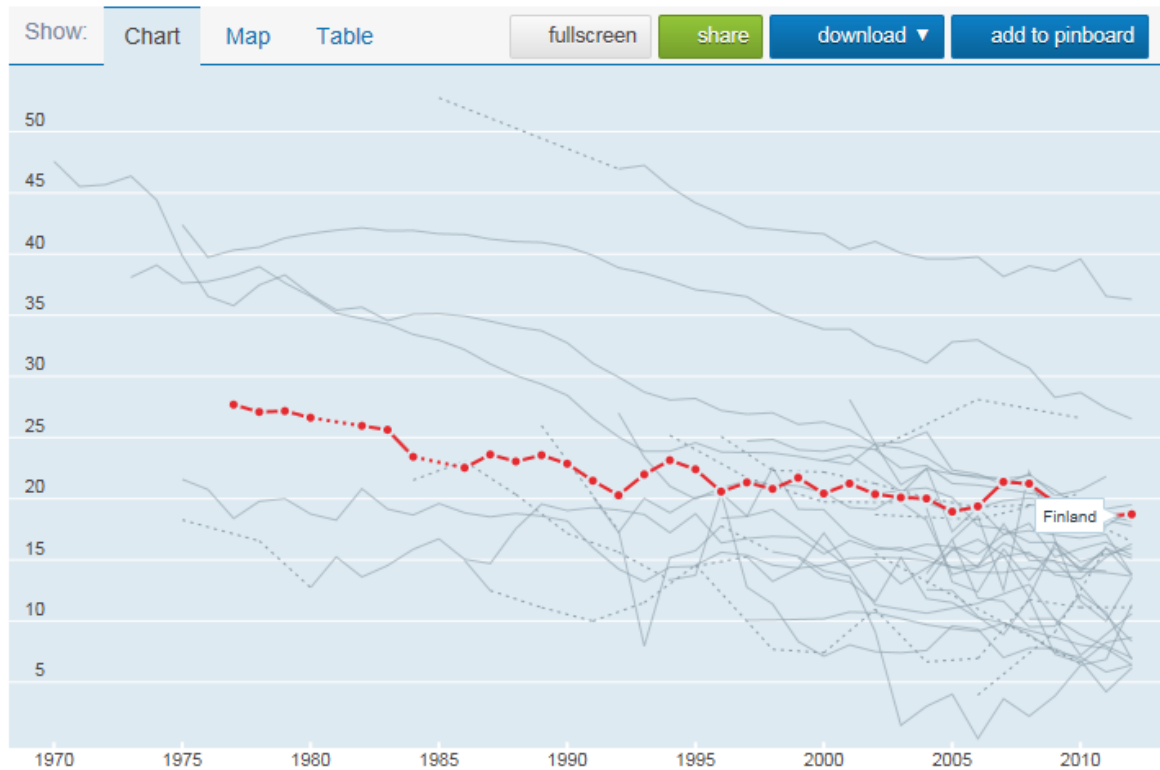
Source: OECD Factbook



Source: <https://data.oecd.org/ict/internet-access.htm>

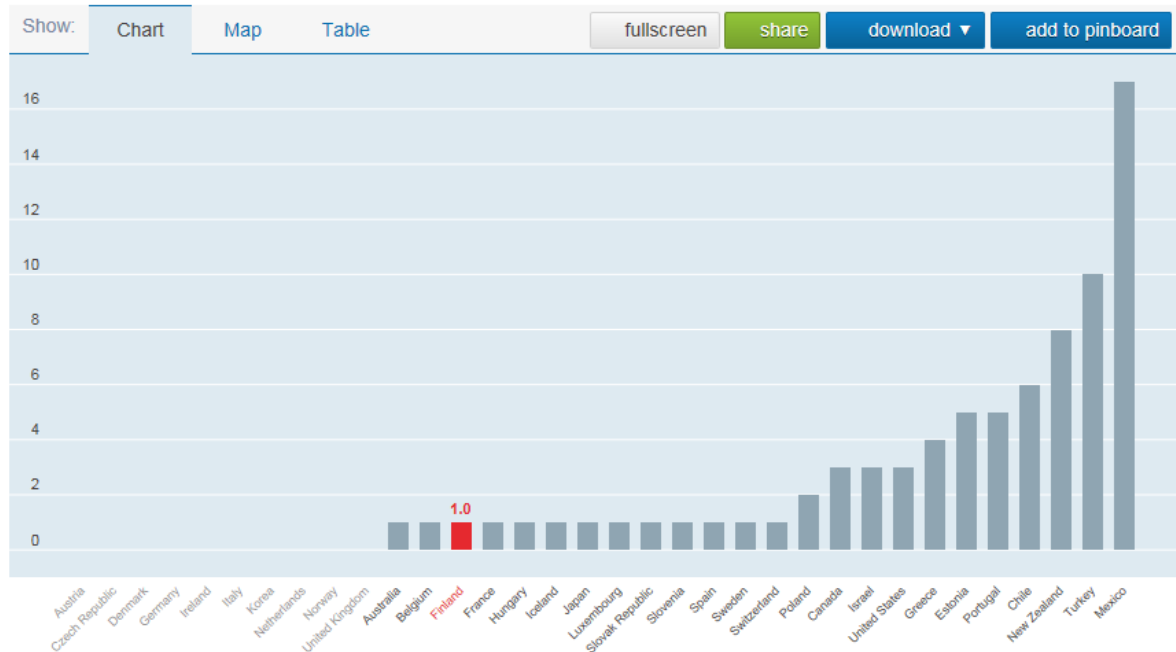
5. Achieve gender equality and empower all women and girls.

Gender wage gap Total, % of male median wage, 1970 – 2012 Source: Earnings: Gross earnings: decile ratios



Source: <https://data.oecd.org/earnwage/gender-wage-gap.htm#indicator-chart>

Discriminatory family code Early marriage, Percentage, 2014 Source: Gender, Institutions and Development (Edition 2014)



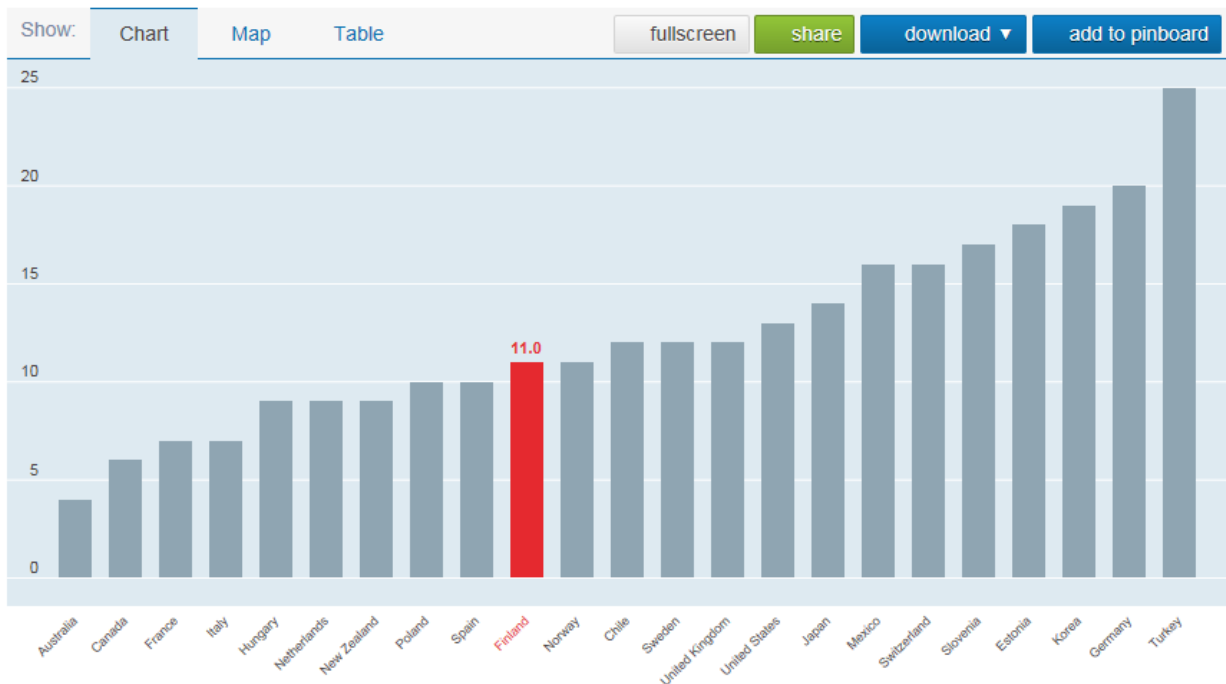
Source: <https://data.oecd.org/inequality/discriminatory-family-code.htm>

The Agenda2030 indicator related to the topic:

5.3.1. Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18

Violence against women Attitudes towards violence, Percentage, 2014

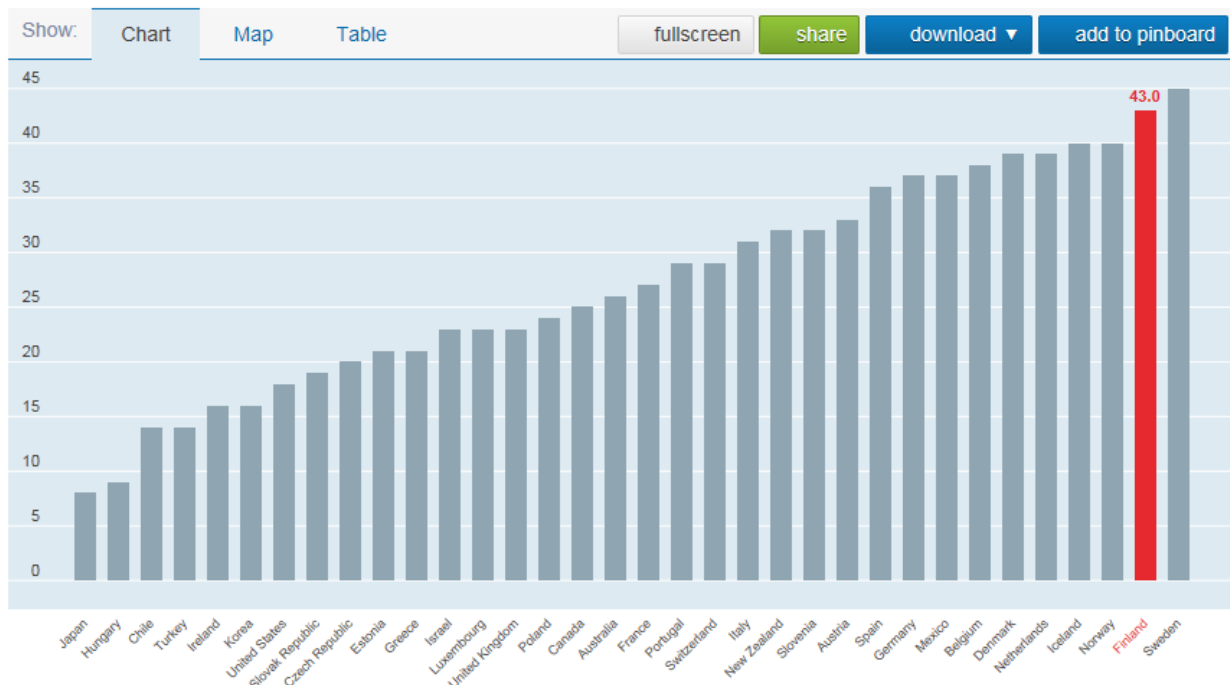
Source: Gender, Institutions and Development (Edition 2014)



Source: <https://data.oecd.org/inequality/violence-against-women.htm#indicator-chart>
 (This indicator is given for SDG 16 as well.)

Women Political Voice Political representation, Percentage, 2014

Source: Gender, Institutions and Development (Edition 2014)



Source: <https://data.oecd.org/inequality/women-political-voice.htm#indicator-chart>

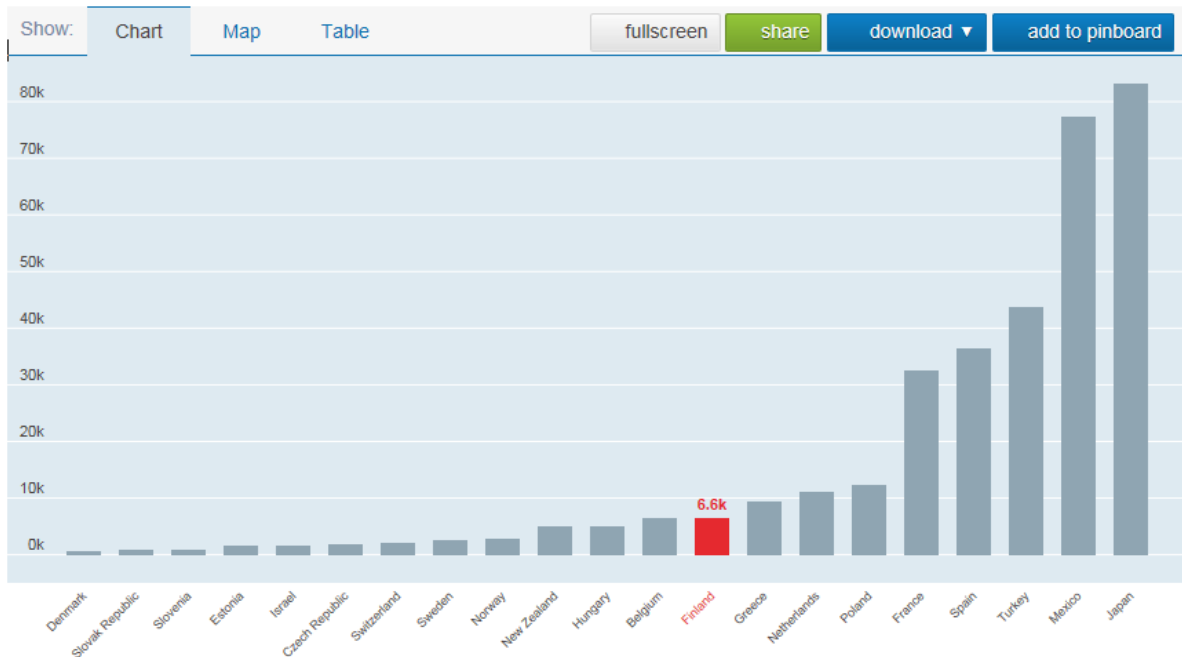
The Agenda2030 indicator related to the topic:

5.5.1. Proportion of seats held by women in national parliaments and local governments

6. Ensure availability and sustainable management of water and sanitation for all.

Water withdrawals Total, Million m3, 2006

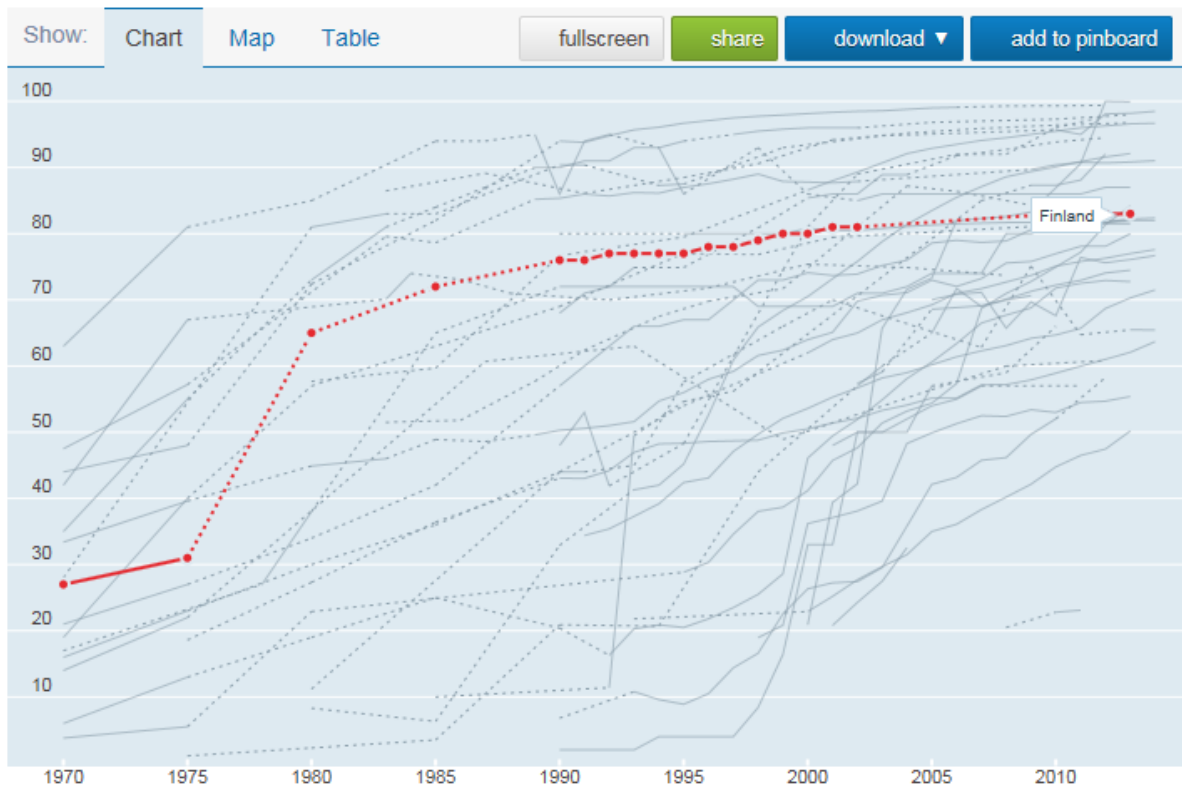
Source: Water: Freshwater abstractions



Source: <https://data.oecd.org/water/water-withdrawals.htm>

Waste water treatment Total, Percentage, 1970 – 2014

Source: Water: Wastewater treatment



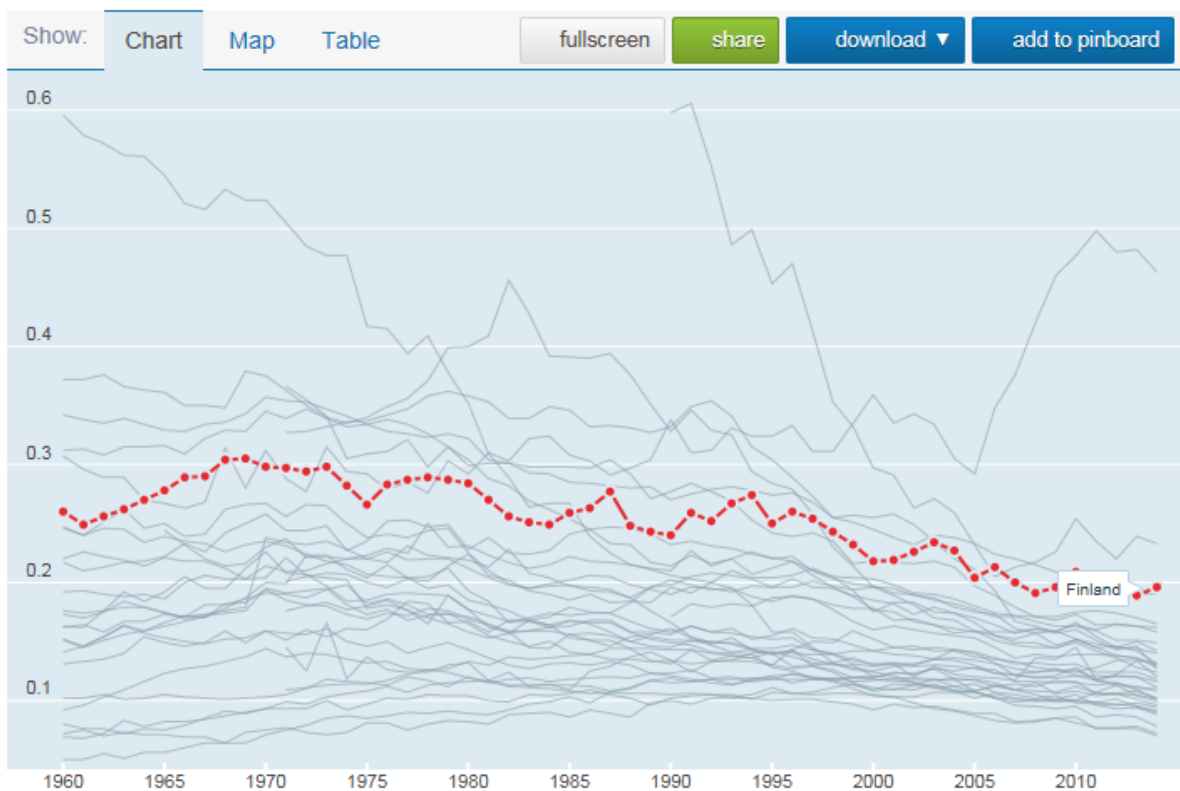
Source: <https://data.oecd.org/water/waste-water-treatment.htm>

The Agenda2030 indicator related to the topic:
6.3.1. Proportion of wastewater safely treated

7. Ensure access to affordable, reliable, sustainable and modern energy for all.

Primary energy supply Total, Toe/1 000 US dollars, 1960 – 2014

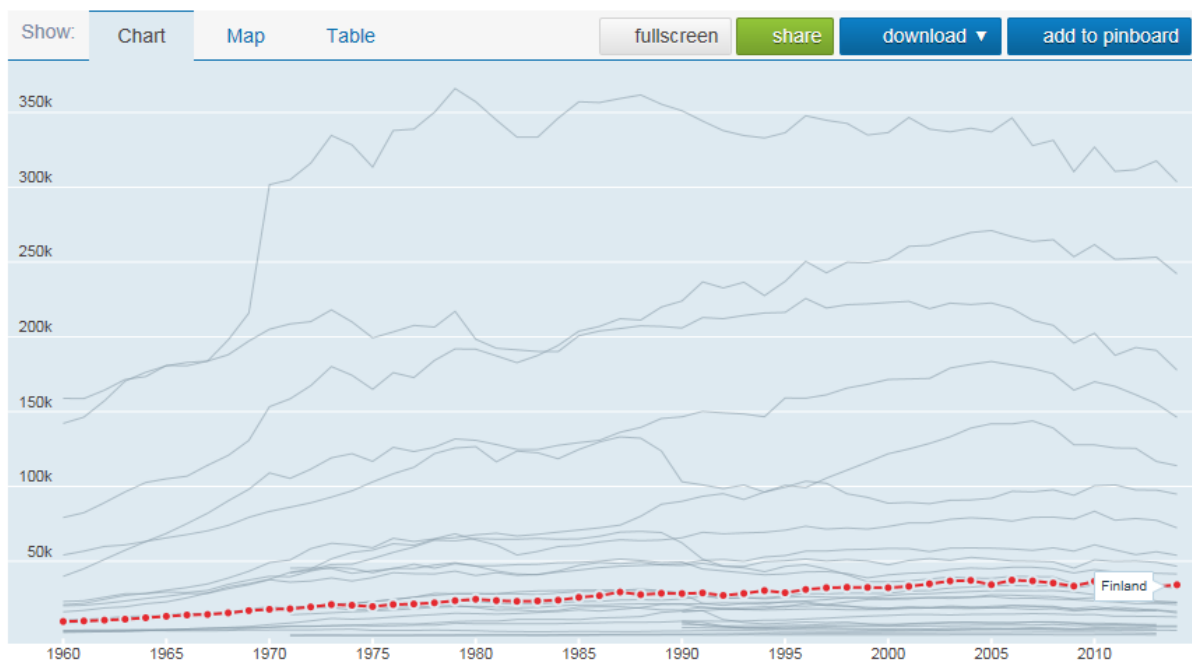
Source: World Indicators



Source: <https://data.oecd.org/energy/primary-energy-supply.htm>

Renewable energy Total, Thousand toe, 1960 – 2014

Source: Extended world energy balances



Source: <https://data.oecd.org/energy/renewable-energy.htm#indicator-chart>

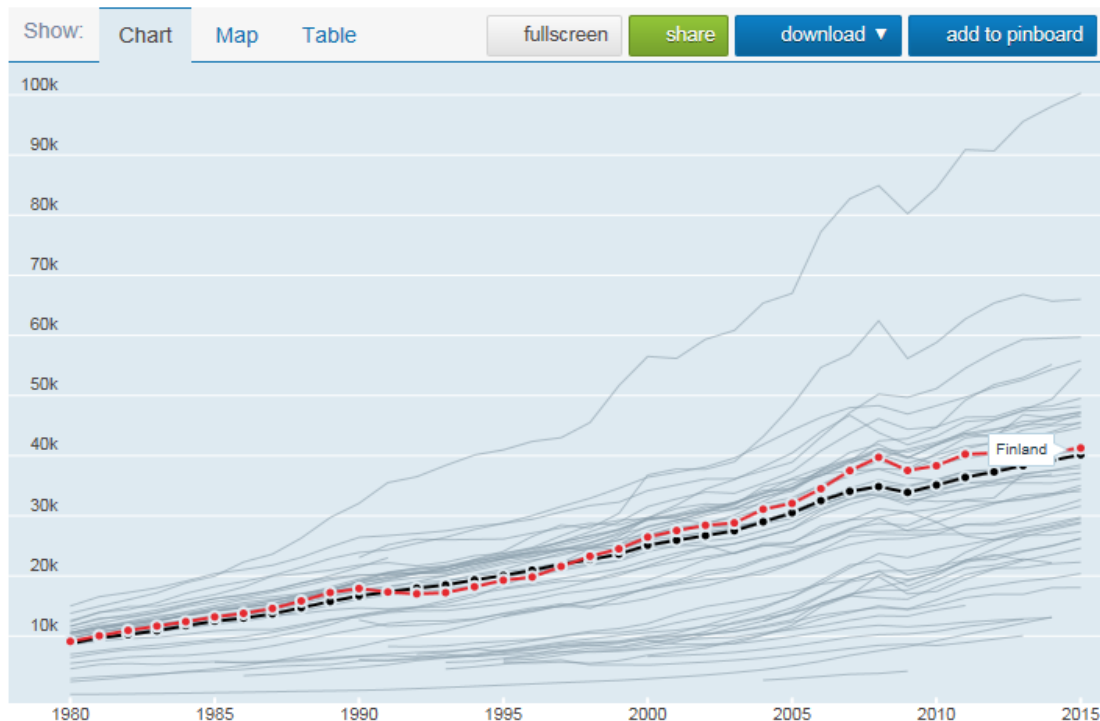
The Agenda2030 indicator related to the topic:

7.2.1. Renewable energy share in the total final energy consumption

8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Gross domestic product (GDP) Total, US dollars/capita, 1980 – 2015

Source: Aggregate National Accounts, SNA 2008 (or SNA 1993): Gross domestic product

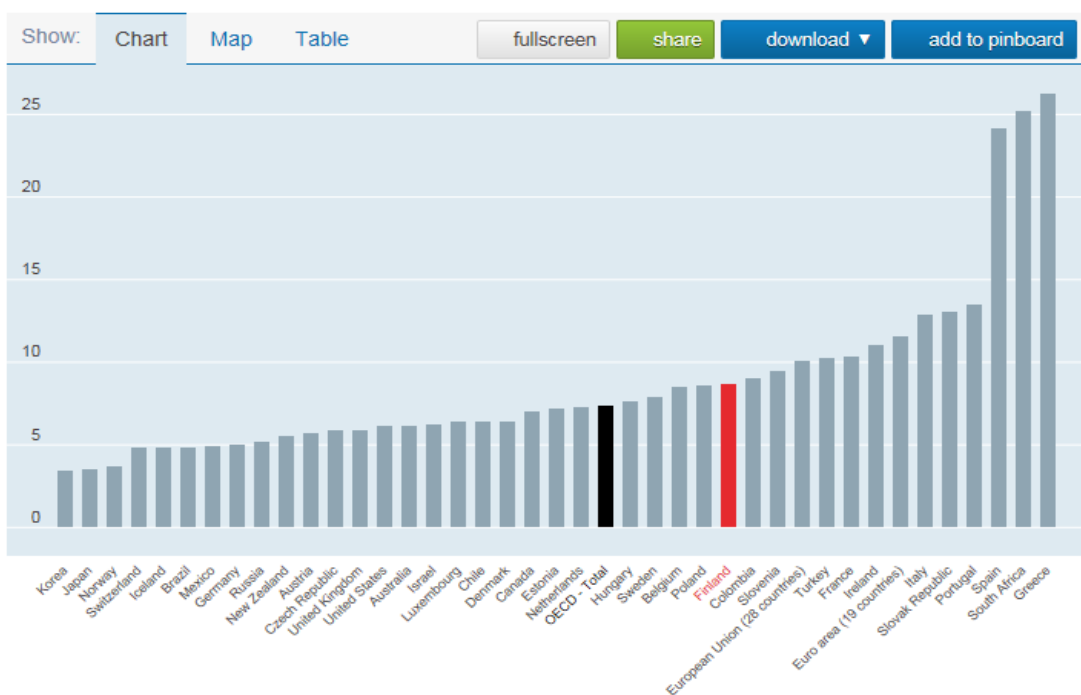


Source: <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>

The Agenda2030 indicator related to the topic:
8.1.1. Annual growth rate of real GDP per capita

Unemployment rate Total, % of labour force, Q3 2014

Source: Labour: Labour market statistics

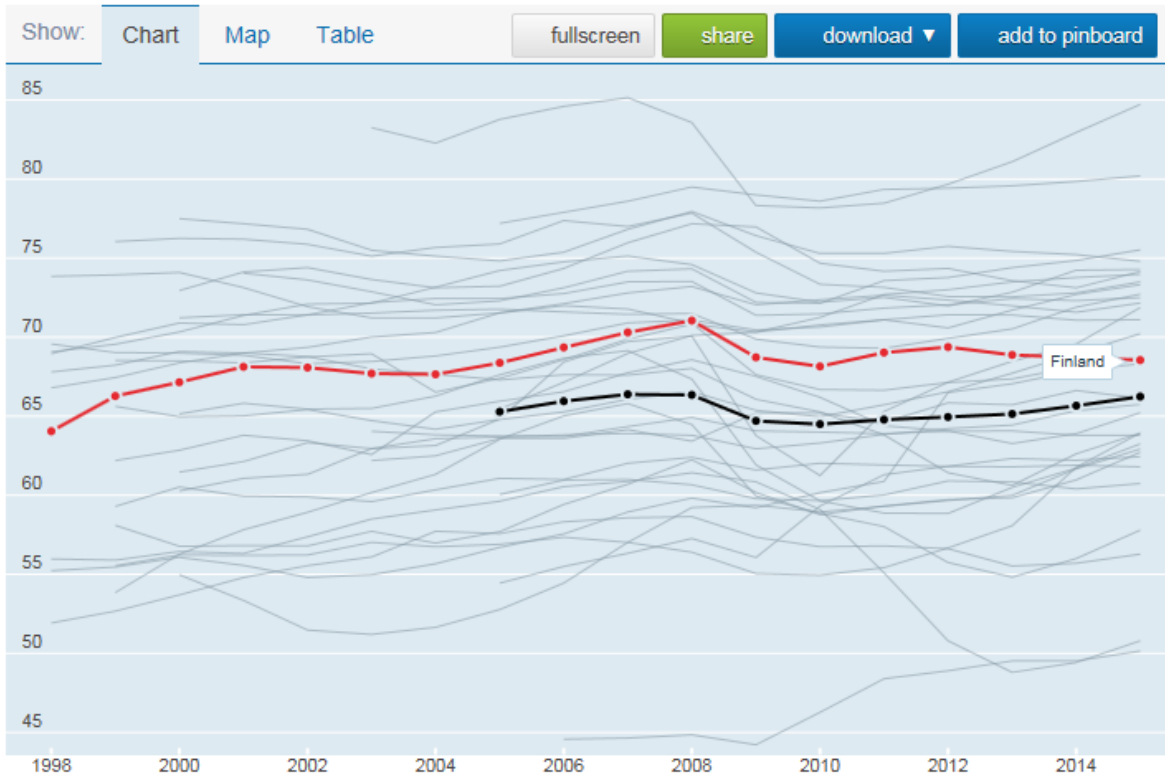


Source: <https://data.oecd.org/unemp/unemployment-rate.htm>

The Agenda2030 indicator related to the topic:
8.5.2. Unemployment rate, by sex, age and persons with disabilities

Employment rate Total, % of working age population, 1998 – 2015

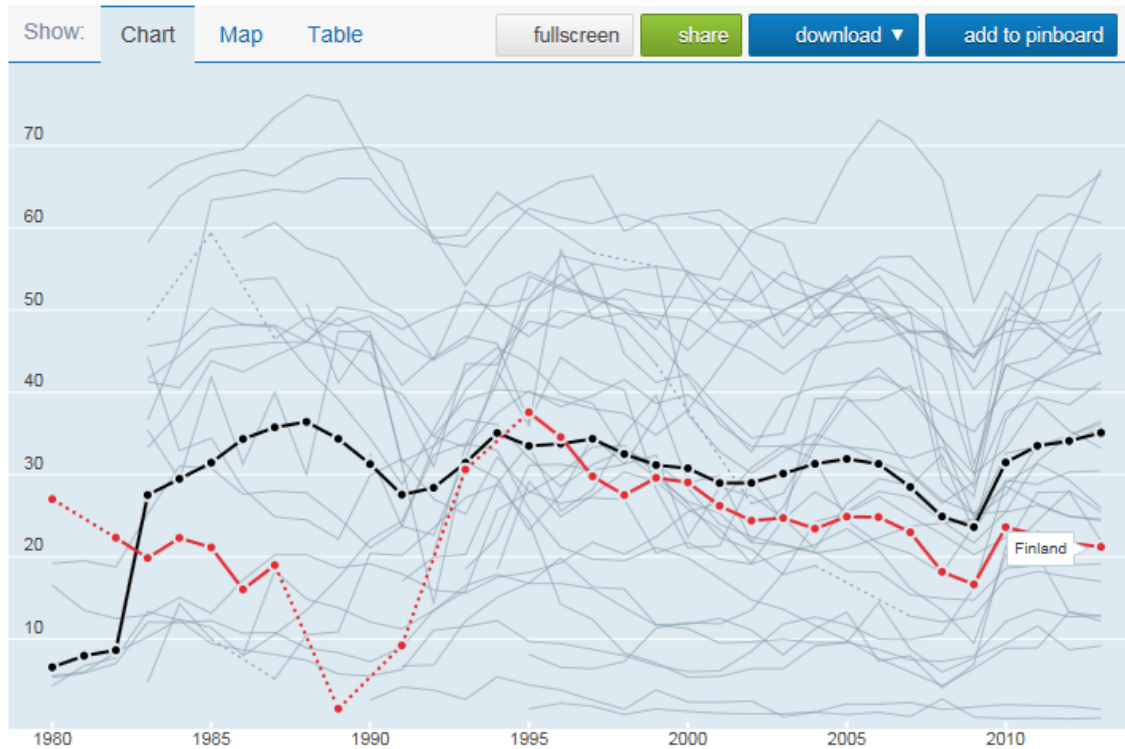
Source: Labour: Labour market statistics



Source: <https://data.oecd.org/emp/employment-rate.htm>

Long-term unemployment rate Total, % of unemployed, 1980 – 2013

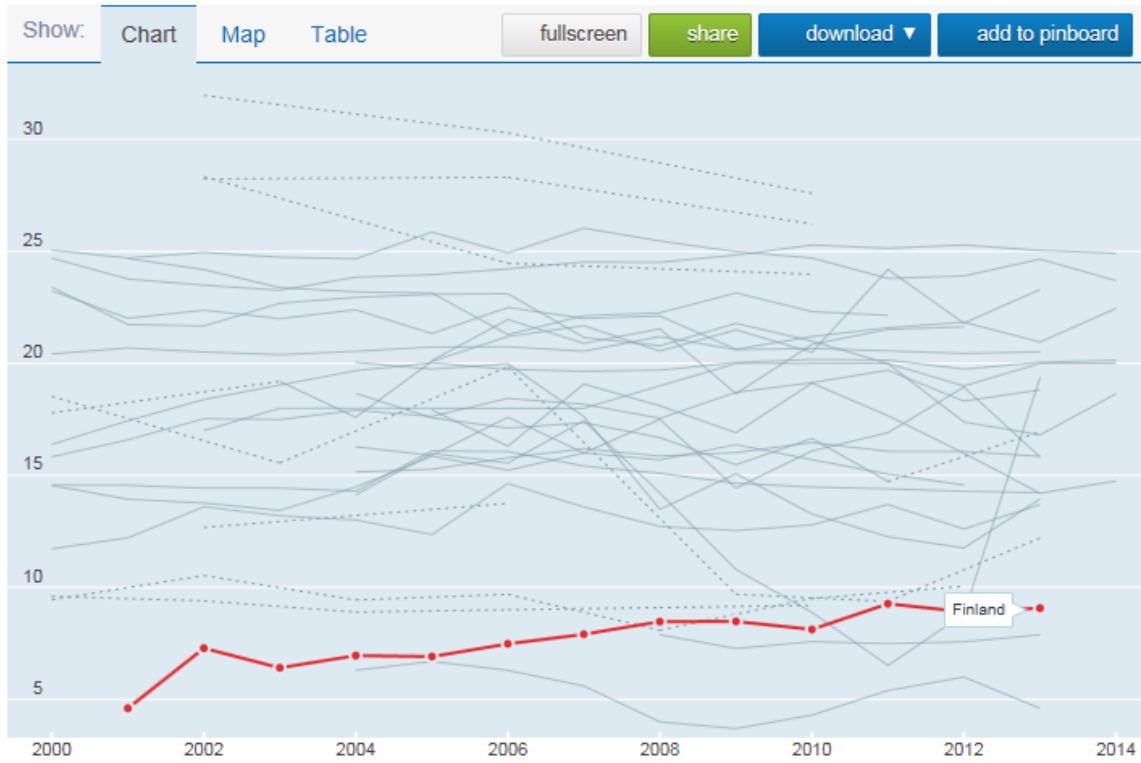
Source: Labour Market Statistics: Unemployment by duration: incidence



Source: <https://data.oecd.org/unemp/long-term-unemployment-rate.htm>

Wage levels Low pay, Percentage, 2000 – 2014

Source: Earnings: Gross earnings: decile ratios

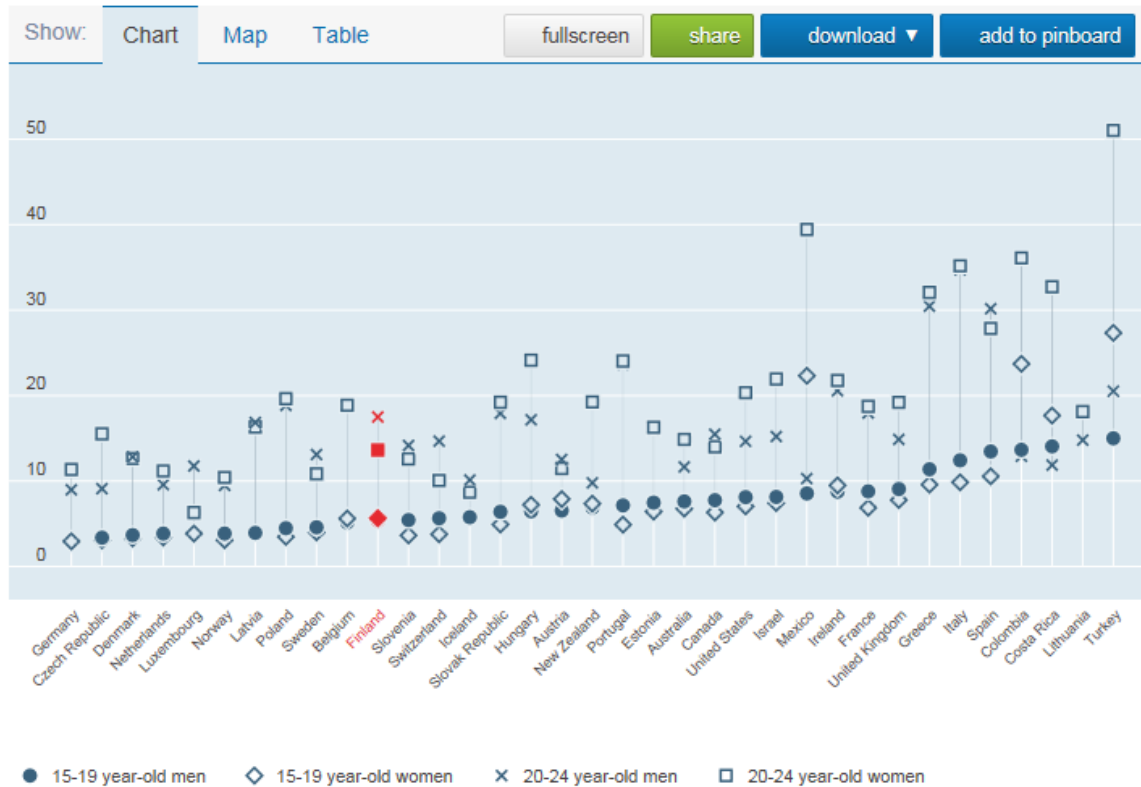


Source: <https://data.oecd.org/earnwage/wage-levels.htm#indicator-chart>

Youth not in employment, education or training (NEET)

15-19 year-old men / 15-19 year-old women / 20-24 year-old men / 20-24 year-old women, % in same age group, 2014

Source: Education at a glance: Transition from school to work



● 15-19 year-old men ◇ 15-19 year-old women × 20-24 year-old men □ 20-24 year-old women

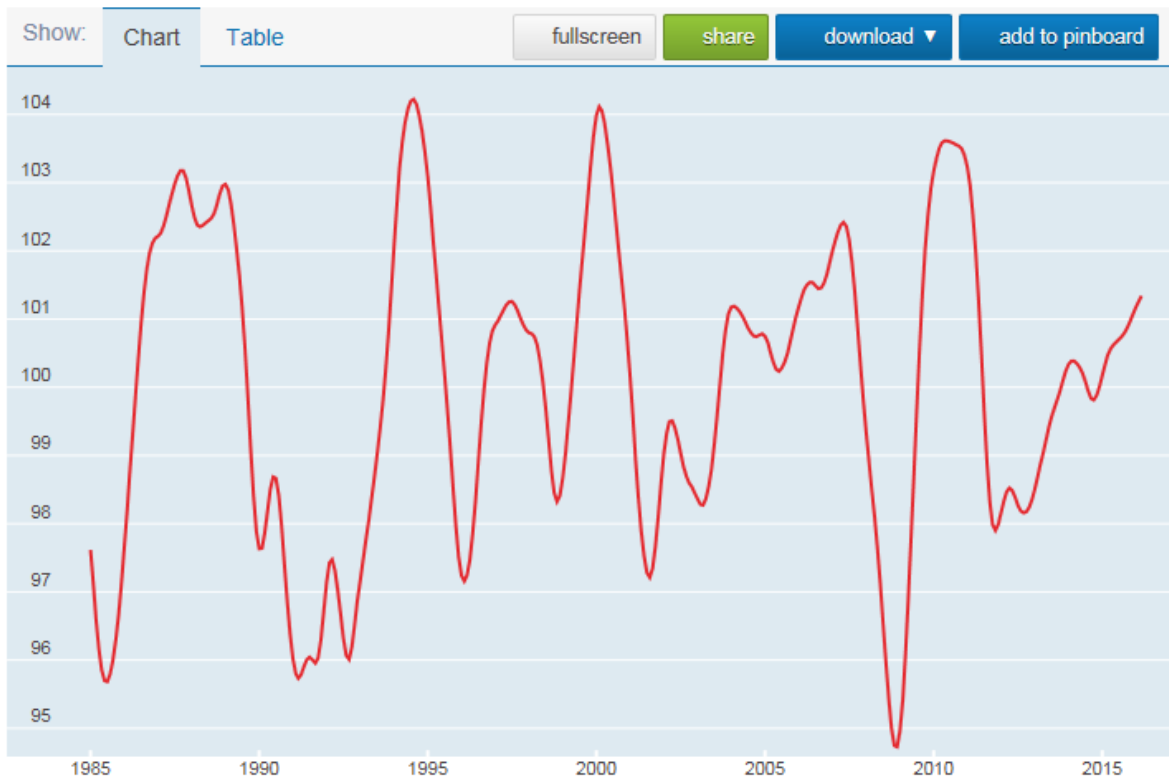
Source: <https://data.oecd.org/youthinac/youth-not-in-employment-education-or-training-neet.htm>

The Agenda2030 indicator related to the topic:

8.6.1. Proportion of youth (aged 15-24 years) not in education, employment or training

Composite leading indicator (CLI) Amplitude adjusted, Long-term average = 100, Mar 1984 – Mar 2016

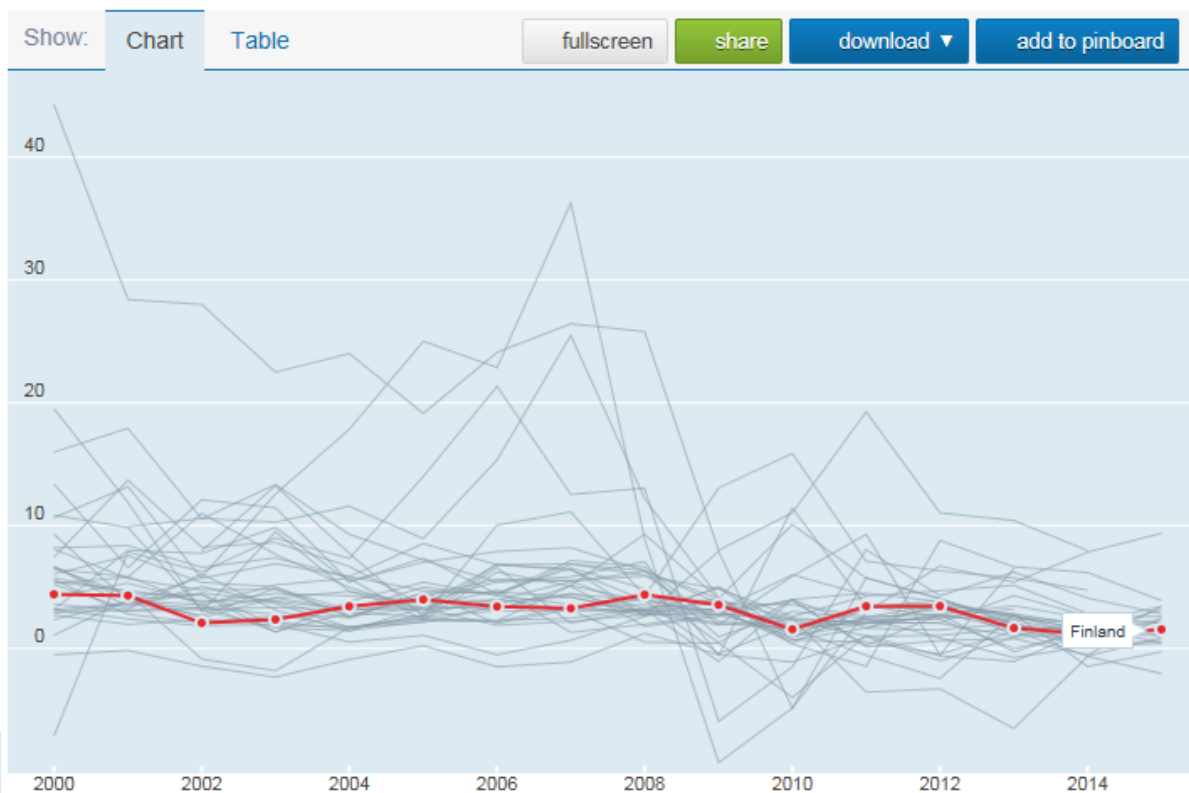
Source: Composite leading indicators



Source: <https://data.oecd.org/leadind/composite-leading-indicator-cli.htm>

Labour compensation per hour worked Total, Annual growth rate (%), 2000 – 2015

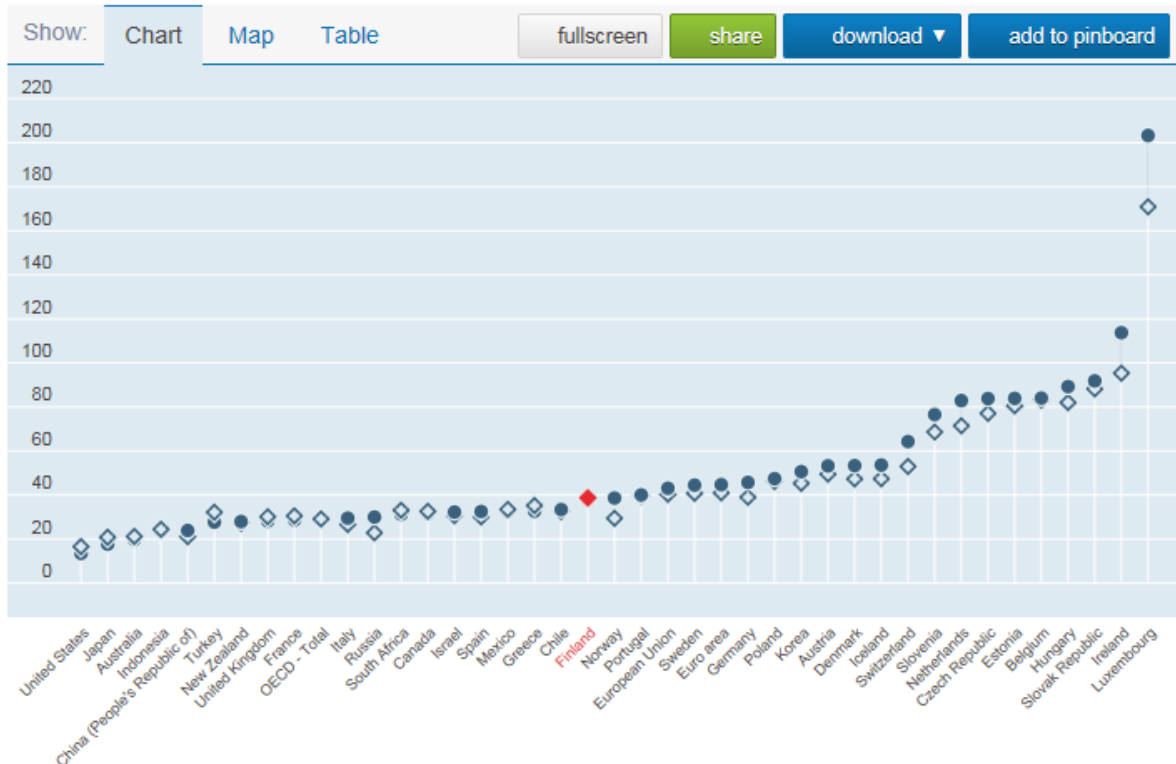
Source: GDP per capita and productivity growth



Source: <https://data.oecd.org/lprdy/labour-compensation-per-hour-worked.htm>

Trade in goods and services Exports / Imports, % of GDP, 2014

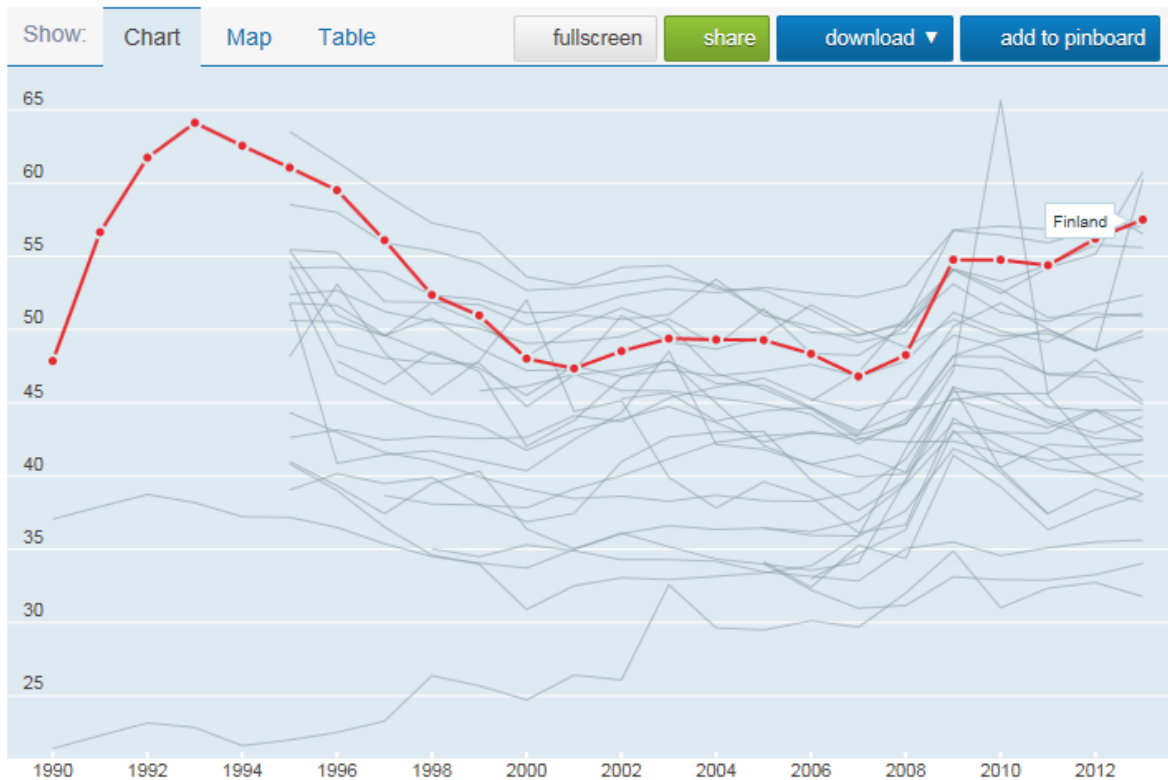
Source: National Accounts at a Glance



Source: <https://data.oecd.org/trade/trade-in-goods-and-services.htm>

General government spending Total, % of GDP, 1990 – 2013

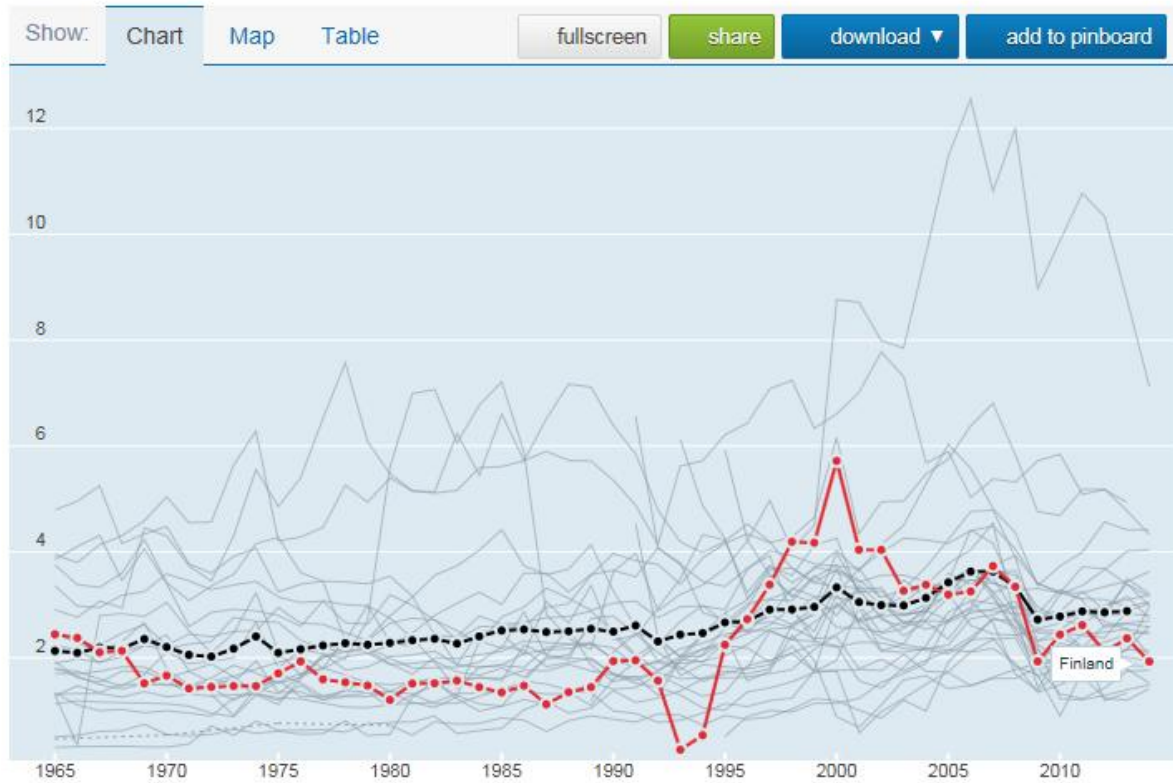
Source: National Accounts at a Glance



Source: <https://data.oecd.org/gga/general-government-spending.htm>

Tax on corporate profits Total, % of GDP, 1965 – 2014

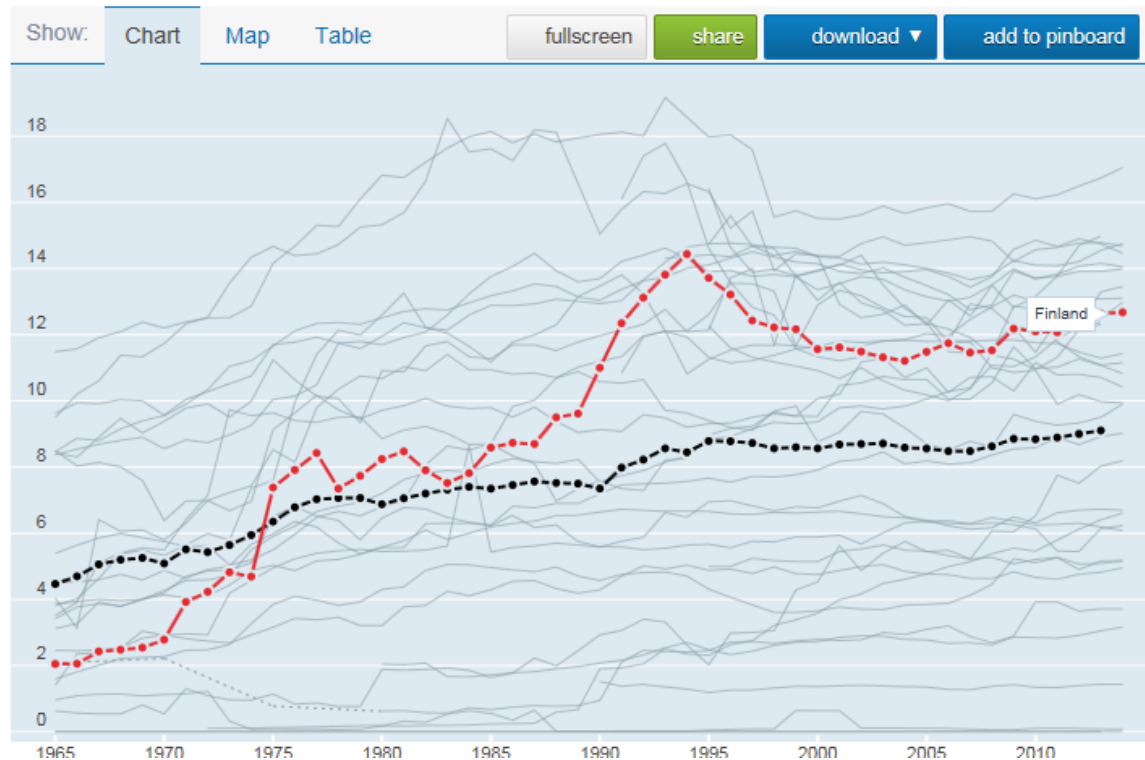
Source: Revenue Statistics: Comparative tables



Source: <https://data.oecd.org/tax/tax-on-corporate-profits.htm>

Social security contributions Total, % of GDP, 1965 – 2014

Source: Revenue Statistics: Comparative tables



Source: <https://data.oecd.org/tax/social-security-contributions.htm#indicator-chart>

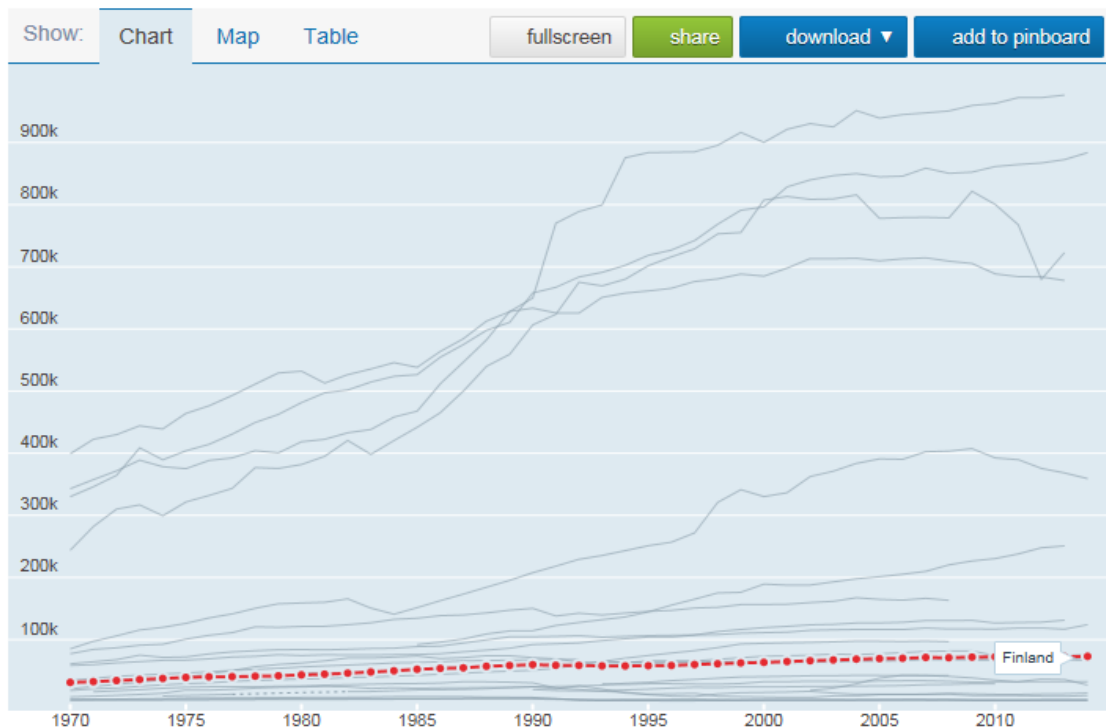
The Agenda2030 indicator related to the topic:

8.b.1. Total government spending in social protection and employment programmes as a proportion of the national budgets and GDP

9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Passenger transport Road, Million passenger-kilometres, 1970 – 2014

Source: Passenger transport



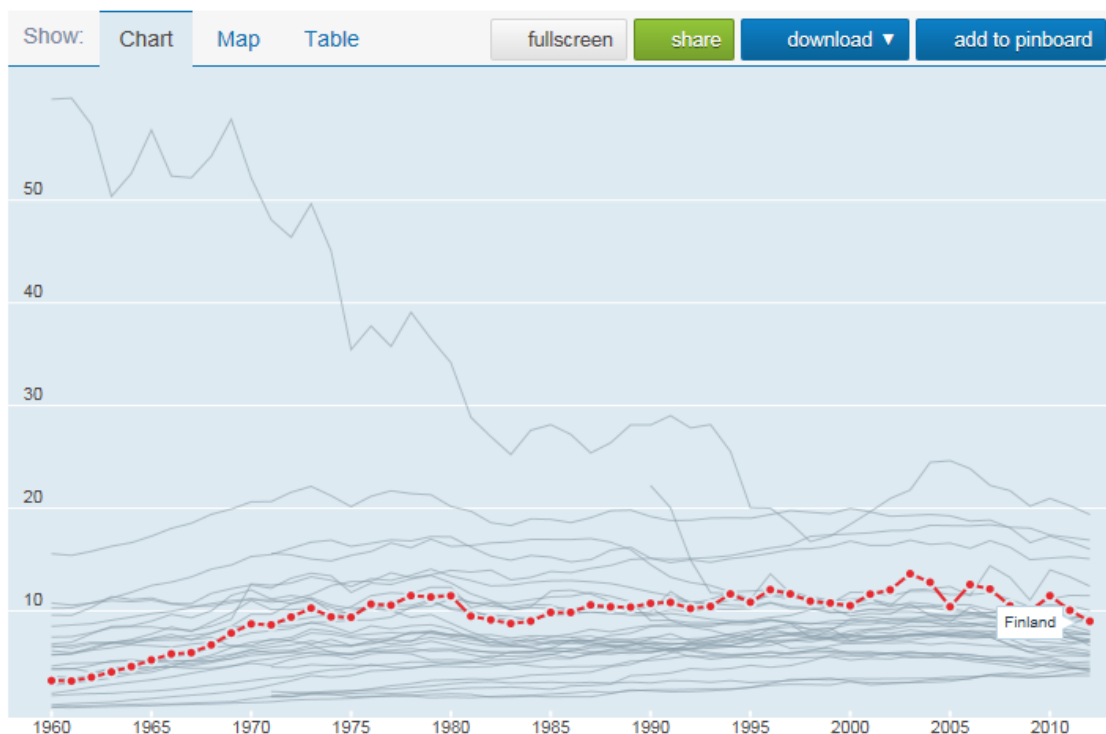
Source: <https://data.oecd.org/transport/passenger-transport.htm>

The Agenda2030 indicator related to the topic:

9.1.2. Passenger and freight volumes, by mode of transport

Air and GHG emissions Carbon dioxide (CO₂), Tonnes/capita, 1960 – 2012

Source: Indicators for CO₂ emissions



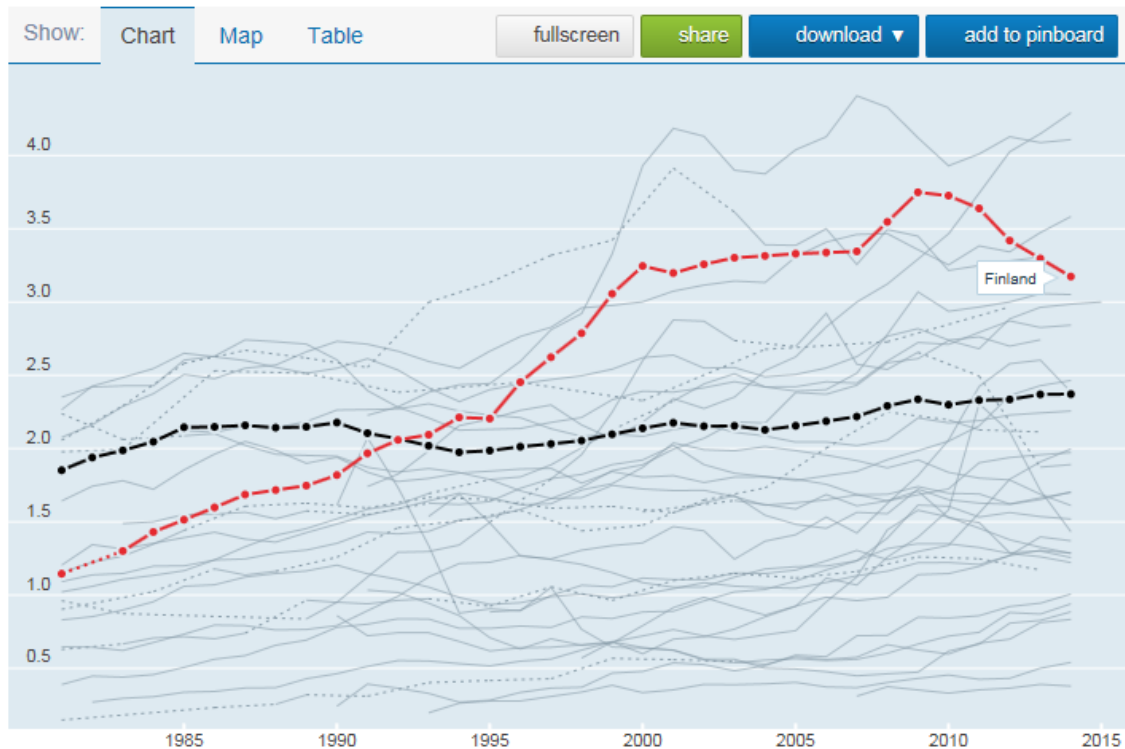
Source: <https://data.oecd.org/air/air-and-ghg-emissions.htm>

The Agenda2030 indicator related to the topic:

9.4.1. CO2 emission per unit of value added

Gross domestic spending on R&D Total, % of GDP, 1981 – 2015

Source: Main Science and Technology Indicators



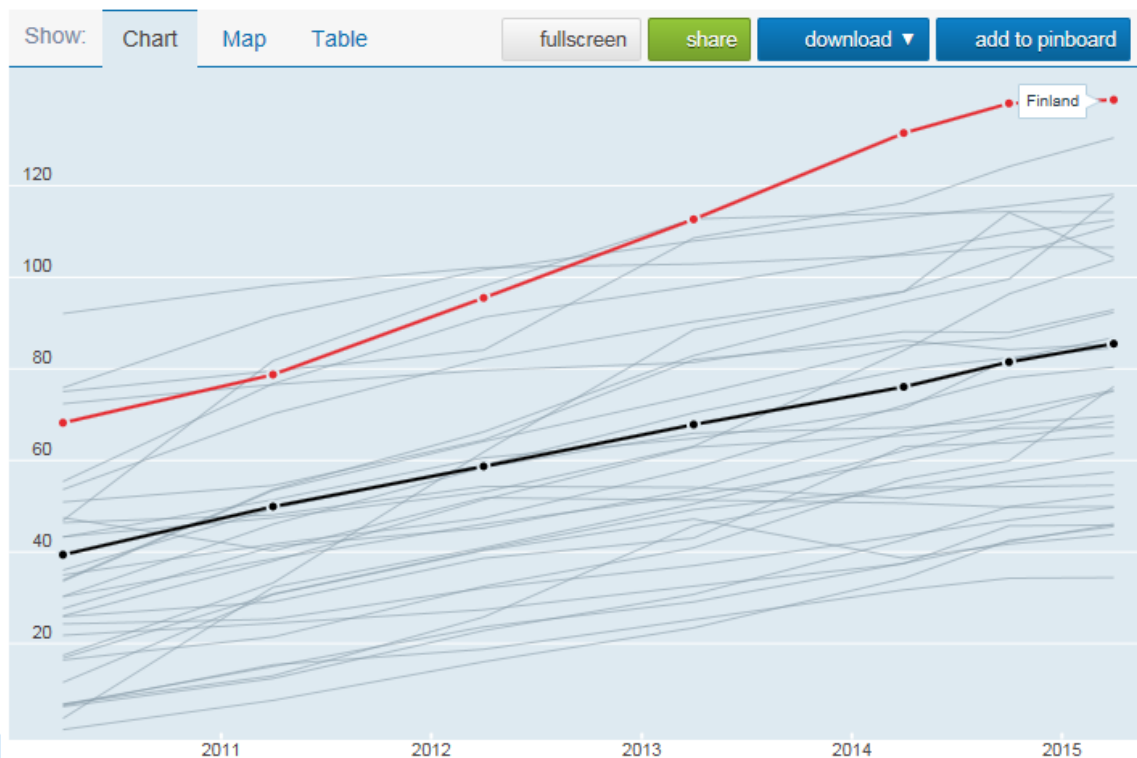
Source: <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>

The Agenda2030 indicator related to the topic:

9.5.1. Research and development expenditure as a proportion of GDP

Wireless mobile broadband subscriptions Total, Per 100 inhabitants, Q2 2010 – Q2 2015

Source: Broadband database



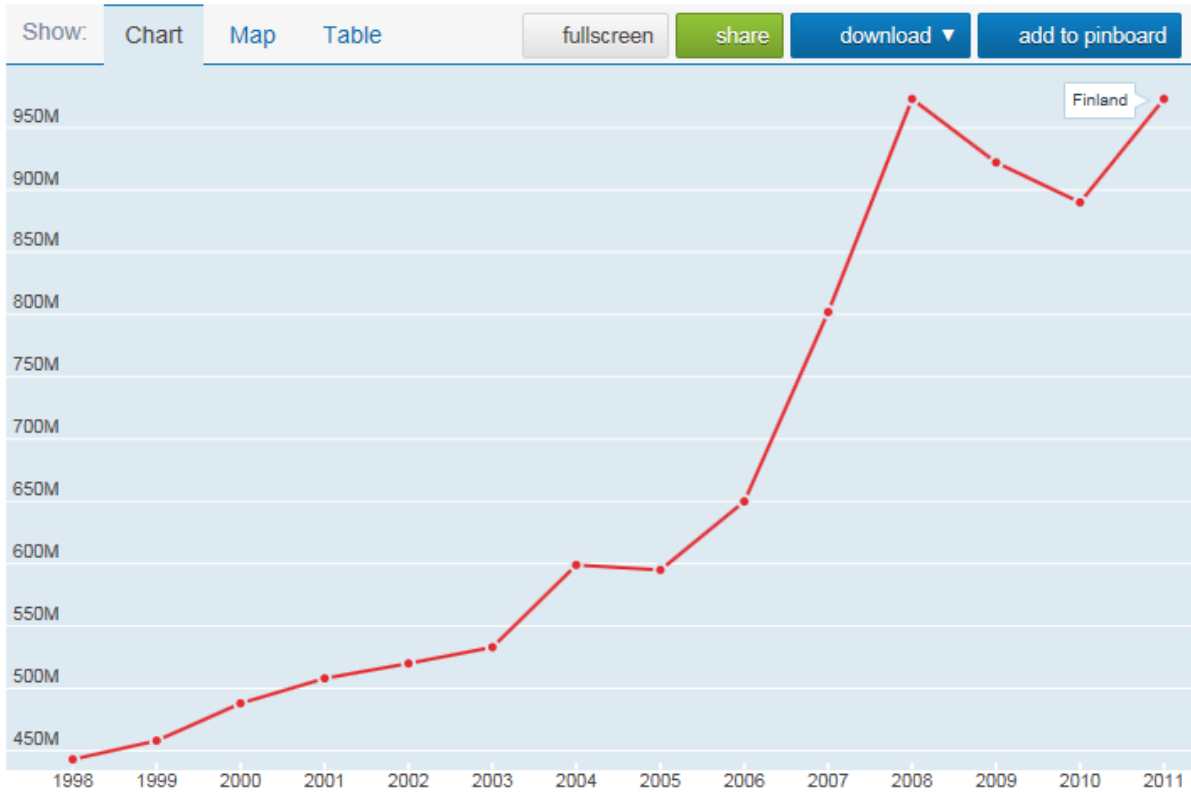
Source: <https://data.oecd.org/broadband/wireless-mobile-broadband-subscriptions.htm>

The Agenda2030 indicator related to the topic:

9.c.1. Proportion of population covered by a mobile network, by technology

Infrastructure investment Road, Euro, 1998 – 2011

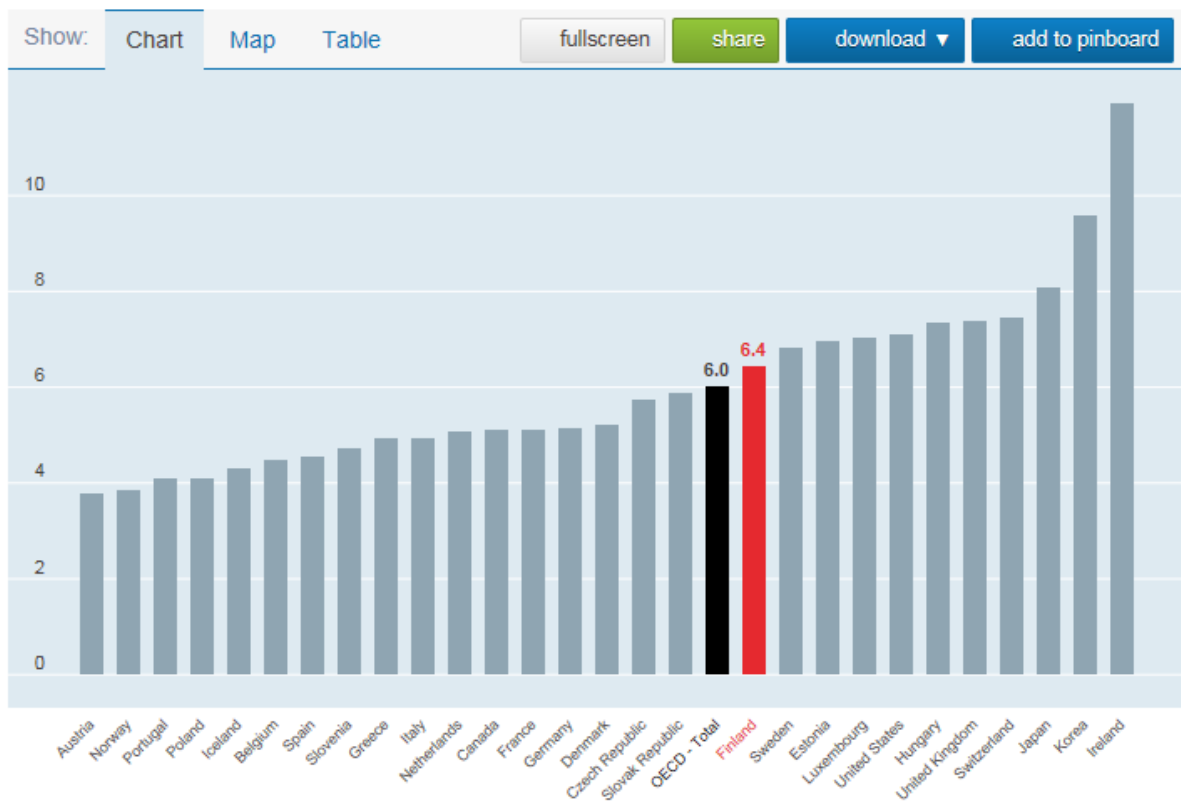
Source: Transport infrastructure investment and maintenance spending



Source: <https://data.oecd.org/transport/infrastructure-investment.htm>

ICT value added Total, % of value added, 2011

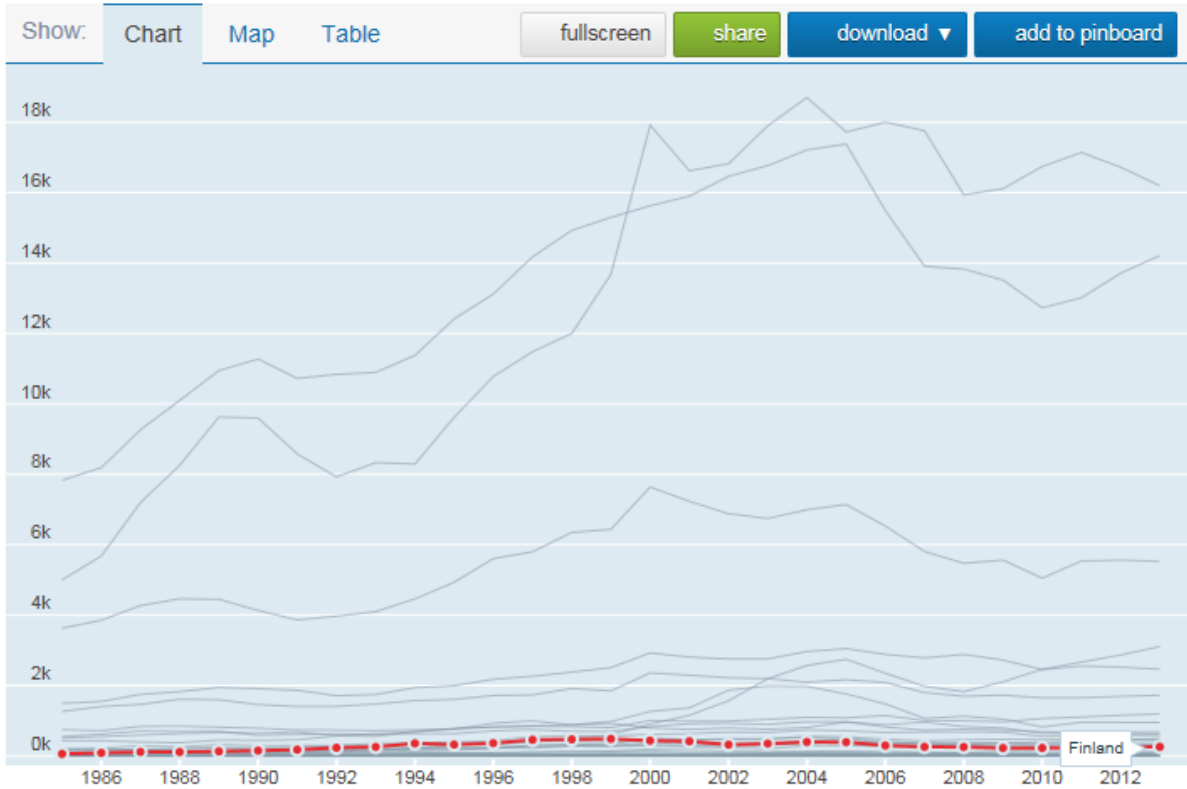
Source: OECD Factbook



Source: <https://data.oecd.org/ict/ict-value-added.htm>

Triadic patent families Total, Number, 1985 – 2013

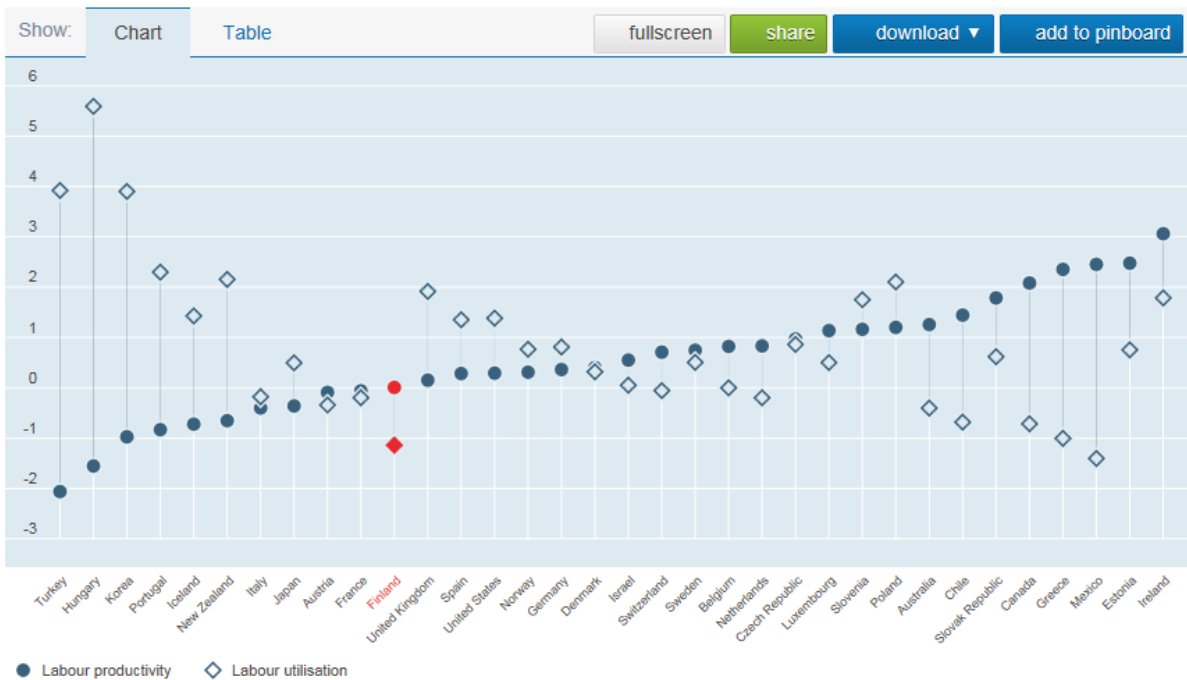
Source: Patents by main technology and by International Patent Classification (IPC)



Source: <https://data.oecd.org/rd/triadic-patent-families.htm>

Labour productivity and utilisation Labour productivity / Labour utilisation, Annual growth rate (%), 2014

Source: GDP per capita and productivity growth



Source: <https://data.oecd.org/lprdy/labour-productivity-and-utilisation.htm>

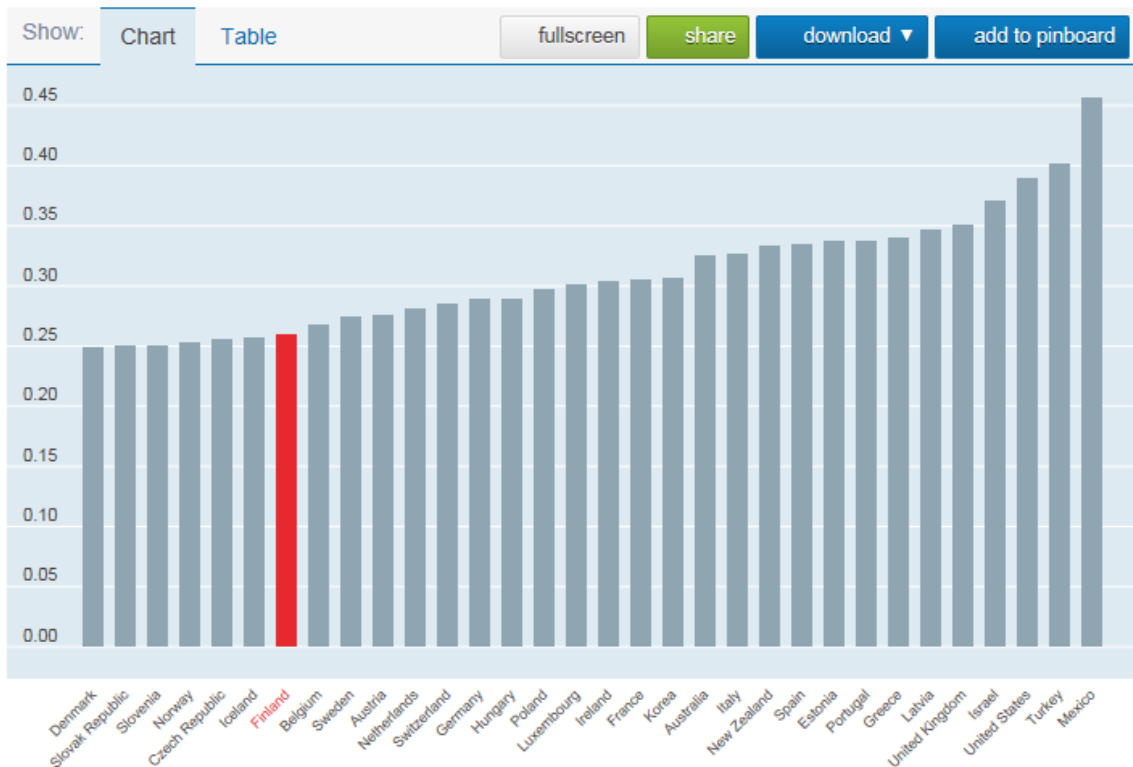
10. Reduce inequality within and among countries.

Household disposable income Net, Annual growth rate (%), 2000 – 2015 Source: National Accounts at a Glance



Source: <https://data.oecd.org/hha/household-disposable-income.htm>

Income inequality Gini coefficient, 0 = complete equality; 1 = complete inequality, 2012 Source: Income distribution

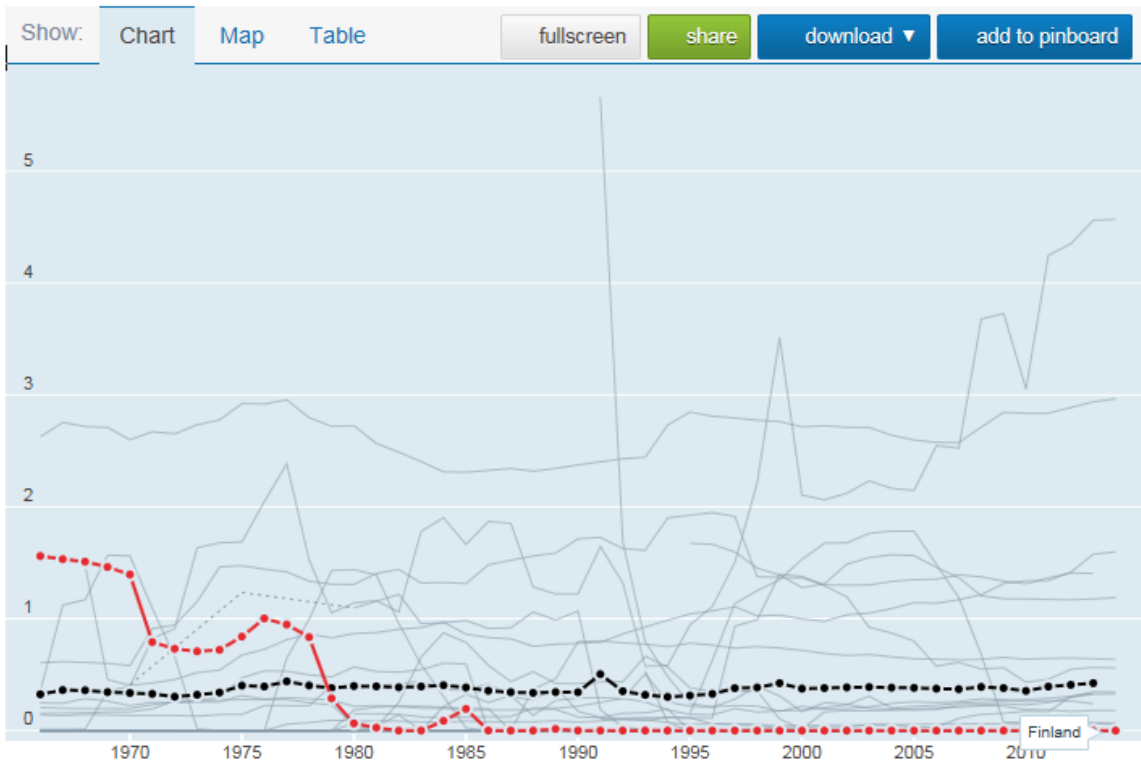


Source: <https://data.oecd.org/inequality/income-inequality.htm>

Tax on payroll

Total, % of GDP, 1966 – 2014

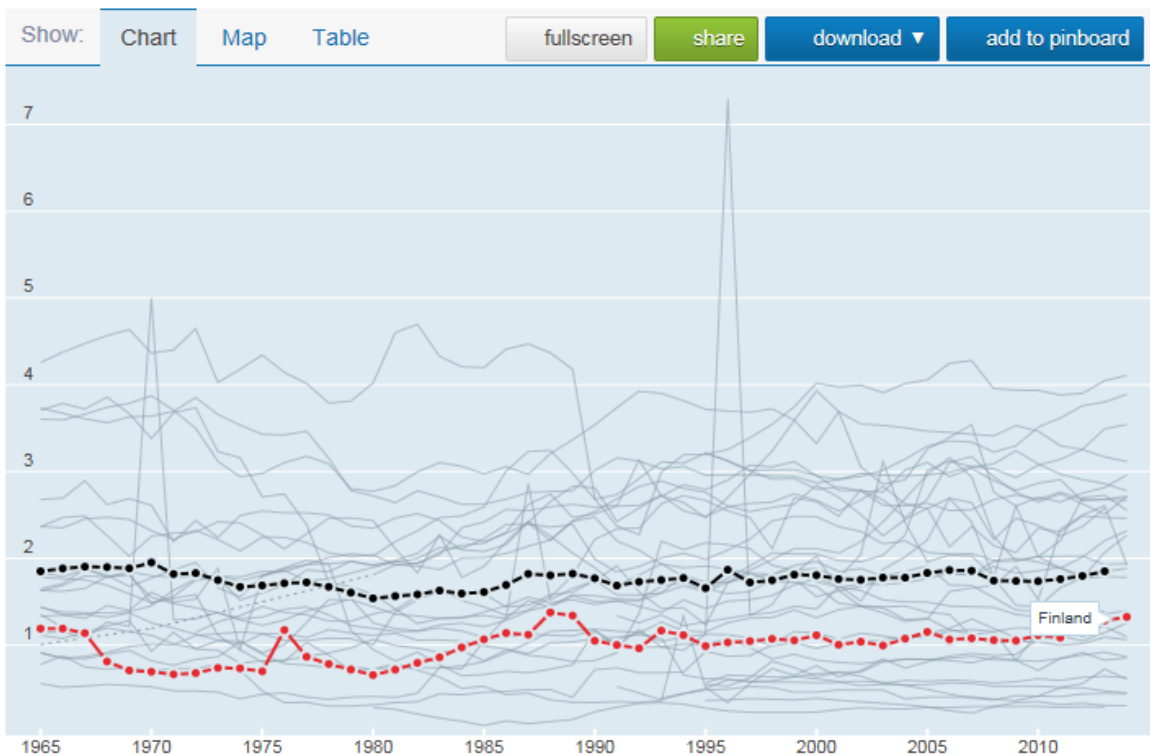
Source: Revenue Statistics: Comparative tables



Tax on property

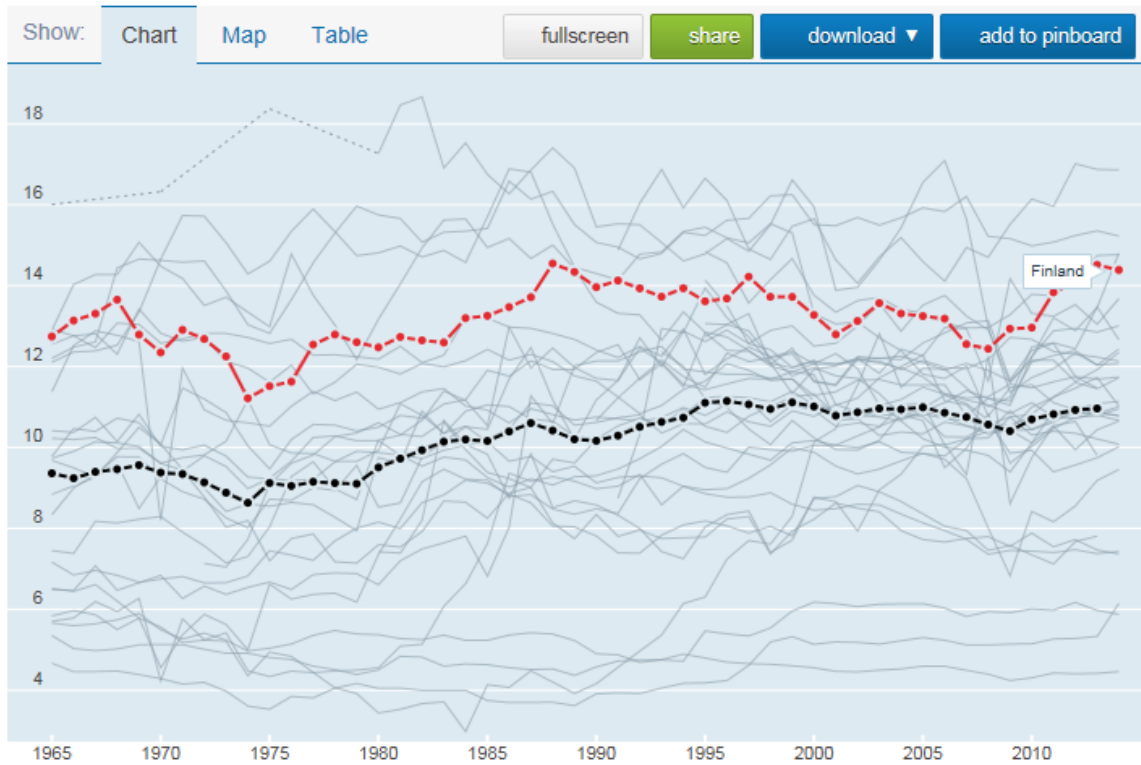
Total, % of GDP, 1965 – 2014

Source: Revenue Statistics: Comparative tables



Tax on goods and services Total, % of GDP, 1965 – 2014

Source: Revenue Statistics: Comparative tables

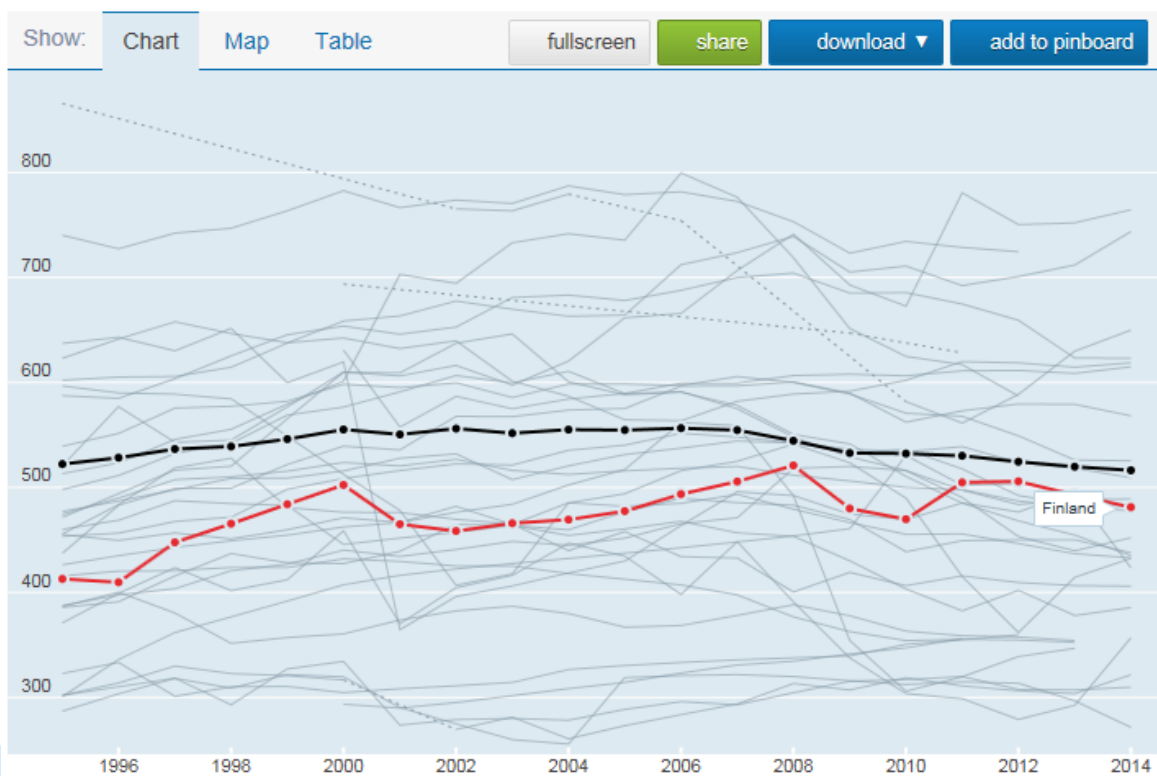


Source: <https://data.oecd.org/tax/tax-on-goods-and-services.htm#indicator-chart>

11. Make cities and human settlements inclusive, safe, resilient and sustainable.

Municipal waste Total, Kilograms/capita, 1995 – 2014

Source: Municipal waste



Source: <https://data.oecd.org/waste/municipal-waste.htm>

12. Ensure sustainable consumption and production patterns.

No indicators directly linked to UN targets are available.

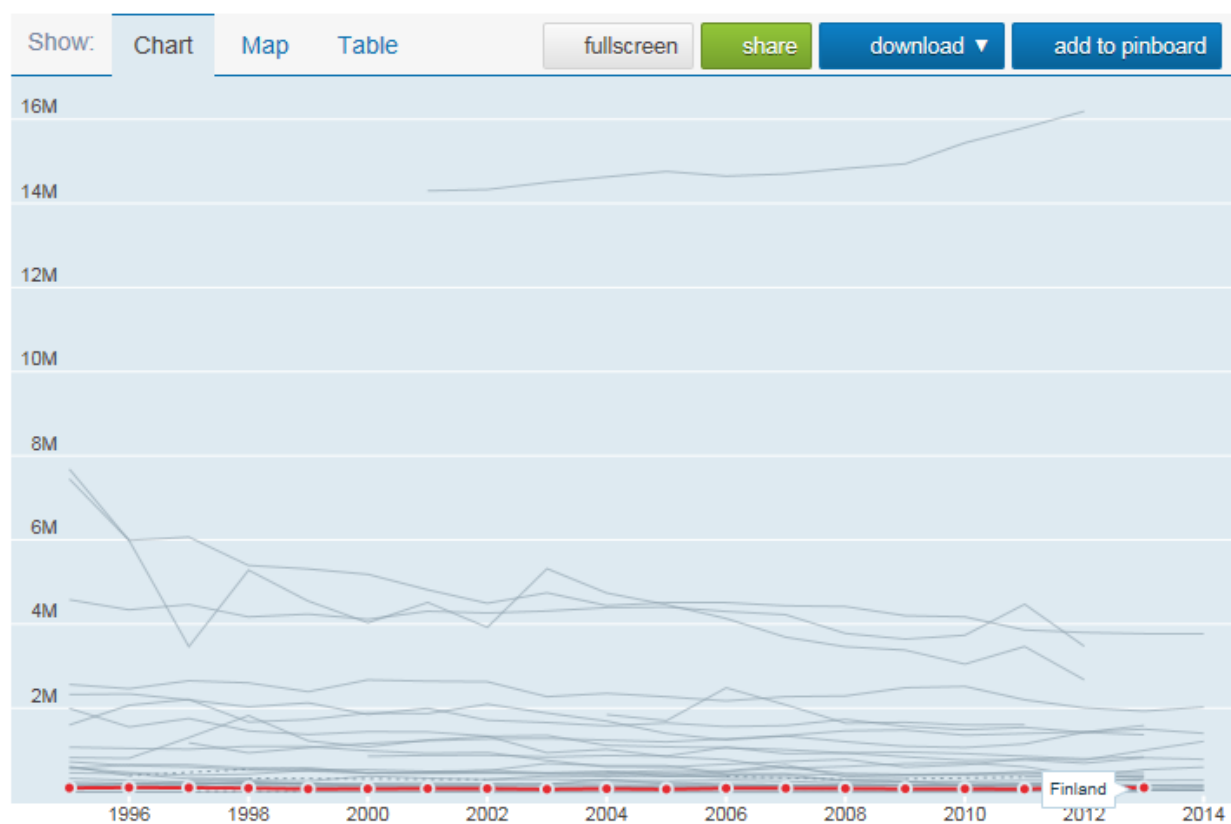
13. Take urgent action to combat climate change and its impacts.

No indicators directly linked to UN targets are available.

14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Fish landings National landings in domestic ports, Tonnes, 1995 – 2014

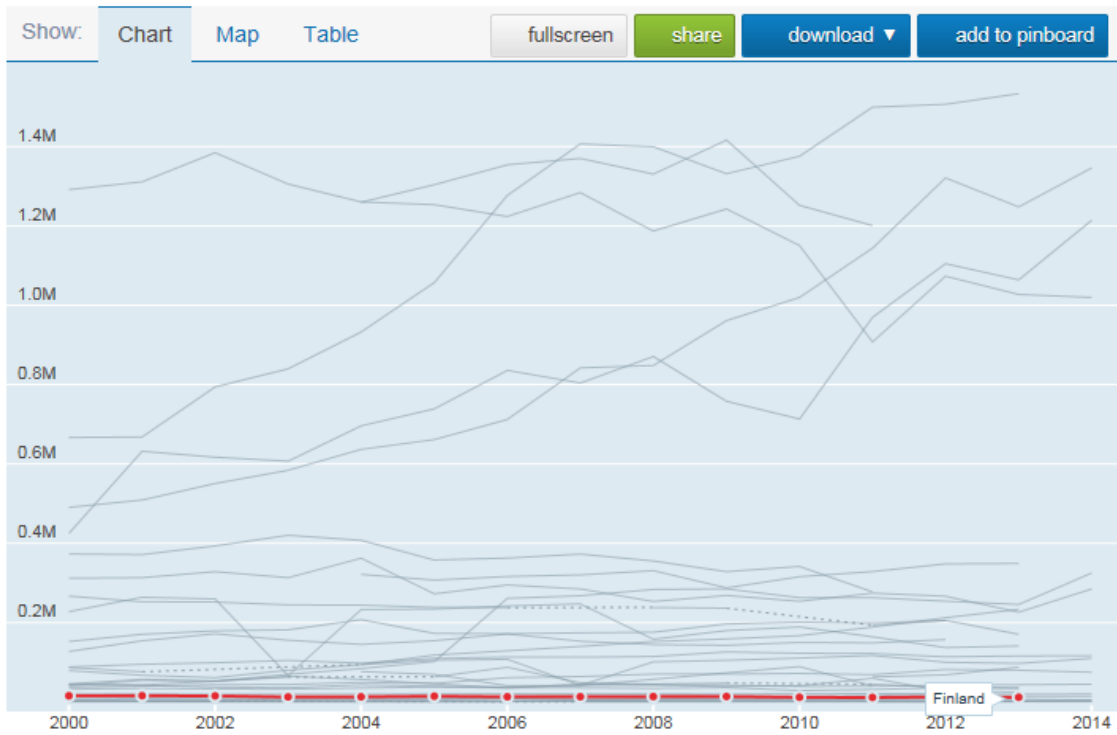
Source: Fisheries: National landings in foreign ports



Source: <https://data.oecd.org/fish/fish-landings.htm>

Aquaculture production Total, Tonnes, 2000 – 2014

Source: Fisheries: Production from aquaculture

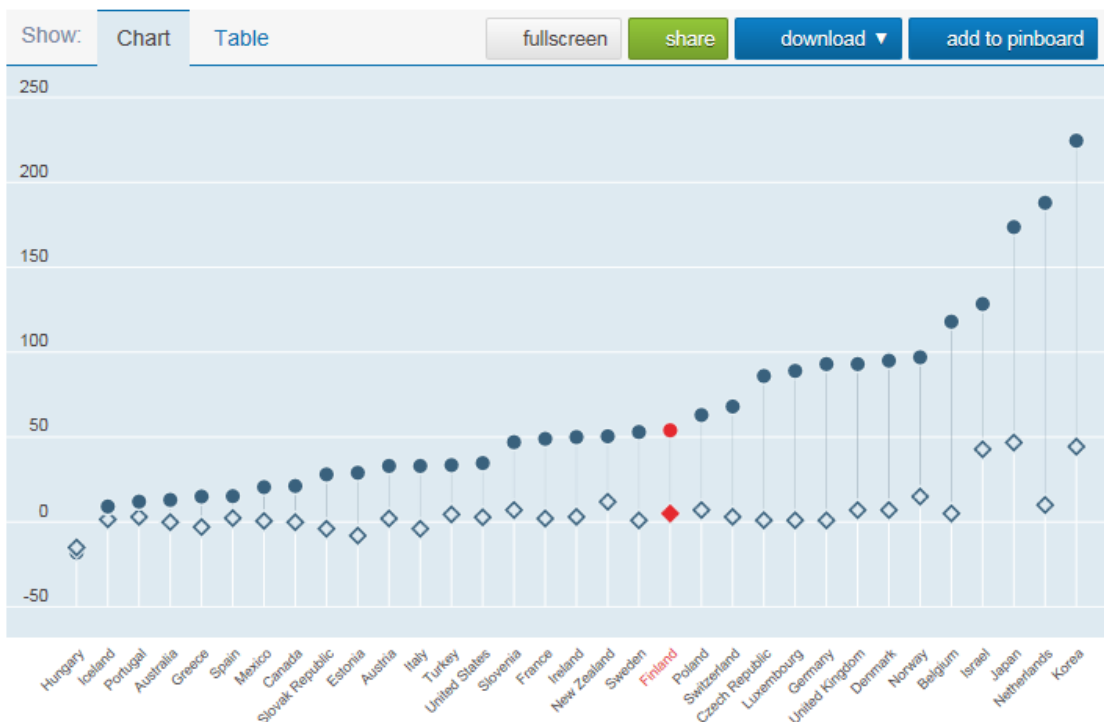


Source: <https://data.oecd.org/fish/aquaculture-production.htm#indicator-chart>

15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Nutrient balance Nitrogen / Phosphorus, Kilograms/hectare, 2008

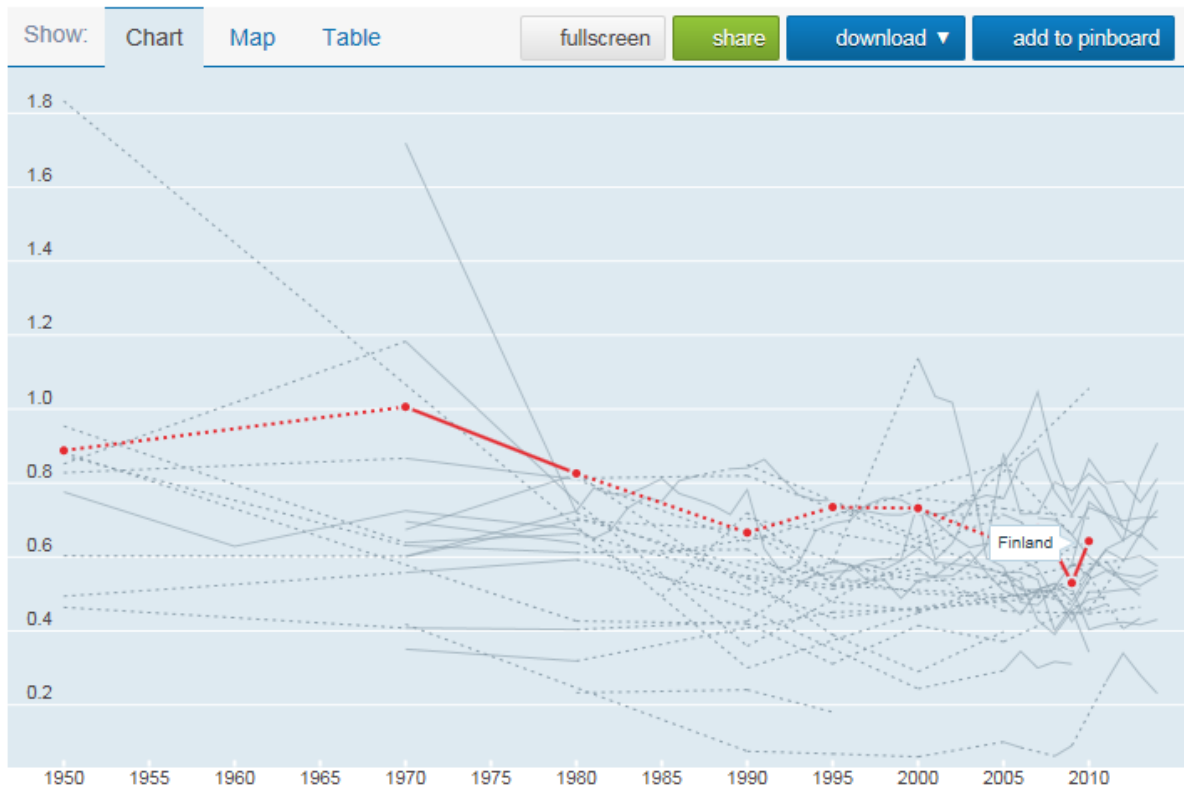
Source: Environmental Performance of Agriculture (Edition 2013)



Source: <https://data.oecd.org/agrland/nutrient-balance.htm>

Forest resources Intensity of use, Ratio, 1950 – 2014

Source: Forest resources

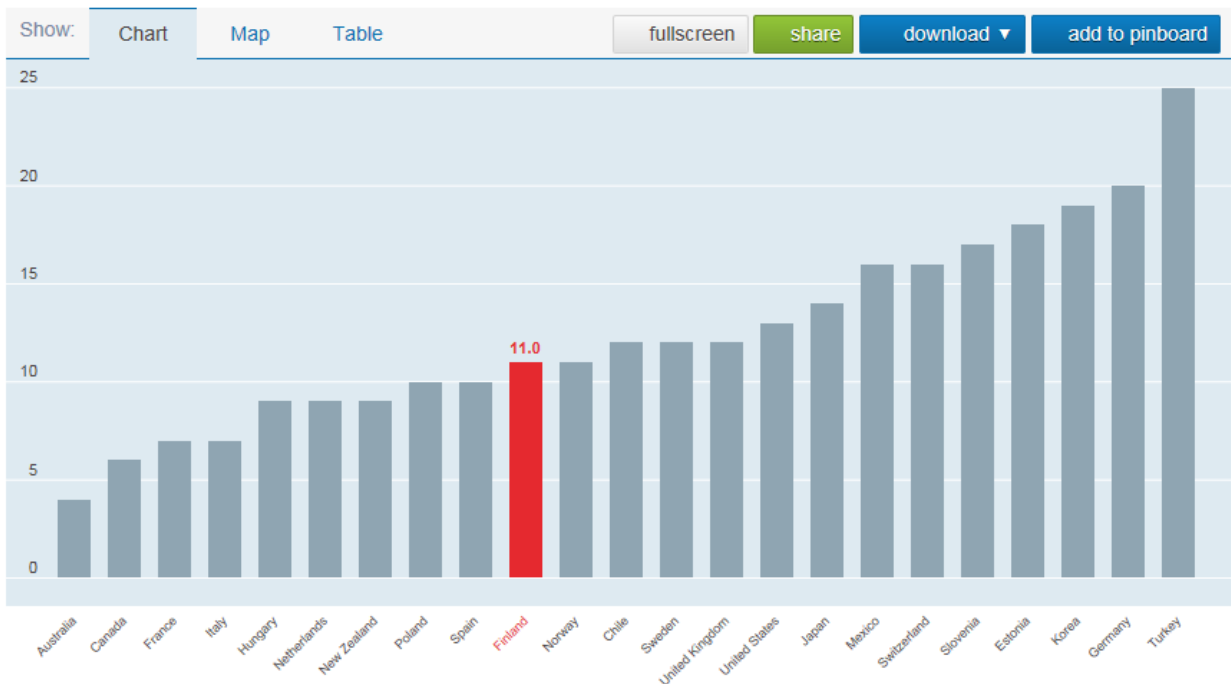


Source: <https://data.oecd.org/forest/forest-resources.htm>

16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Violence against women Attitudes towards violence, Percentage, 2014

Source: Gender, Institutions and Development (Edition 2014)

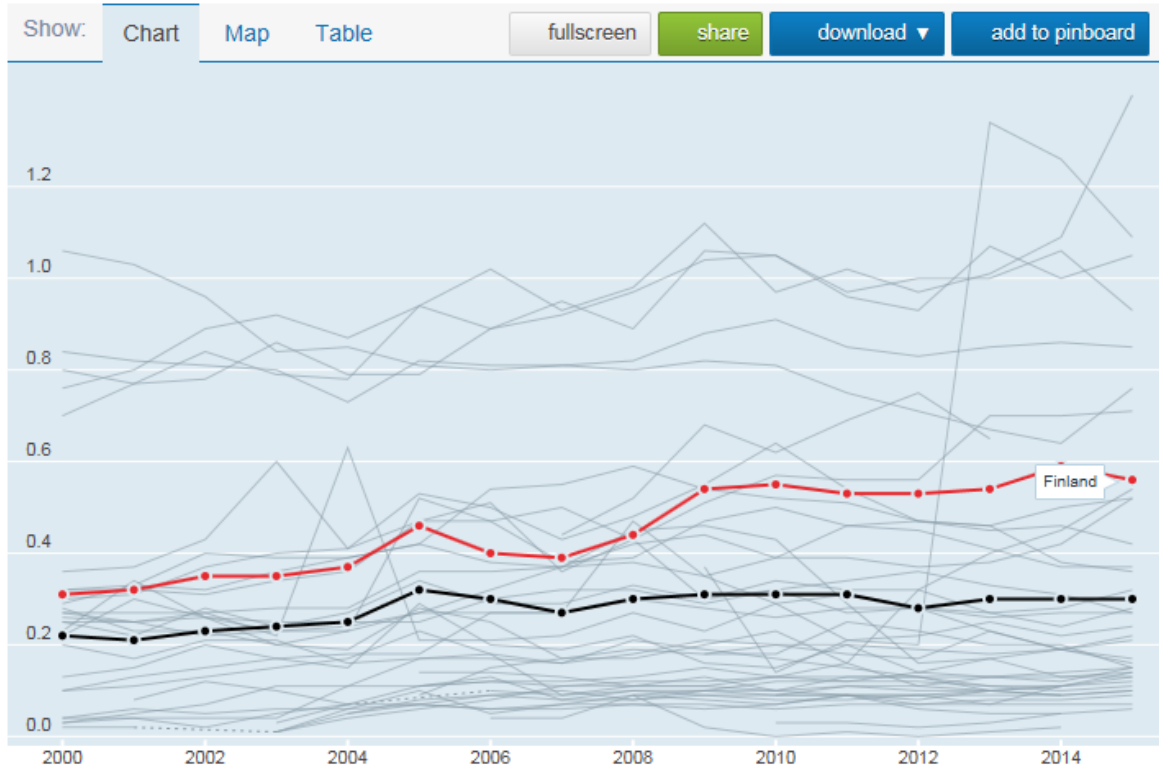


Source: <https://data.oecd.org/inequality/violence-against-women.htm#indicator-chart>
 (This indicator is given for SDG 5 as well.)

17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Net ODA Total, % of gross national income, 2000 – 2015

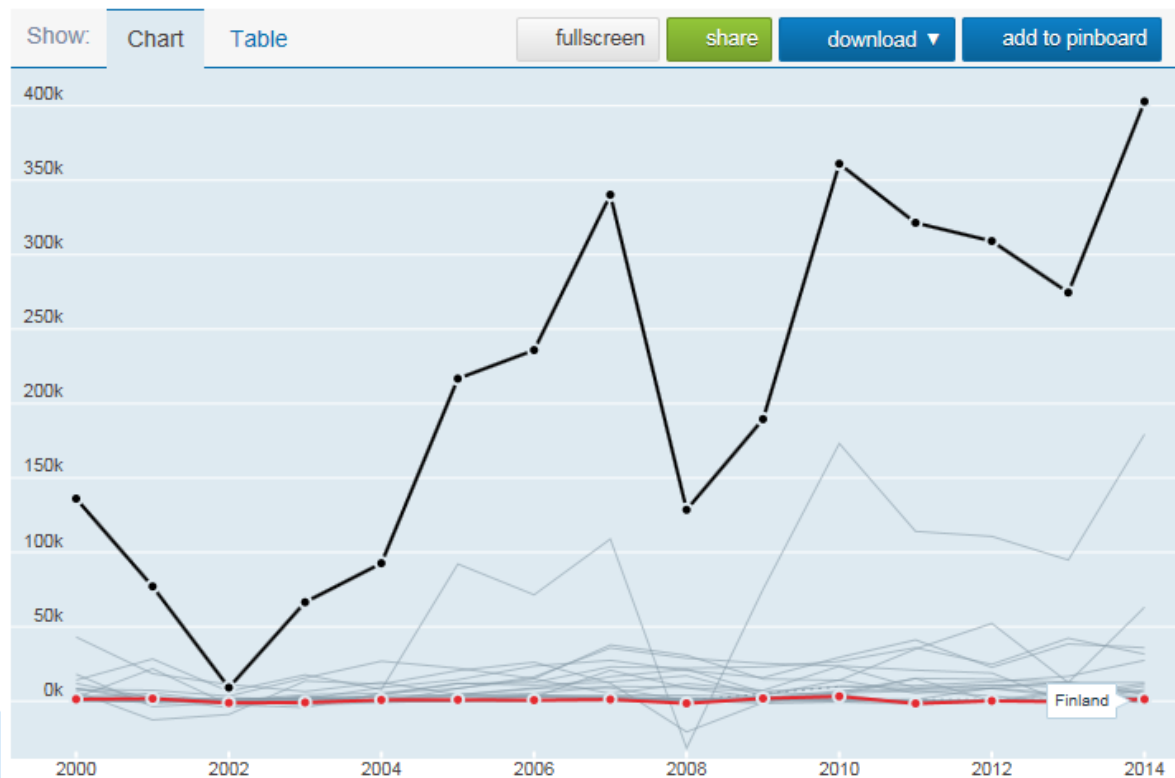
Source: Detailed aid statistics: Official and private flows



Source: <https://data.oecd.org/oda/net-oda.htm#indicator-chart>

Private flows Total, Million US dollars, 2000 – 2014

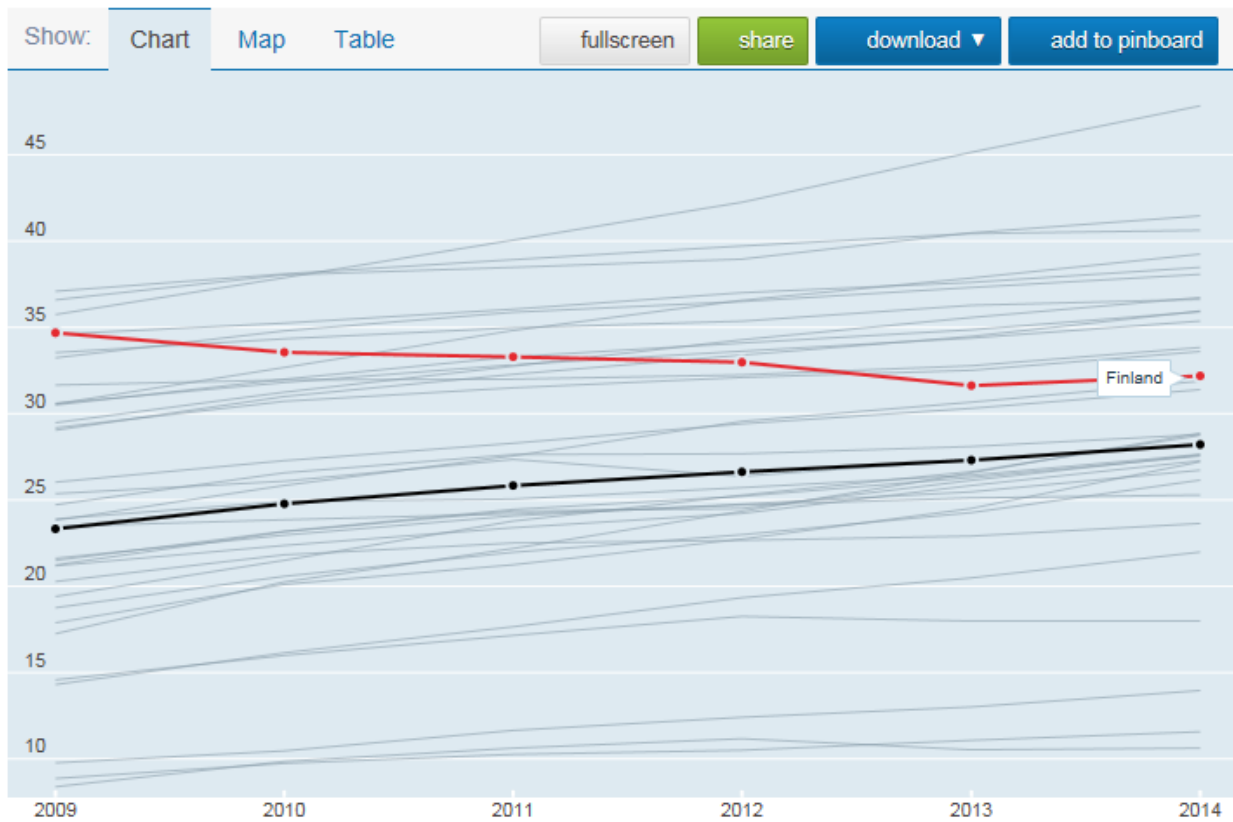
Source: Detailed aid statistics: Official and private flows



Source: <https://data.oecd.org/df/private-flows.htm>

Fixed broadband subscriptions Total, Per 100 inhabitants, 2009 – 2014

Source: Broadband database



Source: <https://data.oecd.org/broadband/fixed-broadband-subscriptions.htm#indicator-chart>

The Agenda2030 indicator related to the topic:

17.6.2. Fixed Internet broadband subscriptions per 100 inhabitants, by speed

APPENDIX 2. Finland in the selected recent country comparisons

Selected international comparisons utilised in the analyses conducted in the Avain2030 project are listed below. For each comparison, the ten best-performing countries, and, if necessary, Finland's placement are given.

Comparisons that describe development on a broad basis

	Sustainable governance indicators	Better life index	Preliminary SDG index (strong sustainability)	Fragile state index	Human Development Index	The World's First SDG Index
1	Sweden	Australia	Sweden	Finland	Norway	Sweden
2	Norway	Sweden	Spain	Sweden	Australia	Norway
3	Denmark	Norway	Portugal	Norway	Switzerland	Denmark
4	Switzerland	Switzerland	France	Denmark	Denmark	Finland
5	Finland	Denmark	Hungary	Luxembourg	Netherlands	Switzerland
6	Germany	Canada	Norway	Switzerland	Germany	Germany
7	Estonia	United States	Denmark	New Zealand	Ireland	Netherlands
8	Luxembourg	New Zealand	United Kingdom	Iceland	United States	Belgium
9	United Kingdom	Iceland	Tunisia	Australia	Canada	Iceland
10	Netherlands	Finland	Ireland	Ireland	New Zealand	France
			Finland (28)		Finland (24)	

Comparisons that emphasise economic development

	Legatum Prosperity Index	SSI Economic wellbeing	Global Dynamism Index	Global Competitiveness Index	GDP per capita	Inclusive Wealth Index	Global Entrepreneurship Index
1	Norway	Norway	Singapore	Switzerland	Liechtenstein	Maldives	United States
2	Switzerland	Switzerland	Israel	Singapore	Luxembourg	Republic of Korea	Canada
3	Denmark	Sweden	Australia	United States	Norway	China	Australia
4	New Zealand	Denmark	Finland	Germany	Qatar	Spain	Denmark
5	Sweden	Estonia	Slovenia	Netherlands	Macao SAR, China	Viet Nam	Sweden
6	Canada	Luxembourg	Sweden	Japan	Bermuda	Singapore	Taiwan
7	Australia	Australia	Norway	Hong Kong SAR	Switzerland	Estonia	Iceland
8	Netherlands	Czech Republic	Switzerland	Finland	Australia	Latvia	Switzerland
9	Finland	Finland	Canada	Sweden	Denmark	Malta	United Kingdom
10	Ireland	Slovenia	Germany	United Kingdom	Sweden	El Salvador	France
					Finland (19)	Finland (53)	Finland (28)

Comparisons that emphasise the development of human well-being and social issues

	SSI Human wellbeing	World Happiness Index	The World's Most Literate Nations	Corruption Perceptions Index	Good Country index	Fairness for Children	Open data index
1	Finland	Denmark	Finland	Denmark	Ireland	Denmark	Taiwan
2	Iceland	Switzerland	Norway	Finland	Finland	Finland	United Kingdom
3	Germany	Iceland	Iceland	Sweden	Switzerland	Norway	Colombia
4	Japan	Norway	Denmark	New Zealand	Netherlands	Switzerland	Finland
5	Sweden	Finland	Sweden	Netherlands	New Zealand	Austria	Uruguay
6	Denmark	Canada	Switzerland	Norway	Sweden	Netherlands	Australia
7	Norway	Netherlands	United States	Switzerland	United Kingdom	Ireland	Denmark
8	Austria	New Zealand	Germany	Singapore	Norway	Estonia	Norway
9	Hungary	Australia	Latvia	Canada	Denmark	Slovenia	France
10	Ireland	Sweden	Netherlands	Germany	Belgium	Latvia	United States

Comparisons that emphasise the development of environmental issues and those related to natural resources

	EPI Environmental Performance Index	SSI Environmental wellbeing	Ecological footprint	Biocapacity	Renewable Energy Country Attractiveness Index	Ocean Health Index	Climate Change Performance Index
1	Finland	Guinea-Bissau	Eritrea	Guyana	United States	Prince Edward Islands	Denmark
2	Iceland	Malawi	Timor-Leste	Bolivia	China	Howland Island and Baker Island	United Kingdom
3	Sweden	Nepal	Haiti	Australia	India	Macquarie Island	Sweden
4	Denmark	Mozambique	Bangladesh	Canada	Chile	Head and McDonald Islands	Belgium
5	Slovenia	Central African Republic	Afganistan	Mongolia	Germany	Phoenix Group	France
6	Spain	Zambia	Pakistan	Finland	Brazil	Northern Saint-Martin	Cyprus
7	Portugal	Rwanda	Burundi	Congo	Mexico	New Caledonia	Marocco
8	Estonia	Congo. Dem. Rep.	Malawi	Sweden	France	Glorioso Islands	Italy
9	Malta	Burkina Faso	Congo, Democratic Republic of	Estonia	Canada	Jarvis Island	Ireland
10	France	Burundi	Mozambique	Paraguay	Australia	Germany	Luxembourg
		Finland (126)	Finland (136)		Finland (36)	Finland (69)	Finland (23)

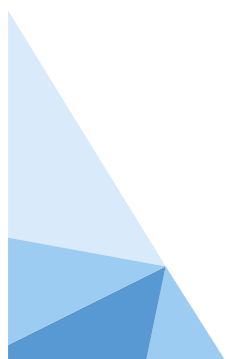
APPENDIX 3: Participants in the stakeholder and expert workshops by the Avain2030-project

Participants in the Avain 2030 project stakeholder group workshop 29 April 2016

Marjo Priha, The Finnish Association for Environmental Education
Tiina Vyyryläinen, Association of Finnish tourism and restaurant services MaRa ry
Maria Mekri, SaferGlobe
Sari Koponen, KELA – The Social Insurance Institution of Finland
Maria Höyssä, Finland Futures Research Centre
Anna-Stiina Lundqvist, Kepa, the umbrella organisation for Finnish civil society organisations
Katja Matveinen, Ministry of Agriculture and Forestry
Riina Vuorento, Ministry of Education and Culture
Nora Forsbacka, Kehys - The Finnish NGDO Platform to the EU
Jukka Makkonen, The Finnish Energy Industries
Marjukka Mähönen, Ministry of Agriculture and Forestry
Anna Lemström, FIBS
Jouni Nissinen, The Finnish Association for Nature Conservation
Heini Röyskö, DPC, the National Commission on Sustainable Development
Jouni Lind, Federation of Finnish Technology Industries
Maija Heikkinen, Finnish Forest Industries Federation
Riikka Kaukoranta, Väestöliitto, the Family Federation of Finland
Maria Höyssä, Finland Futures Research Centre
Noora Simola, Finnish Evangelical Lutheran Mission
Annika Lindblom, Ministry of the Environment
Aino Friman, SaferGlobe
Erkka Laininen, the OKKA Foundation
Helena Laukko, UNA Finland
Veera Vehkasalo, UNA Finland
Leena Simonen, Consumers' Union of Finland
Abdule Mahamed, Finnish Somali League
Ilona Hatakka, the Finnish Red Cross
Tuuli Nummelin, FIBS
Laura Sarlin, Ministry of Transport and Communications

Participants in the Avain 2030 expert workshop 29 April 2016:

Erja Fagerlund, Ministry of Employment and the Economy/EIO
Hannele Ilvessalo-Lax, South Ostrobothnia Centre for Economic Development, Transport and the Environment
Sauli Rouhinen, Ekosäätiö foundation
Eeva Hellström, Sitra
Juha-Matti Katajajuuri, Natural Resources Institute Finland
Leo Koltola, Statistics Finland
Saara Tamminen, Government Institute for Economic Research (VATT)





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