The Road Towards a Carbon-Free Society

A Nordic-German Trade Union Cooperation on Just Transition

DENMARK FINLAND GERMANY ICELAND NORWAY SWEDEN







This publication is part of a joint project entitled **"The Road Towards a Carbon-Free Society – A Nordic-German Trade Union Cooperation on Just Transition"**. The project is a collaboration between the Council of Nordic Trade Unions (NFS), the Friedrich-Ebert Stiftung (FES) and the German Trade Union Confederation (DGB).

Represented by the NFS in this project are 13 national Trade Union Confederations from five Nordic Countries: FH and Akademikerne in Denmark; SAK and STTK in Finland; ASÍ, BSRB and BHM in Iceland; LO-N, Unio and YS in Norway and LO-S, TCO and Saco in Sweden.

The project is based on four pillars:

The **Executive Committees** of the DGB and NFS are responsible for the political content of this report. The report and its policy recommendations were adopted by these two political institutions in November and December of 2020.

The project **Steering Committee** was responsible for the overall direction of the project (including project scope and aim, finance, communication strategy and events etc.). It consisted of the three initiators of the project: the DGB, FES and NFS; represented by Frederik Moch, Head of the Department Industry, Services and Structural Policy DGB, Magnus Gissler, General Secretary NFS, and Dr. Philipp Fink, Director FES Nordic Countries.

In the **working group** all national Trade Union Confederations mentioned above were represented. The working group worked strongly on the Country Reports covered by this project and which form the base for this Synthesis. The aim was to find a common understanding of the challenges, key messages and solutions to come. The Steering Committee wish to acknowledge the work of Henrik Jepsen (FH), Pernille Hagedorn-Rasmussen (Akademikene/IDA), Pia Björkbacka (SAK), Leilia Kurki (STTK), Patrizia Kraft (DGB), Henný Hinz and Maríanna Traustadóttir (ASÍ), Sigríður Ingibjörg Ingadóttir (BSRB), Þórunn Sveinbjarnardóttir (BHM), Anne-Beth Skrede (LO-N), Johan Hall (LO-S), Hanna Finmo (TCO) and Tobias Lundquist (Saco/Naturvetarna).

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EXECUTIVE SUMMARY

The Nordic and German trade unions represented by the Council of Nordic Trade Unions (NFS) and the German Trade Union Confederation (DGB) – support their respective countries' commitments to the Paris Agreement and goals to reach carbon neutrality. This presupposes a structural change of the social, economic, and ecological dimensions of society never seen before. Just Transition is a prerequisite for success. It will ensure that our countries reach the goals of the Paris Agreement and that no one is left behind.

The conclusions in this report are the result of the collaboration between the aforementioned trade union organisations. They contribute to the national, regional and international discussion on Just Transition by helping to define Just Transition and shed light on structural change triggered by climate policies and the effects and possibilities it will have on labour markets. The report will furthermore help to pave the way to a carbon-free society by formulating policy recommendations jointly adopted by the NFS and the DGB, which underline the importance of Just Transition, education and lifelong learning, social protection, involving trade unions in climate policies, investments and research and development etc.

An important conclusion of this report is that Just Transition demands a holistic approach to climate policies. This is because a comprehensive social, economic, and ecological transformation of society, triggered by climate policies, means that jobs will change and can even disappear. Society must therefore be at the forefront and progressively shape the transition so that workers and employees are prepared for change and new decent jobs are created, while at the same time reaching the goals of climate policies.

Just Transition is already mentioned in the preamble to the Paris Agreement (United Nations 2015) and connects it to the ILO Decent Work Agenda and its four pillars: social dialogue, social protection, rights at work and job creation (ILO 2020). This report suggests that these pillars, broken down further into components such as collective bargaining, education, vocational training, lifelong learning, social protection, and public and private investments, will lead to productive, competitive and resilient economies.

Another important conclusion is that Germany and the Nordic countries are export-oriented economies dependent on trade. They face similar challenges concerning emissions-heavy sectors in their economies, such as metal industries, construction, transportation, agriculture and fossil fuel extraction, sectors which will face further structural change. They also share many common opportunities for new approaches to zero-emission innovations and the technical development of energy sources.

This report suggests that a collaboration between the Nordic countries and Germany on Just Transition can help the countries to reach the climate targets, and that they should aim to become **Just Transition frontrunners**. Because of their social models, their technological expertise and their ambition to reduce emissions of greenhouse gases, they have the right conditions to do so. They should therefore push for the policy recommendations listed in the end of this report, on the national, Nordic, European and international level. Working together to transform their economies will prove effective, while no one is left behind.

Content

- **01** Introduction | 05
- **02** Just Transition | 06
 - 2.1 What is Just Transition? | 06
 - **2.2** What does Just Transition mean in practice? | 07
 - **2.3** The Paris Agreement and Just Transition | 08
- **03** Current state of play | 09
 - 3.1 Climate goals and national emissions | 09
 - **3.2** Six welfare states | 11
 - 3.3 National emissions | 12
 - 3.4 Different preconditions but common challenges | 14
 - 3.5 Effects on economy and society | 15
 - 3.6 Green exports dependent on global shift | 17
- 04 The road towards a carbon-free society | 18
 - 4.1 Democracy and participation | 18
 - 4.2 Change starts at the workplace | 19
 - 4.3 A holistic approach to climate and energy polices | 20
 - **4.4** The need for investment and quality job creation | 21

05 Our policy recommendations | 23

- 06 References | 27
- **07** Appendix: On the project partners | 28

INTRODUCTION

The transition towards a carbon-free society is one of the most urgent environmental, social and economic issues of our times.

The Nordic and German trade unions represented by the Council of Nordic Trade Unions (NFS) and the German Trade Union Confederation (DGB) introduces in this joint report an analysis of the challenges ahead as well as policy recommendations for a just and sustainable future at the European, Nordic and national level.

The goals of the Paris Agreement represent a proper challenge. Its fulfillment translates into a more-or-less de-carbonised economy and society by 2050, with required changes in production (of both goods and services) and consumption patterns in its wake. As structural change is not limited to individual regions and countries but affects all sectors on a global scale – a technological and industrial race to develop new technologies, production processes and goods has begun.

The transition to a de-carbonised society and economy can only be successfully achieved if it is linked to a wider process of progressive modernisation of society and the economy. By combining the goals of social equality and climate protection, green growth can benefit society as a whole. It is therefore paramount to a successful transition process that everyone in society is taken onboard. No one should be left behind.

Within this context, the Nordic and German trade unions play a key role. They not only belong to the strongest trade union movements in Europe, but also represent sectors which are at the core of the transition process. These countries have in many cases been frontrunners in implementing an ecological transition process.

This synthesis report is the result of a joint project between Nordic and German trade unions consisting of six national reports on climate change and Just Transition. It aims to deepen understanding among Nordic and German union movements and to analyse the necessary social and ecological transition path from a trade union perspective. The report starts with a definition of what Just Transition stands for, why it is so important and what it means in practice. It then presents the current state of play and gives an overview of climate goals, emissions and how the economy and society will be affected by climate policies. Afterwards we look at the road towards a carbon-free society from a trade union perspective. What is needed to accelerate the social and ecological transformation? What are examples of best practices? What role do investment and new technology play? The report ends with key policy recommendations, jointly adopted by the NFS and the DGB in November and December 2020.

02 JUST TRANSITION

2.1 WHAT IS JUST TRANSITION?

For the purpose of this report, Just Transition is understood as below, which is a synthesis of the ILO's "Guidelines for a Just Transition towards environmentally sustainable economies and societies for all" (ILO 2015).

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A Just Transition secures the future for today's and coming generations by providing a stable organisational framework and a fair distribution of costs and benefits on the way to a climate-neutral economy.

To master the upcoming challenges and the connected insecurities Just Transition builds on communication and knowledge and decisive action: It is founded on the principle of social dialogue and democratic consultation between workers, trade unions, employers, governments and communities. Social cohesion and acceptance are key for its success.

The four pillars of the Decent Work Agenda – social dialogue, social protection, rights at work and job creation – are indispensable building blocks of sustainable development and must be at the centre of policies for strong, sustainable and inclusive growth and development.

Just Transition sets the right framework for actively shaped structural change. Thereby a perspective for affected regions, sectors and workers is created. The transition process is accompanied by an active and engaged government, which invests in low-emission sectors and technologies and systematically uses active labour market policies. It cannot be left to the market because it is blind to social impacts and increases already existing inequalities. Social protection secures people who lose their jobs. Training and skills development for workers ensure that existing jobs are prepared for the future. Newly created jobs must be linked to decent working conditions.

Just Transition merges climate action, sustainable prosperity and decent jobs. (ILO 2015)

2.2 WHAT DOES JUST TRAN-SITION MEAN IN PRACTICE?

In the Nordic countries trade unions generally take a constructive approach to structural change in the necessary adaption to new technologies and other factors that drive change and competitiveness – a result of the Nordic model which has enabled Denmark, Finland, Iceland, Norway and Sweden to adapt to the international economy in the past. In many parts of the economy Germany is also highly dependent on the development of the international market. Hence, substantial parts of the Nordic view are also shared by German trade unions.

This might seem counter-intuitive. Should not trade unions reject change that can risk the jobs of its members? Not necessarily. Some megatrends, such as the fourth industrial revolution and globalisation, cannot be stopped, only shaped. By rejecting such trends, the ability to shape these processes is lost. Therefore, trade unions should also be at the forefront of change, because by doing so, they are progressively shaping the future work environment and society.

Another positive argument for shaping change as a trade union is that increased productivity from new technologies can lead to bigger welfare gains if fairly distributed among the population. To ensure this, collective bargaining agreements, social dialogue, co-determination and decent working conditions are needed.¹ They directly lead to higher tax revenues for the state and a well-financed welfare system. This is in turn fundamental for workers' susceptibility to change: unemployment schemes, vocational training and further education are important elements when an employee needs to find a new job or adapt to new tasks because the conditions of his or her workplace have changed.

The same logic applies to the social and ecological transformation, since many climate policies and laws have an impact on employees, businesses and the labour market. It will heavily impact the way we produce, consume and work. If done right, the necessary ecological transformation can take place while the welfare of affected regions and the well-being of workers is protected.

The components of a Just Transition, such as education, regulations on emissions, social protection, and public investments, will lead to productive, competitive, and resilient economies. Public investments in new technology and infrastructure combined with regulations on emissions and Just Transition will not only lower greenhouse gas emissions but even have positive effects on the labour market and the economy.

¹ See for example OECD third jobs strategy (OECD 2018a).

2.3 THE PARIS AGREEMENT AND JUST TRANSITION

Germany and the Nordic countries have on their respective national levels progressive and ambitious plans to mitigate emissions of greenhouse gases. They act in a shared effort with other countries committed to the 2016 Paris Climate Agreement to limit the global temperature increase in this century to well below two degrees.

The trade unions behind this report acknowledge that the social and ecological transformation will not be an easy task, but support the ambitions set out by their governments. Achieving the goals of the Paris Agreement is critical for our future on Earth.

It is, however, of the utmost importance that climate policies are developed in a way that mitigate the social effects that can result from the very same policies. This is what the concept of Just Transition aims for, as is already stated in the preamble of the Paris Agreement:

"[...] Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities, [...]" (United Nations 2015:4)

The Paris Agreement thus connects Just Transition to many of the development goals of the UN's Agenda 2030 in general as well as to the ILO Decent Work Agenda and its four pillars (ILO 2020).

The pillars of the ILO Agenda are also the quintessence of what is called the Nordic Model, with strong welfare states and social partners with well-functioning systems for collective bargaining at its core. The same fundamental principles can also be found in the German social model, with an equally long tradition.

03 CURRENT STATE OF PLAY

3.1 CLIMATE GOALS AND NATIONAL EMISSIONS In order to combat irreversible climate change and its effects, the Paris Climate Agreement aims to limit this century's average global temperature increase to well below two degrees, and to pursue efforts to limit it to 1.5 °C. The countries/parties that have signed the agreement determine their individual contributions on a unilateral basis. The agreement also requires that the goals of each country must be ambitious and show progress over time. Developed countries, in particular, "[...] should continue taking the lead by undertaking economy-wide absolute emission reduction targets" (United Nations 2015:6).

Accordingly, the Nordic countries and Germany, which all signed the agreement in 2016, have enacted national strategies, action plans, and a range of climate policies anchored in legislation to reach their national goals.

Curbing climate change is critical for our future on this earth. While the Paris Agreement is a huge step toward doing so, global emissions continue to rise and have not yet peaked. According to the UN Environment Program (UNEP) report from 2019, global greenhouse gas emissions must fall by 7.6 per cent each year on average between 2020 and 2030 if the 1.5°C temperature reduction is to be reached (UNEP 2019). This goal can still be achieved, but to do so, the report reveals that all nations must significantly increase their climate ambitions in their Nationally Determined Contributions (NDCs).

This also implies that we are just at the beginning of the transition and an acceleration of reduction of emissions is urgently needed. And it is here that the Nordic countries and Germany can take the lead. They can show not only that the ecological transition is possible, but that it can be implemented in a socially just way.

Table 1: Overview of national, Nordic and EU climate goals

	National/Nordic/EU climate goals and the Paris Agreement (for more details see the country-specific reports of this project)
Denmark	A 70 per cent reduction in greenhouse gas emissions in 2030 compared to 1990 levels. Becoming a net-zero emissions society by 2050. 55 per cent renewable energy by 2030 and coal in electricity production phased out by 2030.
Finland	By accelerating emission-reduction measures and strengthening carbon sinks, Finland aims to be carbon-neutral by 2035 and carbon-negative soon thereafter. By 2030, emissions should be reduced by at least 55 per cent below 1990 levels. Emissions from non-emissions trading sectors to be reduced by 39 per cent over 2005 by 2030. A target of 80-95 per cent reduction of greenhouse gas emissions by 2050 is defined in the Climate Law. The law is to be updated in 2021 and the target will be tightened.
Germany	Carbon neutrality by 2050. A 55 per cent reduction in greenhouse gas emissions in 2030 compared to 1990 levels. Sector-specific targets for 2030. Share of renewable energies in gross final energy consumption of 30 per cent by 2030.
Iceland	Carbon-neutrality by 2040. A 40 per cent reduction in greenhouse gas emissions in 2030 compared to 1990 levels. The main emphasis in the government action plan is on phasing out fossil fuels in transport, and increasing carbon sequestration through restoration of woodlands and wetlands, revegetation and afforestation.
Norway	The ambition is to cut emissions by 50-55 per cent by 2030 compared to 1990 levels, and 90-95 per cent by 2050. The Norwegian Climate Act of 2017 still contains the previous targets, however, to cut emissions by 40 per cent by 2030 and 85-95 per cent by 2050. The Climate Act stipulates that the targets will be strengthened every five years.
Sweden	Net-zero emissions by 2045, meaning that the amount of greenhouse gases emitted by Sweden will be less than the amount of greenhouse gas reduced through the natural ecocycle, or through climate projects pursued by Sweden abroad. By 2045 territorial emissions from activities in Sweden must be at least 85 per cent lower than in 1990.
Nordic Council of Ministers	The Nordic region is to become the most sustainable and integrated region in the world by 2030.
EU	Limiting the temperature increase to 1.5 °C above pre-industrial levels and achieving carbon neutrality by 2050 with net-zero greenhouse gas emissions, thus becoming the world's first climate-neutral continent. So far, by 2030 at least 40 per cent cuts in greenhouse gas emissions (from 1990 levels), at least 32 per cent share for renewable energy and at least 32.5 per cent improvement in energy efficiency. As part of the European Green Deal the European Commission proposed in September 2020 to raise the 2030 greenhouse gas emission reduction target, including emissions and removals, to at least 55 per cent compared to 1990. Detailed legislative proposals are expected by June 2021. (European Commission 2020)

Table 1 shows the national goals of the Nordic countries and Germany, as well as the goals of the Nordic Council of Ministers and the EU. Notable is that although Norway and Iceland are not part of the EU both have chosen to be part of a joint realisation with the European Union and its member states which aims to reach at least a 40 per cent reduction in greenhouse gases (from 1990 levels) by 2030 (EEA Joint Committee 2019). But this climate target will presumably be raised substantially in the coming months. In the second half of 2020, the European Commission proposed raising the reductions target for 2030 from 40 per cent to a 55 per cent reduction as part of the European Green Deal. Shortly thereafter the members of the European Parliament raised the target even further, calling for a reduction of 60 per cent in 2030, adding that national targets will be increased in a cost-efficient and fair way.

All countries are working towards their climate goals based on their individual preconditions. Many of them even seek to lead with more ambitious national climate goals and sub-targets. For example, Denmark aims for a 70 per cent reduction in greenhouse gas emissions by 2030 compared to 1990 levels. Finland, for its part, is aiming for a 55 per cent reduction in greenhouse gas emissions by 2030 and intends to achieve climate neutrality by 2035.

Even for wealthy, developed countries, these are ambitious goals that will require significant structural changes that could challenge their welfare states. Besides determining how to achieve their goals, the countries must also consider how their societies may look after having done so. It is crucial to ensure decent jobs and secure the tradition of high social standards and social protections for employees.

3.2 SIX WELFARE STATES

Table 2 provides an overview showing different parameters of the Nordic countries and Germany. The figures illustrate the countries' collective size, with a combined workforce of 54 million people among a total population of nearly 110 million. While the Nordic countries have been able to maintain a higher union density due to the strength of their Nordic model, these countries and Germany distinguish themselves by having collective bargaining coverage far above the OECD average. Social partnership remains a crucial part of these countries' welfare states. Likewise, trade unions are strong in specific sectors in Germany as well and play an important role in particular industries and sectors, especially in those industries that are carbon intensive.

Although GDP aggregates per capita vary between the countries, all are well above the EU average, indicating highly productive economies and workforces. Viewed in context with the other parameters, it also suggests the importance of social partnership, the strong role of trade unions, and a collective striving toward a high standard of living, including a tradition of high social standards and social protections. From this perspective, these countries should take advantage of their situation and serve as examples of combining carbon-neutrality and a Just Transition, as described in the Paris Agreement.

Table 2: Overview									
	Denmark	Finland	Germany	Iceland	Norway	Sweden	EU-28/OECD		
Population 2019 (EU-28 and Norway + Iceland)	5,800,000	5,500,000	83,000,000	360,000	5,300,000	10,200,000	519,160,000		
Real GDP aggregates per capita, 2019	€ 49,190	€ 37,170	€ 35,980	€ 38,840	€ 69,890	€ 43,840	€ 28,630		
GHG emissions CO ₂ e per capita (excl. LULUCF), 2017	8.6 t	10.1 t	11 t	14.1 t	10 t	5.3 t	8.5 t		
GHG emissions CO ₂ e (excl. LULUCF), 2017	49 mt	55 t	907 mt	5 mt	53 mt	53 mt	4,323 mt		
Difference (excl. LULUCF) from 1990 to 2017	-30%	-22%	-28%	32%	3%	-26 %	-23%		
Net GHG CO ₂ e emissions/removals from LULUCF, 2017	3 mt	-20 mt	-15 mt	9 mt	-25 mt	-44 mt	-258 mt		
Share of renewable energy in gr. final energy consumpt., 2018	36%	41%	16%	72 %	73%	55%	18%		
Workforce, "active population", (aged 20-64), 2019	2,766,000	2,567,000	41,231,000	186,000	2,596,000	5,094,000	238,515,000		
Collective bargaining coverage, 2016	82%	89 %	56%	92 %	73%	90%	32%		
Union density, 2018	67%	60%	17%	92 %	49 %	66%	N/A		

(Data source: Eurostat 2019a, Eurostat 2019b, UNFCCC 2017, Eurostat 2018, Eurostat 2019c, OECD 2016, OECD 2018b)

3.3 NATIONAL EMISSIONS

Greenhouse gas emissions for most of the six countries remain high and higher than even the EU average - as shown above. Only Sweden has lower per-capita emissions than the EU average. Efforts to reduce emissions have been underway for decades. Figure 1 shows that most of the six countries reduced their emissions from 1990 to 2017: Sweden by -26 per cent, Finland by -22 per cent, Germany by -28 per cent, and Denmark by -30 per cent. An exception is Iceland, which has seen an increase (+32 per cent) due to newly established heavy industries like aluminum smelting. Norway's emissions have remained more or less stable (+3 per cent), and even though industry emissions have been reduced, emissions from the country's major exports, oil and gas, have actually increased, a sector that composes an important part of Norway's GDP. As Table 1 shows, all countries aim to reach climate neutrality by 2050 at the latest. This means that there is still a long way ahead which implies huge structural changes in the economy and society.

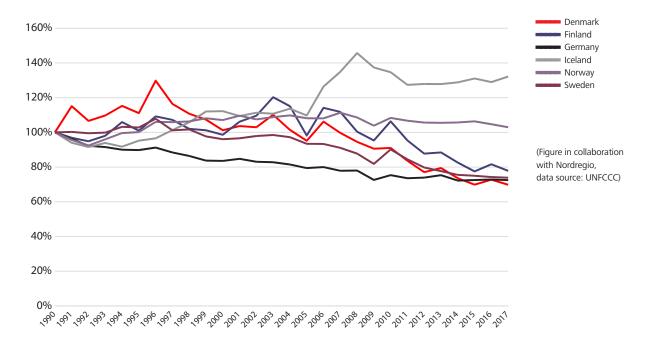


Figure 1: Domestic greenhouse gas emissions in the Nordic countries and Germany, indexed to 1990 (excluding LULUCF)

While the countries share similar sources of emissions – the energy sector, industrial processes, transport, agriculture and waste – the main sources of emissions vary between the countries. This is a reflection, on the one hand, of differing economic structures, energy sources, and main areas of industry (e.g. oil and gas industry in Norway; manufacturing and forestry in Finland; automotive and manufacturing industries as well as coal in Germany; metals industry, tourism and fishery in Iceland; steel industry in Sweden), and also of the countries finding themselves in different phases of transition (e.g. wind energy frontrunner Denmark, electric car share leader Norway, early implementation of district heating instead of oil-fired boilers in Sweden).

Broadly, however, the largest source of emissions is the energy sector including the use of energy resources (with the exception of Iceland). With increased use of renewable energy and progress being made toward greater energy efficiency, most countries have been able to reduce energy sector emissions. Denmark, for example, has succeeded in transforming their energy sector, establishing a higher share of renewable energy from 19 per cent share of renewables in 2008 to 36 per cent in 2018, and reducing their emissions to a notable degree due to their investments in wind energy and biomass.

Traditional industries – iron and steel, the mineral industry, automotive industry, aluminum industry, chemical industry, and refineries, to name a few – emit massive amounts of greenhouse gases as well. Besides increasing efficiency, all countries are placing much hope in new technologies like hydrogen utilisation, geothermal heat and electrification to further reduce emissions from industrial processes in the Nordic countries. CCS/CCU (carbon capture and storage/carbon capture and utilisation) is also of high relevance. In some industries enormous investments in new green technology are needed to cut emissions (for example the aluminum, steel or cement industry). Sectors extracting fossil fuels are even facing closures to cut emissions, like the coal industry in Germany or the peat industry in Finland. It is not only traditional industrial sectors that are carbon-intensive, but also (new) service sectors, which are responsible for a growing amount of greenhouse gases – for example, the IT sector with its streaming and home delivery services.

The transport sector, particularly road transport, is responsible for a huge proportion of emissions in all countries, mainly due to cars powered by fossil fuels. Various attempts have been made to "electrify" the transport sector, or to reduce fossil fuels by transitioning to biofuels and techniques increasing energy efficiency. Norway and Iceland, for example, managed to increase their share of electric cars substantially with the help of incentives (exemptions from taxes and fees), while investing heavily in the expansion of charging infrastructure. Sweden, for example has reduced emissions from transport successfully by adding biofuels into the fuel mix.

Emissions from agricultural production, mostly due to livestock, fisheries and land cultivation are also significant and must become more climate friendly and sustainable. Emissions from waste are the least significant source of emission and the emissions have been able to be reduced by banning landfill sites. Most countries use waste in the production of electricity and heat.

3.4 DIFFERENT PRE-CONDITIONS BUT COMMON CHALLENGES

Due to differing geography and availability of natural resources, the countries face different possibilities and challenges in reducing their emissions. For instance, countries like Finland and Sweden are able to utilise the LULUCF sector (Land Use, Land-Use Change and Forestry) as a natural carbon sink in their climate strategies due to enormous woodlands (Germany and Denmark can do so only to a minor degree), while Iceland faces high emissions in LULUCF, with 65 per cent of total emissions coming from this sector due to desertification, deforestation and draining of wetlands. Some countries have access to domestic fossil resources (Norway, Germany, Finland, Denmark) and some do not, or have very limited carbon-based energy sources (Sweden, Iceland).

Still, due to climate policies, all countries need to make similar structural changes, which will affect the economy and society. Certain sectors must be transformed in all the countries; for example, the transport sector with its large number of fossil fuel-based cars. Some countries also share specific industries. Both Iceland and Germany have emissions-heavy aluminum industries, requiring costly investments to cut emissions. Sweden and Germany's automotive industries must address the move from combustion motors to electric powertrains. Most countries are investing in hydrogen technologies to transform their energy sectors. Finland and Sweden have enormous possibilities with their forest industries to invent new wood-based products and Iceland is a frontrunner in CCS technology. Norway, Finland, and Germany are confronted by phasing out fossil fuel extraction (oil and gas in Norway, peat in Finland, coal in Germany) to reduce emissions. Sweden and Germany are investing in research into carbon-free steel production and Iceland is doing the same for its aluminum smelters. Working together to transform these industries, and/or to efficiently use these sectors to reduce emissions, could prove effective and smooth the process of the transition itself. Collaboration could involve exchanging best-practices to transform an industry or sector, or sharing lessons learned from implemented climate policies and their effects. It could involve making common investments into new technologies or engaging in dialogue on possible solutions for common challenges. As shown above, these countries together form a powerful region in terms of population, education, knowhow and GDP. This could also be transferred into a strong alliance with ambitious climate policies including Just Transition and green investments based on a strong welfare state and social partnership.

3.5 EFFECTS ON ECONOMY AND SOCIETY

Climate neutrality requires a complete transformation of society and the economy. It will affect millions of jobs, entire industries and sectors, and the wealth of various regions. High-emissions sectors are important for national and regional economies: As certain carbonintensive sectors form the backbone of these economies, reducing emissions represents both a conflict and a great challenge. In Iceland, for example, these are important sectors like aluminum smelters, tourism and fishery; in Germany, the automotive and manufacturing industries with millions of employees; and in Norway, the oil and gas sector, which accounts for over one-fifth of national revenue.

The impact of the transformation of high-emission sectors is even greater than simple economic figures would suggest. These sectors are interconnected with and dependent upon other sectors and/or companies within their economies. Examples are outsourced logistics, facility management, and cleaning within the affected sector with already lower trade union density and less decent conditions, as



seen in Germany. There are also spill-over effects into other sectors, observable, for example, in Norway, where indirect employment for the petroleum industry occurs within retail, IT services, equipment rental, business services, and hotels and restaurants. In Germany, large companies and SMEs are often connected throughout the supply chain in a mutually dependent ecosystem, meaning entire production networks can be affected by changes, not just individual companies. Another example is the transport sector. The Swedish report states that the entire concept of mobility and transport must be transformed to achieve climate goals, and that this will produce various effects: for example, more public transport passengers would lead to more jobs being created in public transport, and emissions from transport being reduced. But such a development could also affect domestic passenger car production negatively and thus risk jobs in the automotive industry. Another effect could be that an increased electrification of vehicles including a switch to new powertrains could create more jobs in the energy sector.

From a regional perspective, the impact of the downsizing or loss of a specific industry can be substantial, due to some regions' reliance on single industries or sectors for employment and production. This presents great challenges for rural areas in that it can lead to migration away from them, which in turn leads to high regional unemployment if no new jobs are created when affected industries leave a region (e.g. coal regions in Germany, oil and gas regions in Norway or peat regions in Finland).

Typically, sectors affected by climate policies are already experiencing other changes and challenges. Some industries and sectors have seen substantial job losses already, due to globalisation, automation and other technological developments. To avoid the same effects in climate policy, society has to anticipate the employment implications of energy and climate strategy plans. Level of education and skills play a crucial role, not only for challenges like automation but also when it comes to adaptation to climate change, as the ability to find other jobs in non-affected sectors increases with the level of education.

In most of the countries, the group most directly affected is often lowskilled workers, often male, employed in traditional heavy industries (like the automotive, peat and coal-energy sectors or the steel industry), often located in regions heavily dependent on the affected industries. Also, at particular risk in most of the countries are older age groups, workers who perform tasks that are simpler to automate, immigrants, and temporary workers. A long-term perspective which provides affected groups with education, new or renewed skills so that it is possible to change jobs for all affected groups is something that will be deepened later in the report. But it is not only low-skilled workers that risk job loss or job change. Oil and gas production in Norway is for instance dominated by high-skilled workers. However, it is difficult to predict how different groups of workers will be affected directly or indirectly by structural changes in the wake of climate policies. Some of the six country reports state that there is a lack of studies on how climate policies affect the labour market. It is important not only to know the potential employment gains or losses in some of the affected sectors, there is also a need for studies with modeling projections of net effects on employment at the macroeconomic level including a sector-by-sector analysis, a regional perspective, a differentiation on occupational groups and even other effects such as automation and new technology. These studies should also include the negative or positive effects on gender equality and equality in society in general. The inclination to move to find a new job is also a variable to consider.

As exporting countries, the Nordics and Germany are highly dependent on global economic activities sparked by climate change and the implementation of climate policies in other countries. Investment in new green technologies will depend largely on how their trade partners act and implement climate policies with the aim of importing new green technologies. This affects transition strategy as well, as only investments in competitive and in-demand green technologies will pay off and therefore create decent jobs in export-oriented countries.

To be successful, the strategy to be at the forefront of climate-friendly technologies, goods and services that reduce emissions must lead to increased exports and employment. This will only succeed if other countries demand these products and services to reduce their own emissions in a competitive green technology market. In addition, the phenomenon known as "carbon leakage" could at the same time put jobs at risk. Carbon leakage occurs when production entities with high emissions get moved to other countries due to climate policies in the form of stricter regulations or taxes. This might result in lower measured greenhouse gas emissions in the national context but does not reduce global emissions and thus does nothing to combat climate change.

3.6 GREEN EXPORTS DEPENDENT ON GLOBAL SHIFT

04 THE ROAD TOWARDS A CARBON-FREE SOCIETY

4.1 DEMOCRACY AND PARTICIPATION

As seen in previous chapters on emissions from different sectors, massive undertakings will have to take place if the amount of greenhouse gases in the atmosphere is going to be brought down.

Many of the undertakings are going to take place at workplaces linked to sectors such as energy, industry (including the IT and telecom industries), transport, agriculture and waste, with consequences both for the economy and society in general as well as for the individual in particular. Keeping in mind the size of the workforce, nearly half of the population in the countries covered by this report (as for the EU/EEA as a whole), this points to the importance of workplace democracy and involving trade unions in the social and ecological transformation.

As workplace democracy is an essential element of a Just Transition, this report will in the following section show some examples on how workplace democracy and trade union participation play an important role in the process to transform society.

4.2 CHANGE STARTS AT THE WORKPLACE

Unions themselves can contribute to the learning and awareness of their members on why and how to lower emissions at their workplaces. This is in fact already a reality, for example, in Germany where trade unions have launched vocational training plans. In Finland trade unions have developed comprehensive positions on national climate and energy strategies. And Swedish trade unions foresee that active participation by social partners can lead to many positive outcomes, such as committing employers to provide reskilling. Another way to put it is that change starts at the workplace, as embodied by Norway's "Working Life's Climate Week" – a new tradition that was launched in 2018 to highlight climate measures and participation in the workplace. Returning to Finland, this is also stressed in a study conducted by SAK on trade union members, who think that climate change is a serious problem that unions should be tackling actively (SAK 2019).

There are good bi- and tripartite examples of when trade unions, employers' organisations and states have agreed on plans, collective agreements and solutions to achieve necessary adaption to structural change. The Danish government is, for instance, preparing a new climate action plan and has launched a tripartite green business forum composed of the relevant ministers, business organisations and trade unions to monitor the 13 climate partnerships that were established to develop the plan, which will cover energy, waste, manufacturing and transport. In Sweden, so-called transition agreements have been put in place by trade unions and business organisations on a bilateral basis to provide training, assistance for job seekers and economic benefits for laid off workers – all of them effective tools when preparing for change.

Similar examples of bipartite cooperation can be found in Germany, where one trade union offered employers that if they agreed to implement important measures to safeguard jobs (investment in qualification and production sites), the trade union would refrain from demanding higher wages; whereas another trade union has pushed for the right to appoint environmental protection officers in the construction sector via a collective agreement.

The Finnish country report points out, however, that the inclusion of employment and re-skilling policies in the country's government's various climate policies is not yet very strong. This is also true for Iceland, where the three Icelandic national confederations underline that access to the decision-making process (as regards to national climate policy and action plans) is limited. The same goes for the German report, which is cautiously positive towards lessons learned and groundwork made in the project of phasing out of coal, but concludes that job creation and good working conditions are lacking from the government's strategies for 2030 and 2050, and that "leaving the transformation to the market would increase the risk of social and environmental dumping. Instead, there must be a sustainable, political framework that brings together climate protection, decent work and sustainable prosperity. To achieve these aims, the state should actively shape structural change in cooperation with trade unions and employers."

To sum-up, even though progress has been made to involve social partners both in the Nordic countries and Germany, there is certainly room for improvement. The transition towards a carbon-free society will affect the world of work. Governments and the EU must therefore include trade unions in the process right from the beginning. Even more important, as is shown above, is that workers can also contribute actively to new solutions that reduce emissions on the company level. Worker participation and Just Transition are key to triumph in the battle against climate change.

What are the policies trade unions should push for in social dialogue and in discussions with governments, businesses and other relevant actors? Besides important tools that have already been mentioned in this report, a key message is that policymakers and governments must take a holistic approach that combines climate and energy policy with all other relevant policy areas in a comprehensive industrial policy.

A holistic approach is needed because a complete social and ecological transformation of society, triggered by climate policies and the fourth industrial revolution, means that jobs will change and might even disappear. Society must be at the frontline and progressively shape the transition so that new decent jobs can be created.

A holistic approach must therefore include fiscal, education, labour market, regional, transport and gender policies as well as many other relevant policy areas. The four pillars of the ILO Decent Work Agenda and Just Transition cannot be seen in isolation. They must form an integral part of all policies that have direct or indirect impact on the labour markets.

While new markets create new jobs, it is important that these are lasting and decent, that trade unions are active and strong, and that codetermination exists. A priority during the development of new sectors should therefore be integrating social partnership, collective bargaining agreements as well as codetermination. Studies even show that codetermination and a strong social partnership make companies more successful and innovative, and thus more competitive and lasting. The dilemma with these new jobs is that they require new skills and often higher education, which employees who have lost their jobs in other sectors do not necessarily possess. Furthermore, the pool of potential employees may be small if the needed skills and knowledge are not sufficiently present in the workforce, harming growth in the green sector.

By having a social protection worthy of its name, employees and their families can be protected by unemployment schemes in the transition from one job to another. Unemployment benefits are important when

4.3 A HOLISTIC APPROACH TO CLIMATE AND ENERGY POLICIES

jobs are lost at a specific workplace because of necessary change; e.g. when a coal mine is closed or production lines are scaled down (e.g. when car manufacturers shifts focus from combustion engines to battery electric vehicles).

While industry-level restructuring reduces demand for some occupations and skill profiles, it increases demand for others. Access to training is vital to enable workers and enterprises to move from declining to growing sectors, and some new occupations will require new skills. But the most widespread source of change in skill requirements comes from the process of greening existing jobs. To take up the challenge, education systems need to anticipate and adapt to new skill requirements and lifelong learning must become a reality for all workers in all positions and with all educational backgrounds.

By investing in new technologies that provide energy efficiency and the much-needed shift from fossil fuels to fossil-free, or help to lower the share of greenhouse gases in the atmosphere through carbon sequestration, jobs can be created. Countries have tried to resolve the challenges in different ways.

Both Iceland and Norway are working on the development of CCS, an industry that can create 30-40,000 jobs in Norway alone by 2050 and strengthen and secure 80–90,000 existing jobs, while carbon dioxide is sequestered from the atmosphere. And in the sparsely populated areas of northern Sweden interesting processes are on the move. Just two years ago, a new pilot plant was opened in Luleå that can produce steel with hydrogen instead of coal, altering an emissions-heavy recipe for steel known since the iron age. In the summer of 2020, from a battery plant in Skellefteå, news came that a German company with the help of German state guarantees, has ordered batteries with a total capacity of 16 GWh (enough for up to 300,000 cars) (DN 2020).

Several studies referenced in the country reports have indeed shown that there are opportunities within the enormous challenge of a necessary social and ecological transformation. For instance, the green sector in Denmark has grown steadily and has created many jobs. Energy technology exports account today for almost 14 per cent of Danish exports (2019). Investments in new climate-neutral technologies, goods and services can create increased exports and therefore growth and employment.

Almost all country reports have mentioned the potential of bioeconomy and the circular economy to create employment with higher education and skills. Herein lie the possibilities for jobs in rural areas, as forests and bioeconomy are usually found in the countryside. The bioeconomy could create regional investments and employment and boost areas that might otherwise be negatively affected by climate change policies or the urbanisation process. Cellulose produced as

4.4 THE NEED FOR INVESTMENT AND QUALITY JOB CREATION

a by-product of timber, for instance, can replace refined products like plastics, fabrics, and insulation material instead of fossil fuels. An example comes from Finland, where construction has a positive employment impact due to the EU energy efficiency directive, which has increased demand for recycled and wooden materials. A study by the sector's employer organisation in Finland estimates that some 20,000 jobs can be created by 2020 (Finnish Contruction Workers Union 2017). A challenge is, however, to strike a balance between different interests, such as the usage of woodlands as biomass, as carbon sinks or as outdoor recreational areas.

What can be learned from examples such as these? Separate from one another they are, of course, not able to save the planet on their own, but they do form part of a bigger mix, that together with the plenitude of massive innovations and investments, in e.g. power-, heating-, road-, water- and sewage systems as well as in hydropower plants and harbours etc., will contribute to the overarching mission to reduce emissions. As seen in previous chapters, efforts to reduce emissions have been underway for decades and emissions are at least in most of the countries covered by this report, as well as the EU as a whole, already lower than they were in 1990. The examples also indicate that investments can provide employment when demand for engineers, technicians and labour increases.

The mix of examples from different countries also demonstrates that every single country has, besides its own specific challenges, also its unique possibilities and advantages, which it can gain from.

Another point is that many of these projects have been developed with the support and investment of governments. They also take a longterm perspective, of maybe 20-40 years or more. That goes for both the amount of carbon in the atmosphere that they succeed to reduce as well as for the number of people they in the end will employ, which in turn means that the sooner necessary investments are in place, the better for society and the economy. Consequently, measures put in place to create incentives for technological change must be equally as durable and provide clear rules for the state of play in different sectors, so employers and companies know what they need to plan for the skills needed in the future and necessary changes in production.

One last point is that examples like these demonstrate that it is indeed possible to reduce emissions while at the same time creating decent and well-paid jobs and new sectors. Investments will furthermore lead to jobs in the supply chain, service sectors and other branches further downstream. It is as true for new industries as it has been for industries and sectors developed until today. Or as put by the German country report:

"Investments in climate-friendly infrastructures, innovative technologies, buildings and mobility are particularly important. This investment would ensure the future viability of the economy, the environment - and thus the decent work of tomorrow. Investment in this necessary transformation is investment in our future."

OUR POLICY RECOMMEND-ATIONS

Addopted by the Executive Commmittees of the DGB and NFS in November and December 2020

The Nordic and German trade unions represented by the Council of Nordic Trade Unions (NFS) and the German Trade Union Confederation (DGB) – support their countries' and the EU's commitments to the Paris Agreement. The agreement presupposes an economic, social and ecological structural change never seen before.

Just Transition is a prerequisite for the success of the Paris Agreement and will ensure that no one is left behind in the process of structural change.



A Just Transition: Implement the Paris Agreement

The Guidelines for Just Transition by ILO (ILO 2015) and the principles of the Paris Agreement are based on the ILO Decent Work Agenda. They must be integrated into EU and national climate laws.

Decent work means thus, that job creation, rights at work, social protection and social dialogue must be considered when climate policies are devised. This also resonates in the slogan attributed to the European Green Deal "Leaving no one behind".

Politicians and policymakers must therefore take a holistic approach that puts workers at the centre of climate policy and structural change. All policies for climate action and adaptation must be in line with the ILO Decent Work Agenda.

When it comes to the implementation of climate targets, they need to be paired not only with energy and climate policies. Specific economic, education, labour market, gender and sectoral policies are also needed to create a beneficial framework for the upcoming transition.



24

Wherever structural change happens, workers are affected. Trade unions therefore must be involved in the preparation, monitoring and updating of national, sectoral and regional energy and climate plans and policies. This also holds true for financial instruments to support structural and climate change, as well as the impact of climate policy on employment and the need for new skills.

The involvement of trade unions therefore must be facilitated by the states themselves as well as by the EU, the UNFCC, the ILO and by regional cooperations such as the Nordic Council of Ministers.

Make the transition work with education, training and a better work environment

Education, vocational training and lifelong learning are essential to mastering the transition. New knowledge, competencies and skills – whether they are going to be provided by employers or public systems – are key, both to prepare employees for new tasks and jobs as well as to create an innovative and sustainable workspace. Climate policies have to be linked with employment and re-skilling analyses as well as specific measures to successfully steer the transition.

The shift to green jobs (UNEP 2008) in new sectors as well as in today's economy is central. Importantly, green jobs also need to be decent jobs. A decent job is productive, delivers a fair income, provides social protection and freedom for people to express their opinions and organise, and it assures equal opportunities and fair treatment for all.

Workers are the ones who recognise and experience risks in their work environment. This knowledge is collected through trade unions. It is important that this knowledge is considered while shaping new legislation, but also at every workplace. We know that the transition will create millions of new jobs across Europe, but also that these new jobs will create new risks for workers. New jobs must therefore be good and safe jobs. Occupational health and safety measures must be a part of all future legislation.

Reduce insecurity of structural change through social protection

Social protection worthy of its name is crucial to protect employees and their families in the transition from one job to another. Giving people income and job security facilitates the transition, since structural change evokes insecurity that can trigger rejection of change and innovation. Decent work for everyone must be a European and national benchmark.

5.

Invest in the future of economy and people

Climate neutrality requires major investments. These will pay off and help to protect the planet, the economy and people. Many green technologies have export potential. They will stimulate growth and create green, decent jobs. When private investments fall short the state has to proactively shape the transition by investing in the future of economy and people. Investments therefore do not only have an economic but also a social dimension (e.g. social protection, reskilling).

This also holds true on the European level. Financial instruments – such as mechanisms, funds, etc. – must focus on workers directly and indirectly affected by the social and ecological transition. Key is that their resources focus on social protection and promote employment, re-skilling, vocational training and workers' participation in the transition. Trade union should be represented at all stages of these projects. Existing measures should be evaluated from the perspective of a Just Transition. European rules need to be in line with Just Transition investments on the national level.

6.

Create a level playing field that facilitates and incites green investments

Measures put in place to create incentives for technological change must be durable and provide clear rules for the state of play in different sectors, so employers and companies can plan for investments in technology and in up- and reskilling of their workers.

A level playing field must be developed so that companies and industries are not shut down, only to be opened elsewhere in the world where regulations and climate policies are too weak – thus leading to carbon leakage.

7.

Create knowledge for innovation and Just Transition

Several relevant issues will arise on the path to climate neutrality that pose a challenge to all nation states as well as the EU. The need for further research concerns several possible technologies that together can contribute to resolve the challenges ahead. Research and development on new technologies that help our societies reach the climate goals in a socially acceptable way must therefore be intensified.

Real change is implemented by the workers on the ground. Further research that connects climate policies to the effects it has on sectors, regions and on labour markets in general and more particularly on the worker are urgently needed. Research is also needed on gender and the indirect effects of the social and ecological transition. It will help create knowledge about the processes of a Just Transition.

Grow stronger through collaboration

A collaboration between the Nordic countries and Germany on Just Transition would help all of the countries reach their climate targets. These countries share common challenges with regard to climate neutrality. They share many of the same possibilities in new approaches to zero-carbon innovations and technical development of energy sources. They all have the right conditions to do so through their social models, their technological expertise and their ambition to reduce greenhouse gas emissions, as well as a high degree of worker organisation and strong trade unions, and the tradition for social dialogue. They should aim to become Just Transition frontrunners and together push for the above-mentioned recommendations, nationally, in Europe and on the international stage.

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07 APPENDIX: ON THE PROJECT PARTNERS

This publication is part of a joint project entitled **"The Road Towards a Carbon-Free – Society A Nordic-German Trade Union Cooperation on Just Transition"**. The project is a collaboration between the Council of Nordic Trade Unions (NFS), the Friedrich-Ebert Stiftung (FES) and the German Trade Union Confederation (DGB).

The Friedrich-Ebert-Stiftung

The Friedrich-Ebert-Stiftung (FES) was founded in 1925. It is the political foundation with the longest history in Germany. It has remained true to the legacy of its founder and namesake, and it upholds the values of social democracy: freedom, justice and solidarity. Its ideals are linked to the Social Democratic Party and free trade unions.

The FES promotes social democracy primarily through:

- political education work to strengthen civil society
- political consultancy work
- international collaboration with foreign offices in over 100 countries
- providing financial support for gifted students
- preserving the collective memory of social democracy with facilities including an archive and a library

DGB

The German Trade Union Confederation (DGB - Deutscher Gewerkschaftsbund) is the umbrella organisation for eight German trade unions. These trade unions are

- IG Bauen-Agrar-Umwelt (IG BAU), Industrial Union for Construction, Agriculture, Environment
- IG Bergbau, Chemie, Energie (IG BCE), Industrial Union for Mining, Chemicals, Energy
- Gewerkschaft Erziehung und Wissenschaft (GEW), Union for Education and Science
- IG Metall, Industrial Union for Metalworkers
- Gewerkschaft Nahrung-Genuss-Gaststätten (NGG), Union for Food, Beverages and Catering
- Gewerkschaft der Polizei (GdP), Police Union
- Eisenbahn- und Verkehrsgewerkschaft (EVG), Railway and Transport Union
- Vereinte Dienstleistungsgewerkschaft (ver.di), United Services Union

Together, the DGB member unions represent the interests of over 5.9 million people. This makes the DGB by far the largest confederation of trade unions in Germany and one of the biggest national confederations of trade unions worldwide.

NFS

The Council of Nordic Trade Unions (NFS) is a regional trade union council. Its affiliates are 15 national trade union confederations of the Nordic countries which together represent more than 8.5 million members from blue collar, white collar and academic sectors in Denmark, Finland, Iceland, Norway, Sweden, Greenland and the Faroe Islands.

Founded in 1972, the main task of NFS is to coordinate and foster regional trade union cooperation in the Nordic countries, particularly with regard to employment, economic and social policy and in relation to ETUC, ITUC, TUAC, ILO and PERC. NFS represents its members in relation to the Nordic Council and the Nordic Council of Ministers and has close ties with the Baltic Sea Trade Union Network (BASTUN).

Affiliates of the NFS participating in the project

Denmark

FH

The Danish Trade Union Confederation (FH) is the largest national trade union confederation in Denmark. FH has 64 member organisations and is the voice for 1.3 million members in both the private and the public sector.

Akademikerne

The Danish Confederation of Professional Associations (Akademikerne) is an umbrella organisation for its member organisations, which offer services to professional and managerial staff who have graduated from universities and other higher educational institutions.

Finland

SAK

The Central Organisation of Finnish Trade Unions (SAK) is a national trade union confederation and has 17 affiliates, organising one million members in industry, transport and services, in the central and local government sectors, and in the journalism and cultural sectors.

STTK

The Finnish Confederation of Salaried Employees (STTK) is a confederation of 13 affiliated trade unions which represents approximately 500,000 trained professionals in both the private and the public sector.

Iceland

ASÍ

The Icelandic Confederation of Labour (ASÍ) is a confederation of 47 trade unions in Iceland in the private sector and part of the public sector. ASÍ represents approximately 60 per cent of the Icelandic labour market.

BSRB

The Federation of State and Municipal Employees (BSRB) organises employees in the public sector. It has 23 member-unions with 22,000 members. About two out of three members are women.

BHM

The Icelandic Confederation of University Graduates (BHM) has 27 member-unions with approximately 15,000 members in total. BHM coordinates policy and represents their membership vis-á-vis the government and other actors in the labour market.

Norway

LO

The Norwegian Confederation of Trade Unions (LO Norway) is the voice of 970,000 members organised in 25 unions. It is the largest confederation in Norway and cover all sectors in both the private and public sectors.

UNIO

The Confederation of Unions for Professionals (Unio) is a politically independent trade union confederation and has thirteen national affiliates organising 375,000 members, mostly in the public sector.

YS

The Confederation of Vocational Unions (YS) is a politically independent umbrella organisation for labour unions. YS has 13 affiliated unions organised according to professions with 226,000 members.

Sweden

LO

The Swedish Trade Union Confederation (LO Sweden) is the central organisation for 14 affiliates which organise 1,423,000 workers within both the private and the public sectors, of whom about 657 000 are women.

TCO

The Confederation of Professional Employees (TCO) comprises thirteen affiliated trade unions representing 1.4 million members, mostly professional and qualified employees in a wide variety of occupations.

Saco

The Swedish Confederation of Professional Associations (Saco) is a politically independent central organisation with 21 unions. Altogether it has more than 700,000 members. The members are professionals with qualifications from higher education.

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Abstract

A Just Transition towards a carbon-neutral future is the most urgent environmental, social and economic issue of our times. This project aims to develop strategies and requirements from a trade union perspective on how to manage the process to a carbon-free society. The participating labour organisations are united in their vision that this goal can only be reached if the social costs of this transition process are socially mitigated. This means harmonising efforts to combat climate change with the aim of ensuring decent working and living conditions. To this end, the participating labour organisations have not only analysed their respective countries' transition path towards a fossil free future but have also formulated joint policy recommendations for the national and European arenas. The ensuing discussions and debate have strengthened the cooperation and dialogue between the Nordic and the German trade union movements on common challenges and solutions.

A total of six country reports on the Just Transition path of the participating countries (Denmark, Finland, Germany, Iceland, Norway, and Sweden) have been formulated. Each contains an analysis of the climate policies, economic and societal consequences, an evaluation of the respective national instruments and offers European perspectives. The main findings of the country reports are brought together in this synthesis. It features policy recommendations that aim to help guide the transition to a decarbonised society and an economy that is just and sustainable. The reports and their results are presented and discussed in a series of events nationally as well as in terms of Nordic and European cooperation and at the international level.

