

# Best Climate Measures according to Nordic Youth NGOs

**Youth NGOs from Sweden, Finland, Norway and Denmark propose which climate policy measures to present for national, regional and local climate plans for the Nordic Baltic region.**

In 2020 the EU pledged in its Nationally Determined Contribution to cut the emissions to 40 per cent below the 1990 level by 2030, which was increased to -55 per cent in 2023. In response to this, AirClim board member organization Fältbiologerna organized a workshop in the summer of 2023 to gather youth NGOs from around the Nordic countries in a Nordic Youth Climate Action Network. The purpose of the workshop and network was to exchange ideas and generate a list of the measures which Nordic youth deemed the most viable to slash Nordic emissions and lay the groundwork for the world which we wish to inherit. The workshop was attended by representatives from Luonto Liitto in Finland, Acting for Climate from Norway, both the Hawila Project and Den grønne ungdomsbevaegelsen from Denmark and by Fältbiologernas own members. Together, Swedish, Finnish, Norwegian, and Danish youth climate activists took inspiration from material from AirClim as well as from existing literature and research in both energy research and social policy to outline our own strategies for climate measures. These cover both developments which Nordic youth policy for both the public and private sector, and financial policy regarding taxation and subsidies.

Participants from the workshop hail from countries which are all members of the High Ambition Coalition, all of whom recognize fossil fuel emissions as the root cause of the climate crisis. Denmark and Finland argued at COP28 in Dubai for a full phase-out of fossil fuels worldwide, and the Nordic countries remained active in questions of financing climate crisis mitigation and the climate transition around the world through pledges to United Nations climate funds. However, developed countries in the West cannot solely focus on establishing better grounds for developing economies to do so without fossil fuels. We must also redouble our efforts to phase out fossil fuels in our own societies and aim ever higher in our own work in decarbonizing our own energy use. The EU Fit for 55 package as well as a changing landscape for the European energy market following the unlawful invasion of Ukraine in 2022 make it clear that accessible renewable energy and regulation on emission trading are central to security, sovereignty and to the climate transition. The public sector must at every possible level put the climate first; the private sector must be guided by clear and ambitious regulation and planning in order to be able to do the same.

In a previous exercise, NGOs in countries bordering on the Baltic, as well as Norway and Iceland, identified 150 ways to save the climate in northern Europe by promoting effective climate mitigation measures in the national climate policies of 11 countries that make up the Council of Baltic Sea States. These measures are delivering emission cuts, and more measures have been added since the publication of

the report. Climate policy experts from environmental NGOs in each country listed the ten best climate mitigation measures in their countries, i.e. the Nordic-Baltic countries, and Poland, Germany and Russia. These were summarized as 10 overall measures, together with the national reports. All 10 of the top measures described have in fact led to a drop in CO<sub>2</sub> emissions in most countries (see the table below). The table only shows carbon dioxide, not all greenhouse gasses, and based on provisional data for 2021.

Million tonnes of CO <sub>2</sub> dioxide	2007	2021	chg 2021 vs 2007
Denmark	56,8	<b>28,1</b>	-51
Estonia	23,7	<b>18,0</b>	-24
Finland	66,3	<b>37,2</b>	-44
Germany	811,1	<b>628,9</b>	-22f
Iceland	3,1	<b>1,8</b>	-40
Latvia	8,8	<b>7,4</b>	-16
Lithuania	13,1	<b>12,1</b>	-8
Norway	36,5	<b>33,4</b>	-9
Poland	317,5	<b>309,1</b>	-3
Sweden	58,9	<b>40,1</b>	-32
Russian Federation	1528,3	<b>1581,3</b>	+3
European Union	3652,1	<b>2728,2</b>	-25

This took place as the economy grew, at about 0.8 per cent per year for the EU 2007-21 in constant dollars.

Climate policy has produced results in some countries, notably Denmark, Finland and Sweden. It is also instructive to see that the countries that with the lowest decreases in emissions, and in some cases displayed increased emissions, have a strong fossil industry: Norway (oil and gas), Poland (coal) and Russia (oil, gas and coal). Poor performance by Germany may be explained by the strong position of coal, especially lignite and Estonia (shale). Sweden and Germany have performed better than shown by the data, and Finland worse, if electricity trade is taken into account; Sweden and Germany are net exporters of electricity and Finland a big net importer.

Summarized below are the best climate measures identified by Nordic youth in order to achieve not only international goals, but a truly sustainable future on every level. The Nordics have among the best preconditions imaginable to remain at the forefront of sustainable development, and achieve a fast, fair, and fully-funded fossil fuel phase-out. It is our ardent belief that it is possible through the measures below, and through continued international collaboration to combat the climate crisis.

### Taxation and emissions trading

Taxing carbon emissions has been shown to be an efficient tool for incentivizing the movement of capital from emitting sectors within certain sectors towards less fossil intensive alternatives. Taxing a negative externality of a financial system and Pigouvian taxes are a useful tool which we cannot afford to shy away from.

The economic pressure against fossil use comes from both cheaper renewables and the current emissions trading scheme (ETS). Even though the ETS is an EU policy it still relates to all the countries within our region in a significant way. For such taxes to work as intended the cost of abatement ought to be less than the cost of paying the tax, therefore incentivizing other means of supplying the intended goods or services. As long as the market players believe that prices will remain high, the ETS has great transformative potential in the heat and electricity sector and in some high-emission industries. The effects on other sectors (than power) such as cement, refineries and waste incineration are less certain as there are no clear alternative technologies. This problem has probably been the most evident within transport and agriculture where rural households and small businesses are affected by the increasing cost of fuel without matching investment. This has garnered public opposition to the transition from fossil fuels, where the cost of fuel is seen as an injustice towards low-income individuals dependent on automobile transport. It is evident there cannot be a purely incentive-based transition for these sectors and communities.

We must avoid “carbon leak” situations where hard-to-abate sectors move outside Europe to retain low production costs and not accounting for externalities as they would within the ETS. Implementing strong requirements for goods passing the EU-border. We support all strategies that can be employed to avoid this carbon colonialism by implementing regional self sufficiency directives that account for both emissions and environmental effects. Companies researching or employing non-fossil strategies ought to be given tax incentives and grant money to continue and expand their businesses.

### **Policy: Private sector**

Aside from ambitious national and international legislation detailing emission targets, privately owned and traded industries must be subject to stringent regulation on environmental sustainability. Regulation must be in place for every step of a company’s path from planning, production and retailing of a product or service. Directives on corporate sustainability due diligence (such as the CSDDD itself) must be in place and enforced in order to ensure that production is in line with existing legislation on environmental and climate targets, as well as set directive-specific targets and baselines for industry emissions and environmental impact. Further, the financial sector must not be exempt from sustainability due diligence, and likewise capital placement and trading of shares by and between businesses should be regulated in terms of environmental sustainability.

There must also exist incentives and methodology for different industries to exchange resources with one another beyond shares and stocks. Financial incentives such as tax writeoffs and capital allowances should be developed for industries who manage to share recycled or reused resources between one another to bolster circularity and minimize waste generation. Instead of mechanisms like emissions trading, these

incentives should reward corporations for exchanging physical resources such as packaging elements or recyclable waste, and should be accompanied by diligent monitoring protocol.

### **Policy: Public sector**

Expertise to continuously review the efforts each country is undertaking within the framework of the climate transition is extremely important. Autonomous climate committees in every country, such as “klimatpolitiska rådet” in Sweden, should be established in every Nordic country. To ensure that these committees remain unchallenged and securely funded in the event of political opposition to the transition away from fossil fuels, such committees ought to be implemented in regional international cooperations, such as the Nordic Council of Ministers.

Including consumption based emission indicators is important to accurately portray the consequences of financial flows from each country and/or region. We deem that expanding the use of consumption-based indicators will avoid and ensure that new and innovative approaches to the supply of goods and services are implemented and within the nordics.

Public spending constitutes a large portion of GDP with most of the Nordic countries having more than 40%. Implementing strong requirements on public procurement pertaining to both emissions and circularity will be an effective tool in decarbonizing as well as developing tools for monitoring the environmental effects of industry. We deem that the public procurement policies in the Nordic countries on a national level must reflect this ambition and that municipal governments will need support to make this a reality.

### **Subsidies**

All the Nordic countries employ fossil fuel subsidies for industry and households alike. In Sweden these subsidies amount to approximately 31 million SEK annually. Such subsidies are counterproductive to the climate transition and must be eliminated quickly. If certain industries critical for society or households are disproportionately affected, compensation plans with a clear time-limit ought to be established.

We deem public subsidies and investment in renewable energy as necessary and encouraged for the climate transition. However such subsidies cannot be given without strong requirements in considering other environmental effects. The establishment of renewable energy must be well integrated into not only national but regional planning in order to minimize the impact of large-scale plants on the landscape and the environment. A resilient renewable energy-based system is not the least a matter of both subsistence and security.

### **Solar**

In order for solar energy to be viable, it must first and foremost be modernized and more efficient. First- and second generation solar cells ought to be phased out in favor of third generation solar cells. We have a

positive view of perovskite solar cells in terms of high conversion efficiency and long shelf life but are critical to the environmental impacts of their component materials' extraction, processing and disposal.

Multi-junction solar cells have high efficiency, but, as with perovskite solar cells, more research is required within methods of safely disposing and recycling sub-cell materials. Organic and dye-sensitized solar cell technologies, as well as solar thermal energy technologies, can offer an attractive array of alternatives for use in the residential sector to bolster private access to power as well as to mitigate energy use for processes such as heating and cooling.

It is of crucial importance in our eyes that solar cell placement and solar energy use be designed around existing circumstances for consumers in the private, public and commercial sectors. Net metering is an important incentive and must be adapted to times of peak production of solar energy as well as to allow private consumers to make use of surplus generated from their own solar cells. Other incentives to installation of solar cells on private residences are also of interest; federal tax credits, subsidies for sustainables and tax exemption for solar (and all renewable generators) are all important measures to promote access to solar within the private and commercial sectors. Publicly (whether on the municipal, regional or even state level) managed solar farms ought to make use of land cleared for grazing; agreements with farmers for use of agricultural land for solar farms, with solar panels high enough and mobile enough to make way for grazing animals as well as farming equipment (agri-solar or agri-PV) are of great interest to us.

## **Wind**

With regards to the land requirements and high impact on bird populations that terrestrial wind power has, it is of interest to develop offshore wind turbines. Higher wind speeds and greater regularity of wind over the ocean tends to mean that offshore wind turbines are more effective than their terrestrial counterparts, as well. However, it is crucial that the development of offshore wind farms is carried out in tandem with thorough environmental impact assessments, with an emphasis on evaluating the impact on winnowing of seabed sediments, primary production and eventual deoxygenation of bottom water, and sound pollution. Marine spatial planning ought further take into account not only the negative but potential positive effects offshore wind can have on wildlife; wind turbines may offer habitat gain to smaller organisms both directly, through acting as artificial reefs, and indirectly through hindering bottom trawling and fisheries exclusion (although this later aspect must also be assessed socioeconomically). With this said, we are inclined to view offshore wind as potentially positive for both ecosystem and climate.

## **Nuclear energy**

Many of the Nordic countries already have an extensive utilization of nuclear power within the energy mix, especially Finland and Sweden. While this source of power is associated with low emissions per unit of energy output to the electricity grid, nuclear power is also associated with many other risks and negative health effects throughout the production chain. Secure methods for long term nuclear waste disposal are not yet in place and the current proposals have been questioned by Swedish environmental associations. Most

notably is that nuclear energy is not a renewable resource. We therefore do not propose further development of nuclear energy but also recognize shutting down extant plants is not a main priority.

### **Bioenergy and forestry**

To tackle the climate predicament we must take a holistic approach to sources and sinks of carbon. Forest ecosystems are made out to both be an infinitely regenerating source not only of timber but of biofuel, while at the same time having an infinite capacity to sequester carbon.

Clear-cutting and other large-scale logging methods have been linked to soil degradation on multiple levels and thereby decimate its capacity to lock carbon in the sediment in order to sequester it in the long term. This becomes especially crucial when considering that carbon which is locked in forest biomass during photosynthesis is being released into the atmosphere at higher rates than uptake due to combustion of forestry waste products, slash-and-burn management, and of course the combustion of the biofuels extracted from the forest.

Boreal forests have a uniquely high potential for net carbon uptake and are the predominant forest biome found in the Nordics. The boreal forests remain a central resource in a number of sectors and in order to ensure the continuation of these sectors, as well as allowing our forests to act as the carbon sinks which they are lauded as, we must make significant changes in the ways in which we manage forests. Trees must be allowed to mature and remain standing for far longer, and close-to-nature forestry methods must be promoted.

We also recognise that the availability of biofuels in the energy mix is an important step in the climate transition, especially for sectors such as regional transit where mass electrification is less attainable. Further research and scaling up availability of biochar as well as implementing incentive systems for investments in this research could aid in modernizing biofuels as we move toward decarbonisation. Bioenergy from the by-products from forestry, agriculture and especially ought to be primarily reserved for rural areas and within agriculture, where the infrastructure emissions-free alternatives are more difficult to establish.

### **Agriculture**

Over one-third of the planet's landmass is agricultural land, with some ten percent of this land devoted to farming crops for human consumption and the remaining twenty-five percent to pasture and to crops grown for animal feed. Although industrialisation, the green revolution, and new advents in plant genetics have allowed for enormous leaps in the output of our farmland, the planning and treatment of the crops which we grow are far from effective.

The enormous energy, spatial and water demands of livestock management cannot be ignored. Reducing meat (especially cattle and pork) consumption in the Nordic countries is an important first step in making agriculture more efficient and more eco-friendly. For those farmers who do keep livestock, financial

incentives in terms of subsidies ought to be mobilized to promote free-range and organic animal care. Although these methods require more space than the factory farming we observe today, we also recognise and aim to underline the vital role grazing animals play in nutrient cycling in grassland and pasture biomes. This in turn bolsters the productivity of farmland to promote its role as a carbon sink. Similarly, enforcing regulations against monoculture, incentivising farmers to plant perennial crops and to practice crop cycling, and vastly minimizing subsidies for industrial fertilizers will all serve to increase our farmlands' capabilities to act as a carbon sink.

In the interest of circularity and in minimizing agricultural waste, the agricultural sector ought to promote the use of agricultural waste products in bioenergy production, rather than dedicated ethanol crops. The Swedish and Danish efforts in using both urban food waste as well as post-harvest straw for bioenergy production are commendable, and similar measures should be expanded in the remaining Nordic countries. Farmers themselves should also be the primary beneficiaries of biofuel production in an effort to shorten market chains and bolster self-sufficiency of small-scale farms. The same principle applies to expanding agri-solar efforts as detailed above; self-sufficient farms which follow circular principles to the greatest extent possible have the opportunity not just to mitigate the environmental impacts of their sector but to establish Nordic farmlands as strong carbon sinks.

### **Infrastructure**

Many methods of reducing traffic emissions have been successful so far, such as improving vehicle emissions standards, road tolls, vehicle taxes. The effectiveness of these policies is commendable, and serves only to suggest that they need to be strengthened. Still, the immediate need for reducing the transport sector emissions cannot be solved through market incentives alone. Transport infrastructure is planned today not from holistic assessment of societal needs, but from forecasts of vehicle traffic. This must change. Infrastructure planning needs to account for efficient transportation of people, goods and services from an emissions and climate perspective. Reducing overall transportation of perishable goods, such as agricultural produce, and providing better incentives for local consumption is one method we are proposing. The same goes for shifting the modes of transport for commuting and encouraging urban planning to promote accessibility to housing in the vicinity of people's places of work.

In most of Europe there is a large investment debt in most infrastructure, especially when it comes to repair and maintenance and especially within the railway sector. To effectively change behavior, and transfer choice of transport from car to public transport, we need reliable infrastructure. The investment debt for railways must be cut, and new railway infrastructure must be built. Tracks that have not yet been electrified must be and the cost of traveling by rail and other public transport must be significantly reduced. These large investments in infrastructure are necessary for the climate transition, and must be prioritized over investment in infrastructure for electric cars.

Intermodality in methods of transporting oneself from one place to another will be needed, and thereby interregional and international planning of communications need to be implemented. We propose

that Nordic countries provide a common digital infrastructure for public transport within the whole region that can in the future be exported to other countries.

### **Other**

Neither renewables themselves nor the policy surrounding them are “silver bullets” of climate mitigation in their own right; rather, the implementation of climate change mitigation strategies must exist on all levels of society, and more specifically, every layer of the public sector. Urban planning must take into account the use of renewable energies in high-efficiency buildings as well as focus on district heating and smart grid strategies. Fourth-generation district heating which makes use not only of renewables but waste heat, and which are able to be integrated into a wider smart energy system, are integral to developing sustainable cities. Similarly, smart grid strategies which focus on load balancing as well as efficient battery storage mechanisms must also be developed further. These developments must in turn find themselves in concert with thorough environmental impact work at every level of production and implementation, including the extraction of raw materials needed for the technology behind the so-called green transition.

In order to then integrate science, policy and public planning into anything resembling harmony, one more key factor must be in place: finance. Debt financing is the primary source of funding for a majority of Nordic and Baltic industries, and so the finance sector must be in place to divest from high-impact industries – not in the least, the fossil industry – invest in renewables and restoration, and to mobilize capital into international climate funds. Legally binding pledges to invest in the climate transition and legislation forbidding investment in the fossil fuel industry are potential steps to shift this decisive sector. Furthermore, we must envision and enact significant changes in carbon quota systems and forbid speculation in these quotas. Leading up to the United Nations’ COP29 meeting in Baku, it is clearer than ever that binding pledges from the Nordic countries to climate mitigation and adaptation– both in terms of funding and in terms of action – are crucial in building resilience worldwide.

Resilience is also dependent on addressing the triple planetary crises of climate change, pollution and mass extinction. As explored above with regards to forestry, agriculture, and bioenergy, healthy ecosystems and healthy primary producers are at the heart of mitigating the impact of rising greenhouse gas emissions. For this to become a reality, we must emphasize ecosystem restoration in every step along the climate transition. Capital and cross-sectoral strategy are needed in order to implement restoration efforts in every biome from our grasslands to the Baltic Sea. Only with functioning natural carbon sinks will any of the above efforts have any effect.

Finally, in order to achieve this harmonious, cross-sectoral, fairly funded vision, all sectors and stakeholders must shift in focus to a sufficiency mindset. Although a climate transition will require high-impact extraction of raw materials and power from renewables must meet the energy demands of society, there must still be a reigning ambition to live within planetary boundaries. This ambition of actually living up to the famous slogan “people, not profits” is the key to ensuring that science is integrated into



policy and planning, and which will shift the finance sector from investments for the sake of quarterly growth to investments in our shared futures on a resilient planet.