



Fit to lead?

An assessment of selected draft national energy and climate plans

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Executive summary

As part of the European Union's 2030 climate and energy package, EU member states are required to develop energy and climate strategies to plan and report on their 2030 climate and energy objectives.

In May 2019, the Life PlanUP project analysed the draft national energy and climate plans (NECPs) of Romania, Poland, Hungary, Italy and Spain.

Following the publication of the European Commission's recommendations on the draft energy and climate plans, Life PlanUP is now extending its analysis to a new set of countries: Finland, France, Germany, Portugal and Sweden.

These countries were selected because of their complementarity and contrast to our focus countries. Committed to ambitious climate and energy goals, they are all members of the Green Growth Group - a platform bringing together European governments, businesses and the European Parliament to discuss the economic opportunities and challenges involved in the transition to a low-carbon, resilient economy.

The country-specific analyses in this briefing are divided into three sections.

The first section covers the scope of the plan and the ambition and plausibility of its overall objectives, in particular greenhouse gas (GHG) emission reduction, renewable energy and energy efficiency. While the five draft NECPs show an overall high ambition when it comes to mid and long-term climate goals, especially those of Finland, Sweden and Portugal, they also all lack details and concrete measures that would clearly indicate how the ambitious goals will be met.

The second section assesses planned policies and objectives in the transport, buildings and agricultural sectors.

With regard to objectives and policy measures in the transport sector, the draft plans generally address critical issues like light transport, biofuels and electro-mobility but often fail to recognise the importance of tackling emissions from heavy-duty transport and shipping and aviation.

The building sector is addressed differently in the five draft plans. France has taken some steps backwards, in particular concerning the annual rate of deep building renovations. Portugal is currently still working on its long-term renovation strategy that will be essential to achieve full decarbonisation of the building stock. Neither of the Nordic countries sets a target for the building sector. They also apply energy performance requirements for existing and new buildings that are less strict than the recommendations of the European Commission, leaving energy savings potentials untapped. Germany, on the other hand, puts forward an ambitious target for its building stock: carbon neutrality by 2050. But with delays in the implementation of key elements of the National Action Plan on Energy Efficiency and only a vague reference to a cross-sectoral energy-efficiency strategy in the NECP, it is unclear if it is going to meet the target.

Agriculture is broadly overlooked in all five draft NECPs. No targets for GHG emission reduction are set, except in France. Generally, the plans contain existing measures and rely heavily on the Common Agriculture Policy (CAP), without including any additional measures that could truly help tackle emissions from the agricultural sector.

Finally, the third section looks at public participation and transparency of the NECP development process. While Finland and Sweden largely based their draft NECPs on national strategies for which they held extensive stakeholder consultation, France, Germany and Portugal failed to involve multiple stakeholders, including the general public in the drafting of their NECPs. A more transparent process where all relevant stakeholders and the general public are consulted on the countries' climate objectives and planned policies would ensure greater support and commitment from all parties involved.

Overall, all five countries can and should improve their plans and use the next six months to strengthen the policies and measures underpinning their climate and energy targets, and better involve stakeholders in the process.

Finland

Objectives and targets

Greenhouse gas emission target

The Finnish draft energy and climate plan sets out a greenhouse gas reduction target of 39% compared to the 2005 level. As explained in the plan, this is in line with what Finland is required to achieve by 2030 under the Climate Action Regulation (CAR), also known as the Effort Sharing Regulation (ESR). To achieve the target, Finland plans to make use of the one-off flexibility included in the law, which for Finland equals a maximum of 0.7 Mt CO₂ equivalent, and of other flexibility mechanisms, such as transfers between years and emissions trading between the member states when needed.

The lack of ambition and full reliance on flexibility mechanisms to reach the emission reduction target are inconsistent with Finland claiming to be a leader in climate action.

Renewable energy

In its draft energy and climate plan, Finland sets a target of 50% share of renewables of the final energy consumption in 2030. The target for 2020 is set at 38%, meaning that between 2021 and 2030, Finland aims to increase its renewable energy share by 12%, which represents a constant steady increase as seen in the past decade.

With regard to the sources of renewable energy, biomass will represent the biggest share by far in all sectors. Biomass is expected to account for 128 TWh of final energy consumption out of a total of 161 TWh. This should be reconsidered as it can lead to unsustainable use of biomass.

Energy efficiency

According to the Finnish draft NECP, with planned policies and measures on energy efficiency and the implementation of the energy efficiency directive, primary energy use and final energy consumption will not decrease before 2030. The Finnish government justifies this with faster economic growth than what is foreseen at the EU level. However, it raises questions about Finland's contribution to the joint European energy efficiency effort. While the Finnish energy and climate legislation includes measures such as energy taxation covering all the most energy-intensive sectors, significant energy efficiency potentials remain untapped. As part of the work on the long-term building renovation strategy, the transformation of the building stock needs to be brought in line with the requirements of the revised Energy Performance of Buildings Directive towards nearly zero-energy buildings (NZEB). Given the need to decarbonise the whole economy, Finland should explore further ways to improve energy efficiency in transport and heating.

Analysis of sectors

Transport

Finland sets a clear target for the decarbonisation of the transport sector: 50% emissions reduction by 2030 compared to 2005 levels. This is a positive element, as it facilitates monitoring of progress and future follow-ups on the state of play.

However, there is a concerning lack of details that may jeopardise the achievement of this target in a sustainable manner. For instance, Finland has a 30% biofuels blending mandate but doesn't provide details when it comes to the feedstocks to use. There's a risk that, given such a high target, unsustainable feedstocks, like palm fatty acid distillate (PFDA) will be used.

Furthermore, Finland plans to invest in gas, foreseeing to have 50,000 gas vehicles in circulation by 2030. However, gas is a fossil fuel and investing in such large numbers of cars risks disincentivizing greener and more long-term investments.

With regard to electrification, the draft plan contains a target for electric vehicles (250,000 by 2030, which is less than 10% of the Finnish fleet) but the target is not enough to effectively decarbonise the sector. Moreover, there are no specific measures to phase out internal combustion engine vehicles.

Sectors such as heavy-duty transport, shipping and aviation are largely omitted.

There are vague mentions of infrastructure for electrification, urban planning, development of walking and cycling infrastructure and rail, but not many details are provided.

Recommendations

- Include more details about the materials and feedstocks to be used for the 30% biofuels blending mandate.
- Avoid promoting gas as a solution to decarbonise transport.
- Renewable gas should go to sectors that are already using gas.
- Include more details about other transport modes, such as heavy-duty transport, aviation and shipping.
- Include more details about infrastructure and urban planning.

Buildings

The Finnish draft plan does not include a sectoral target for the building stock. The energy performance requirements for existing and new buildings set in the building codes are less strict than the recommendations of the European Commission, leaving energy savings potentials untapped¹. As a result, it remains unclear how a transformation of the building stock in line with the requirements of the new Energy Performance of Buildings Directive will be achieved.

The development of the long-term building renovation strategy is an opportunity to develop appropriate dedicated measures and set specific milestones to increase the number of nearly-zero energy buildings (NZEB) in Finland.

In addition to heat-pumps, district heating and biomass, heating oil is currently the most common heat source. The draft NECP foresees a blending obligation for light fuel oil for heating of buildings with bioliquids of 10% in 2028. No sector-specific targets for renewable fuels in the heating and cooling sector have been set.

A phase-out date for fossil fuels is not included. Given the untapped energy savings potentials, the sustainable supply of biomass for heating similarly needs to be assessed.

Recommendations

- Set out a clear vision for the transformation of the building stock towards net-zero energy buildings.
- Strengthen energy performance requirements for existing and new buildings taking into account the recommendations of the European Commission and ensuring that energy savings potential is fully exploited.
- Define sectoral targets for greenhouse gas reductions and share of renewable energy in heating and cooling.
- Implement the recommendations of the International Energy Agency² and review the energy fuel taxation and subsidies to reflect their full carbon content and accelerate the switch to low-emission technologies.
- Accelerate the phase-out of coal and peat use for district heating.
- Compensate for the impacts of forest management on land use, land use change and forestry and revisit the foreseen energy consumption projections concerning biomass for heating with the need to meet Finland's targets in a sustainable manner.

¹ <https://www.rehvam2018atic.eu/images/workshops/4/Kurnitski.pdf>

² <https://webstore.iea.org/download/summary/2372>

Agriculture

The Finnish draft NECP remains vague in setting specific targets and policy measures for the agricultural sector. It only contains the current Finnish Rural Development Programme and mentions several existing measures. Some of the measures included in the plan will directly reduce emissions, but some have only an indirect impact on climate mitigation. Moreover, the plan lacks clarity on how current measures will be funded in the medium and long term.

While the national climate programme and the policy measures put forward will certainly yield positive results in reducing GHG emissions, it is unclear how many farmers will enrol, or how well funded these measures will be. The Finnish government intends to promote biogas production, which could lead to a negative trade-off (an increase in animal production) if appropriate safeguards are not put in place.

Under the land use, land use change and forestry (LULUCF) sector and link with agricultural land, the Finnish government only relies on the EU Common Agriculture Policy (CAP) and mentions instruments such as greening, which aim to avoid an increase of GHG emissions but not their decrease. Currently, in Finland, activities linked to agricultural land in LULUCF are contributing to GHG emissions while in other countries, they can be a carbon sink.

Recommendations

- Set specific greenhouse gas emission reduction targets for the agricultural sector.
- Translate climate ambition into specific measures linked explicitly to climate mitigation.
- Allocate funding for climate action in the agricultural sector.
- Avoid negative trade-offs between environmental measures and climate measures.
- End subsidies that are harmful to the environment and climate.

Transparency and public participation

The Finnish draft NECP was submitted to the European Commission ahead of the deadline, on the 20th of December 2018. It was made available in both Finnish and English and can be accessed on the website of the Ministry of Economic Affairs and Employment.

Finland did not hold a public consultation prior to the development of the draft NECP. However, one is scheduled for finalisation of the plan in the second half of 2019, following the European Commission recommendations on the draft plan.

The Finnish draft NECP is largely based on the government's 2030 National Energy and Climate Strategy and 2030 Medium-term Climate Change Plan. For both the drafting and the implementation of these two strategic documents, Finland undertook an extensive engagement process with stakeholders that lasted for several years. Stakeholders such as local and regional authorities (LRAs) (through their associations) and civil society organisations (CSOs), as well as citizens, could give their input in workshops, seminars, online surveys and public conferences. Their contributions were made available in a summary on a public website, and, according to the government, they were taken into account when drafting the two strategic documents.

The draft NECP itself, however, does not mention multi-level energy and climate dialogue.

Recommendations

- Make the timeline for the remaining NECP process publicly available, so that stakeholders and citizens receive early and effective information on when and how they can contribute.
- Use existing local energy and climate initiatives, such as the Covenant of Mayors, to gather the potential contribution of LRAs to the final NECP.
- Establish multi-level energy and climate dialogue for the finalisation of the NECP, making use of existing formats like working groups, task force or other consultative bodies that involve all stakeholders; provide the dialogue with an administrative structure to ensure its duration and its involvement in regularly following up on the NECP implementation from 2020 onwards.

France

Objectives and targets

Greenhouse gas emission target

The French draft energy and climate plan (NECP) sets out a 2030 greenhouse gas (GHG) emission reduction target of 37% compared to 2005, in line with the Climate Action Regulation (CAR).

France is expected to reach its EU mandated 2020 GHG emission reduction target, foreseeing to emit about 118 Mt CO₂oe between 2019 and 2023. However, it will exceed its own carbon budget established by national law in 2020. GHG emissions in France have been exceeding the national carbon budget since 2017. As explained in the draft NECP, this is mainly due to lower energy prices and difficulties to reduce emissions in the transport and buildings sectors. In response to this, the French government has decided to increase the cap of the national carbon budget between 2019 and 2023.

With regard to the 2030 target, the draft plan foresees a slight overachievement of France's mandatory contribution under the CAR. While this shows ambition, reaching this goal will require additional and robust measures.

Without additional measures, France projects to fall short of its 2030 ESR target by 11 percentage points. In addition, one of the main measures of the NECP - the carbon tax increase - has been recently cancelled by the government, meaning that new measures would be needed to compensate this rollback and to comply with the NECP trajectory.

Renewable energy

In the draft NECP, France sets a 32% target for the share of renewable energy for 2030. This is not in line with the collective European target³, and should be raised. France has high potential to develop renewable energy, in particular for offshore wind, which is currently underdeveloped. The country is going to miss its 2020 renewable target (only 16% achieved in 2017), and will thus need to make additional efforts in the 2020-2030 period. The main share of renewable energy is expected to be used for generation of electricity (40%) and heating (38%).

Energy efficiency

The French draft NECP estimates a primary energy consumption of 117,6 Mtoe and final energy consumption of 205 Mtoe in 2030. This final energy consumption estimate is in line with the target set at the European level - 32.5%. However, the French government doesn't set a target for reducing

³ According to the EC, France should reach at least 33% of RE in 2030

falling short on other sources of primary energy, such as nuclear and renewable energy sources, which represent more than 50% of primary consumption in France. As also pointed out by the European Commission, France's contribution towards reducing primary energy consumption is rather modest. Additional measures and extra effort will be required as France is currently off track in its effort to improve energy efficiency and will likely reach its 2020 target only in 2026, according to the current trajectory.

Analysis of sectors

Transport

While the French draft NECP foresees a greater greenhouse gas emission reduction in the CAR sectors than what is required in the EU regulation, no specific target is envisaged for the decarbonisation of the transport sector.

With regard to fuels, France sets a target of 15% renewables in transport. The EU Renewable Energy Directive II (RED II) sets a binding target of 7% advanced fuels, making any additional increase optional.

Setting a high target for renewables in transport can be risky as it could boost the use of food-based biofuels. Although the draft NECP mentions limiting the use of High Indirect Land Use Change (ILUC) biofuels, more details should be included as to what biofuels are considered High ILUC, and these should be fully phased out to be in line with the EU law. Moreover, no details are provided with regard to what feedstock will be used for advanced biofuels. The NECP does not mention any plan to phase out 1st generation biofuels (high ILUC impact) after 2028.

The draft plan mentions gas as a solution to reduce emissions in transport. However, relying on another fossil fuel is not a sustainable solution and should be reconsidered.

With regard to light-duty vehicles, the draft NECP contains positive elements such as the provision of banning the sale of greenhouse gas emitting vehicles by 2040. However, the draft plan lacks measures to support the transformation of the automotive sector. It also lacks details on heavy-duty vehicles, including only loose references to hydrogen.

On aviation, the plan mentions efficiency improvement measures, but at the same time shows a strong reliance on biofuels. This could have negative climate and environmental consequences, and other solutions should be considered.

The French government relies mostly on gas when it comes to the decarbonisation of the shipping sector which, again, is very negative as relying on another fossil fuel is not the solution for decarbonising transport.

While the plan mentions low emissions zones, public transport, modal shift and clean mobility in cities, it lacks details on how all these measures would be effectively implemented.

Recommendations

- Set a decarbonisation target for the transport sector.
- Chart the steps to phase out food-based biofuels and refrain from setting a high target for renewables in transport to avoid the deployment of risky feedstocks.
- Clarify what types of feedstocks are planned to be used to meet the advanced biofuels target in order to assess sustainability. Do not promote the use of gas as a solution to decarbonise transport.
- Consider other solutions based on electricity such as e-fuels for aviation.
- Reconsider deploying liquified natural gas as the solution to decarbonise the shipping sector and look into other solutions based on electrification.
- Set a roadmap to phase out all indirect fossil fuel subsidies also in the transport sector by 2020.

Buildings

The measures included in the French draft NECP for the buildings sector combine the proposal for the French Energy Transition for Green Growth Law, adopted in August 2015, with the new requirements stemming from the update of the Energy Performance of Buildings Directive and the new renewable energy and energy efficiency objectives.

Unfortunately, the draft plan includes some inconsistencies and even steps backwards compared to the Energy Transition Law. This is the case especially for the annual rate of deep thermal renovations. The draft NECP foresees about 300.000 full renovations, a step back from the 500.000 deep renovations foreseen in the Energy Transition Law.

Furthermore, the Energy Transition Law identified the need to tackle regulatory complexities and to ease access to multiple financial tools. To address this, the establishment of public services for energy performance (SPPEH), a network of regional energy efficiency improvement platforms, has been foreseen but has not been implemented yet. Although this shortcoming has already been addressed by the European Commission's recommendations as part of the European Semester progress, it is missing in the draft NECP.

While the phase-down of coal-fired district heating and heating oil for individual heating is included in the plan, a commitment to phase out gas is missing.

The draft NECP also raises questions concerning the weakening of the concept of deep renovations and the allocation of funding for thermal renovations for private households.

Recommendations

- Set a binding target to phase out fossil fuels in the heating sector.
- Set a binding target to reduce primary energy consumption.
- Reinstate the full annual renovation rate of at least 500,000 renovations.
- Support efficient renovations and the implementation of public services for energy performance (SPPEH).
- Set an objective of 15% of renewables for decentralised renewable energy in the hands of citizens, small businesses and local authorities by 2030.
- Set a roadmap to phase out all indirect fossil fuel subsidies in the buildings sector by 2020.

Agriculture

The French draft NECP includes a greenhouse gas (GHG) reduction target for the agricultural sector: France expects to reduce GHG emissions to 82 Mt CO₂eq by 2028 (about -18% compared to 1990) and to 76.6 Mt CO₂ eq by 2033 (about -23.4% compared to 1990). Even though the reduction targets for the agricultural sector are the lowest compared to other sectors, agriculture was acknowledged as an emitting sector and its targets are in line with the agricultural structural changes needed.

However, none of the policy measures put forward in the draft NECP contributes directly to decarbonisation. The goal to reach independence in protein crops will not lead to a decrease of greenhouse gas emissions in France unless it goes hand in hand with a reduction of the number of animals raised in the country. The programme “Ambition Bio 2022” aims at promoting organic farming and increasing conversion from conventional to organic farming. However, there is no scientific evidence that organic farming practices as such would contribute to decreasing GHG emissions and so should not be counted as specific measures to help climate mitigation. Measures related to training and communication on climate mitigation practices are positive but no funding figures are put forward to support them.

Finally, the “French investment plan” (for 2017-2022) does not provide specific instruments aiming at GHG emission reduction. While French environmental and climate ambitions are high and the rhetoric fits the urgent need to address global warming and environmental destruction, the measures chosen in this draft NECP lack a clear link with emission reduction. It must be acknowledged that the French government plans to promote more sustainable and healthier food consumption trends that go hand in hand with a reduction in livestock numbers. However, it remains unclear from this NECP, how those needed changes will be achieved.

Recommendations

- Translate climate ambition into specific measures linked explicitly to climate mitigation.
- Avoid negative trade-offs between environmental measures and climate measures.
- End existing harmful subsidies.
- Develop policy measures to address food consumption and nutritional requirements.

Transparency and public participation

The French draft NECP was submitted to the EU Commission with some delay, in January 2019. It is only available in French on the website of the Ministry for the Ecological and Solidary Transition.

No public consultation was held during the elaboration of the draft NECP. However, one was organised after it was published, in March and April 2019, and another one is foreseen in the second half of 2019.

The French draft NECP is based on two recent key strategic documents, the mid-term energy plan for 2018-2028 (Programmation pluriannuelle de l'énergie - PPE) and the national low-carbon strategy (Stratégie nationale bas-carbone - SNBC). For both these documents, the French government organised extensive consultations that frequently involved stakeholders such as local and regional authorities (LRAs) and civil society organisations (CSOs), as well as citizens. Using formats such as public debates, sectoral working groups and online surveys, stakeholders and the public had the opportunity to provide their input to the PPE and SNBC, which form the basis for the French draft energy and climate plan. The draft NECP itself, however, does not include a reference to multi-level energy and climate dialogue.

Recommendations

- Make the timeline for the remaining NECP process publicly available, so that stakeholders and citizens receive early and effective information on how they can best contribute.
- Use existing local energy and climate initiatives, such as the Covenant of Mayors or the European Energy Award, both widely used by French LRAs, to gather the potential contribution of LRAs to the final NECP.
- Establish multi-level energy and climate dialogue for the finalisation of the NECP, making use of existing formats like working groups, task force or other consultative bodies that involve all stakeholders; provide the dialogue with an administrative structure to ensure its duration and its involvement in regularly following up on the NECP implementation from 2020 onwards.
- Take into account the result of the consultations when finalising the NECP



Germany

Objectives and targets

Greenhouse gas emission target

The German draft national energy and climate plan (NECP) lacks details on specific measures and policies, mainly because many legislative processes, such as the Climate Action Plan 2050, were still underway during the drafting process.

The 2030 greenhouse gas (GHG) emission reduction target is set at 55% by 2030 compared to 1990, which equals to a 38% reduction compared to 2005 levels, as mandated in the Effort Sharing Regulation (ESR). Germany intends to cut its greenhouse gas emissions by 70% by 2040, and between 80% and 95% by 2050 (i.e. close to GHG-neutral), in both cases compared to the baseline year of 1990.

Renewable energy

The share of renewable energy in gross final energy consumption is foreseen to be 30% in 2030. A national energy phase-out of the use of nuclear power to generate domestic electricity is foreseen by the end of 2022.

Energy efficiency

Germany's contribution to the EU's energy efficiency goal for 2030 is missing. It will be developed within the framework of the federal government's energy efficiency strategy.

Analysis of sectors

Transport

Germany plans to increase the share of renewables in transport mainly through e-mobility and renewable fuels. However, there are no further details about these plans, and these will only be included in the final NECP. This makes it hard to assess whether they are fit for purpose, or whether the renewable sources are sustainable.

Germany plans to limit the share of first-generation biofuels to 5.3% and increase the share of advanced biofuels to between at least 1.75% (double counting) or 3.5% (single counting) by 2030. However, the draft plan fails to detail what types of feedstocks will be used to achieve the advanced biofuels target. This would be important to know in order to assess the sustainability of the fuels

The draft NECP includes measures to further promote electromobility and to improve infrastructure, as well as incentives to purchase battery electric vehicles. While this is positive, these measures were already set back in 2016, so no new measures on this matter have been proposed. The plan also mentions investments in hydrogen and in domestic production of batteries.

Germany also seeks to incentivise natural gas through tax incentives and road toll exemptions. Promoting another fossil fuel is unsustainable and risks taking away funds from cleaner solutions.

There are several generic mentions of public bus fleets (for instance, funding of projects for the technological development and procurement of electric and hybrid public bus fleets) and national cycling plans. However, big transport emitters such as heavy-duty vehicles, shipping and aviation are largely omitted.

Recommendations

- Set an emissions reduction target for the transport sector.
- Clarify what sort of feedstocks are going to be used for renewables in transport, i.e. crop-based or advanced biofuels and limit the use of crop-based biofuels even further.
- Refrain from relying on gas as a solution for transport given that it is a fossil fuel.
- Include emissions reduction plans for heavy-duty vehicles, aviation and shipping.

Buildings

As a positive development, the German buildings sector has received political attention and commitment for a number of years. Already with the Energy Concept 2010, the country has been striving towards climate neutrality of the buildings stock. This commitment was confirmed in the Energy Efficiency Strategy for Buildings of 2015. The commitment is an essential element of the Climate Action Plan 2050 adopted in 2016, which constitutes the current federal government strategy. The National Action Plan on Energy Efficiency (NAPE) was published in 2014 and is currently being reworked and transferred into a NAPE 2.0. Yet, the implementation of key elements of the National Action Plan on Energy Efficiency is delayed. In this respect, the draft NECP refers only to the development of a cross-sectoral energy-efficiency strategy, which is supposed to establish the guiding principle of 'efficiency first' in energy policy at the national level.

To achieve an almost climate-neutral building stock by 2050, the draft NECP refers to an 80% reduction of non-renewable primary energy demand, reducing final energy consumption by about a half, with renewables accounting for a 60-70% share of the remaining final energy consumption. The 2030 sectoral greenhouse gas emissions reduction target for the buildings sector is set at 66 to 67% compared to 1990. The renewable energy share of 27% for heating and cooling is set at the minimum level based on the objectives of the Renewable Energy Directive and needs to be considered as a starting point.

The current indicative milestones for 2040 and 2050 assume a share of 37 to 52% non-renewable primary energy in the buildings sector. Scenarios for a complete phase-out of the use of primary fossil fuels in the heating sector are missing from the NECP.

Recommendations

- Ensure full implementation of the measures foreseen in the National Energy Efficiency Action Plan (NAPE), including tax incentives for energy-efficient building renovations.
- Quantify and operationalise the milestones for the long-term renovation strategy into specific elements e.g. individual renovation roadmaps that can be linked to the financing instruments and identification of investment needs.
- Link the long-term renovation strategy with resource efficiency objectives.
- Attract high-efficiency investments and innovative technologies through accelerated depreciation and targeted support programmes.
- Put forward sectoral trajectories for renewable energy in heating and cooling that are in line with the full decarbonisation of the buildings stock by 2050.
- Assess the regulatory framework including adjustments to the building codes and energy and carbon taxation to drive efficiency and renewables in the buildings sector.

Agriculture

While the German draft NECP acknowledges the need to decrease GHG emissions from agriculture by 31-34% by 2030, no specific measures are set out to address the agricultural sector or land use link to agricultural activities. Today, land use link to agricultural activities (but not counted as agricultural

GHG emissions) such as cropland or grassland are a net source of GHG emissions. Not only does Germany not put forward measures to reduce emissions from agriculture, but it also suggests to increase the use of biomass for energy production, thus putting land use under even more pressure.

Recommendations

- Develop specific climate policy measures targeting the agricultural sector and link them to existing agricultural policy (the EU Common Agricultural Policy, CAP).
- Put in place policies with the aim to reduce the number of livestock.
- Acknowledge the fact that cropland and grassland management is a net contributor of GHG emissions and address it accordingly.
- End subsidies that are harmful to the climate.

Transparency and public participation

The German draft NECP was submitted to the EU Commission with some delay, in January 2019. A German and an English version of the plan are available on the website of the Ministry of Economy and Energy.

The German government did not organise a public consultation while the draft plan was being developed. However, one is scheduled for September 2019 for the finalisation of the NECP. Stakeholders, such as local and regional authorities, civil society organisations, trade unions and others had no possibility to provide input on the draft NECP. However, the German government promises that the German parliament, LRAs, social partner organisations, relevant associations and also the public (i.e. through the public consultation) will be broadly involved in the finalisation of the NECP. CSOs are not specifically mentioned as a stakeholder group to be involved in this list. The Government also stated that this engagement and involvement process would kick off in the first half of 2019, but did not provide any detailed information on the process that will be undertaken. As of the publication of this assessment, this process was not launched yet.

Finally, the German draft NECP does not mention multilevel energy and climate dialogue.

Recommendations

- Make the timeline for the remaining NECP process publicly available, so that stakeholders and citizens receive early and effective information on how they can contribute.
- Provide detailed information on the promised engagement and involvement process for the final NECP.
- Use existing local energy and climate initiatives, such as the Covenant of Mayors or the European Energy Award, both widely used by German LRAs, to gather the potential contribution of LRAs to the final NECP.
- Establish a multi-level energy and climate dialogue for the finalisation of the NECP, making use of existing formats like working groups, task force or other consultative bodies that involve all stakeholders, including LRAs and CSOs; provide the dialogue with an administrative structure to ensure its duration and its involvement in regularly following up on the NECP implementation from 2020 onwards.

Portugal

Objectives and targets

Greenhouse gas emission target

With a view of achieving carbon neutrality by 2050, the Portuguese draft national energy and climate plan (NECP), includes the following elements:

- Energy transition based on a complete decarbonisation of electricity production, including the closure of coal-fired power plants by 2030
- Considerable focus on energy efficiency in all sectors of activity, but particularly in relation to industry, housing, services and mobility
- Full decarbonisation of the transport sector - mainly road transport
- Emphasis on industrial sectors, including the agri-food industry
- A rethink of the entire food chain in agriculture
- The potential of carbon sinks, in particular, forests

The Portuguese government sets its 2030 greenhouse gas emission reduction target at 45% to 55% compared to 2005, going beyond the 17% emission reduction target mandated by the Effort Sharing Regulation (ESR).

Furthermore, objectives under the 2050 roadmap include reducing emissions by 65% to 75% by 2040, and by 85% to 90% by 2050, compared to the 2005 levels.

Despite the level of ambition set in this draft, the final plan would benefit from elaborating further on the policies and measures to achieve the set targets.

Renewable energy

Portugal plans to achieve a 47% share of renewable energy by 2030, with 80% of electricity produced with renewable energy by 2030. However, as underlined by the Commission staff working document published on June 18, 2019 "the policies and measures that support such contribution should be more detailed in order to demonstrate consistency with the proposed level of ambition⁴".

⁴ https://ec.europa.eu/energy/sites/ener/files/documents/pt_swd_en.pdf

Hydro, wind and solar represent the main renewable energy resources. In addition to more mature renewable energy technologies, Portugal is also developing other technologies including off-shore wind, ocean waves and geothermal power.

Estimated trajectories for renewables in Portugal for the 2030 horizon

		2020	2025	2030
Electricity	Gross final energy consumption (Mtoe)	4.6	5.3	6.1
	Renewables %	68%	76%	80%
Heating and cooling	Gross final energy consumption (Mtoe)	5.2	4.9	4.6
	Renewables %	34%	36%	38%
Transport	Gross final energy consumption (Mtoe)	5.4	5.0	4.6

Total effective contribution (installed capacity) of each renewable energy technology in the Electricity sector (GW) for the 2030 horizon [Source: DGEG]

	2015	2020	2025		2030	
Hydro	6.0	7.0	8.2		9.0	9.0
Wind	5.0	5.4	6.6	7.8	8.8	9.2
Solar	0.4	1.9	5.5	6.6	8.1	9.9
Other renewables [1]	0.3	0.5	0.5	0.5	0.7	0.6
Total [2]	11.7	14.7	20.8	23.2	26.6	28.6

Source: Portuguese draft National Energy and Climate Plan

[1] Includes Biomass, Biogas Waste (50% of production via waste is not renewable), Geothermal and Wave

[2] Does not include cogeneration

Energy efficiency:

Portugal endorses the EU energy efficiency goal of 32.5% and expects to reduce energy consumption by 35% compared to the business-as-usual projections of the European Commission's model for 2030.

Analysis of sectors

Transport

Portugal presents an emissions reduction target for the transport sector of 53% by 2030 compared to 2005, based on planned policies, and a 48% decarbonisation target based on existing policies.

With regard to renewables in transport, the plan sets a target of 20% by 2030. It's positive to see that the majority of this target will be achieved with renewable electricity; however, there are still plans to use both crop-based and advanced biofuels without specifying what feedstocks are going to be used. A very positive aspect of the plan is that Portugal doesn't foresee a role for gas in transport.

The draft NECP stresses the importance of electrification (mainly road transport), although without clear targets in terms of vehicle sales or differentiation between battery-electric vehicles and hybrids.

For heavy-duty vehicles, the plan mentions hydrogen as a solution but considers its contribution to be minimal in the next decade.

There are no measures to address emissions from aviation. The strategy for shipping focuses on LNG (liquefied natural gas)⁵, which represents no climate benefits compared to petroleum-based fossil fuels.

Finally, it is positive that Portugal lists a series of measures focusing on efforts to promote a modal shift (both freight and passengers), infrastructure for electrification, alternative fuels, sharing schemes, etc.

Recommendations

- Set a clear target for the decarbonisation of the transport sector; currently, it is not clear if the target is 48% or 53%.
- Clarify what feedstocks (origins and quantities) will be used for biofuels.
- Aim to phase out crop-based biofuels.
- Increase efforts to tackle emissions from heavy-duty vehicles, especially in urban logistics.
- Include clear measures for the aviation and shipping sectors.
- Recognise the crucial role of rail electrification in the decarbonisation of the transport sector.

Buildings

The Portuguese draft NECP identifies the building stock as one requiring major efforts but the plan would profit from further details and ambition in this regard.

The draft NECP sets a sectoral target for residential buildings of 35% reduction of greenhouse gas emissions (compared to 2005). The target for the share of renewables in heating and cooling is set at

⁵ https://ec.europa.eu/energy/sites/ener/files/documents/pt_swd_en.pdf

38% by 2030. Given that the renewable heating and cooling share in 2009 was already at 37% and has since dropped to 34%, this target needs to be revisited.

The long-term strategy for the renovation of the national stock of residential and non-residential buildings, both public and private as well as the indicative milestones for 2030, 2040 and 2050 have not yet been developed. The long-term renovation strategy is crucial for the decarbonisation of buildings, and should apply to public and private buildings. It needs to define measurable actions and indicators set at the national level, including financial mechanisms, incentives and the mobilisation of financial institutions for renovations.

The draft NECP identifies energy poverty as a key element of the national strategy for building renovation. This is of utmost urgency as Portugal is the 4th European country most affected by energy poverty.

The draft NECP lacks details on specific measures foreseen for the buildings sector and raises questions on regulatory measures to phase out fossil fuels including gas for domestic heating. It also lacks clarity regarding the type of biomass⁷ that will be promoted while ensuring compatibility with a circular economy model.

Recommendations

- Accelerate the preparation of the long-term strategy for the renovation of buildings under the Energy Performance of Buildings Directive.
- Consider dedicated programmes of low-cost passive measures in the renovation of buildings (e.g. insulation of walls and efficient windows) which can ensure a considerable increase in energy efficiency and thermal comfort and create awareness of the potential for deeper and more structural measures.
- Address the skills gap for specialised technicians in the area of energy efficiency and renewable energies at the level of construction, materials, technologies and the installation of renewable energy systems in buildings.
- Ensure training of financial institutions to facilitate and accelerate capital investment and the ability to assess the viability of projects in these areas.
- Ensure clear rules concerning the type and volume of biomass that will be promoted, in order to ensure that it is truly sustainable.
- Outline specific measures for the renovation of the national stock of residential and non-residential buildings.

⁷ The use of wood for electricity or heat generation is seen as distortion to the use of biomass as feedstock within a circular economy model.

Agriculture

In spite of an ambitious objective to entirely rethink the food chain, the Portuguese draft NECP does not contain credible and specific policy measures to reach this objective. The plan also lacks specific greenhouse gas emission reduction targets for agriculture. Despite it acknowledging the increase in GHG emissions due to an increase in intensive livestock production for the export market, Portugal foresees the “evolution in CAP⁸ in a similar manner to the current situation”.

Portugal argues that the expansion of organic agriculture will reduce GHG emissions, while to date, there is no scientific evidence to support this claim. The promotion of new technologies, such as precision farming, will help to some extent but will not bring about the significant GHG emission reduction needed in the agricultural sector nor avoid an increase in emissions from agriculture. Finally, Portugal is currently largely affected by desertification, contributing to an increased risk of forest fires. Intensive farming is known to be one of the drivers of desertification, yet no policy measures are included in the draft plan to address this issue.

Recommendations

- Set a clear target for the decarbonisation of the agricultural sector.
- Set specific policy measures to truly respond to the ambitious goal of rethinking the entire food chain.
- Promote a system change of the agricultural sector by addressing the intensification of land use and the growing livestock numbers.
- End existing subsidies that are harmful to the climate.

Transparency and public participation

There was no public consultation for the development of the draft energy and climate plan in Portugal. The document was produced by the government with inputs from the Autonomic Regions of Madeira and the Azores. The Portuguese government has declared that the NECP will be formally analysed by the Portuguese parliament, the Local Authorities' National Association and the Local Parishes' National Association and will be put to a public hearing process in the course of 2019. Furthermore, a public consultation on the draft plan started in February 2019. However, the draft NECP does not specifically mention multilevel energy and climate dialogue.

8 Common Agriculture Policy

The draft NECP mentions the strong participation process for the 2050 roadmap, where several stakeholders and the public were actively involved. For the 2050 roadmap, many sectoral workshops have been organised since 2017. These events were divided according to the following thematic fields: mobility, forestry, food and agriculture, construction sector, solid waste and wastewater, cities and energy. These workshops involved experts in the mentioned fields, mainly working in public institutions and universities. In addition to this, a few public events were organised to discuss the 2050 roadmap.

Recommendations

- Organise an additional public consultation following the EU Commission recommendations for the finalisation of the NECP.
- Use existing local energy and climate initiatives, such as the Covenant of Mayors which gathers hundreds of Portuguese LRAs, to assess the potential contribution of LRAs to the final NECP.
- Establish multi-level energy and climate dialogue for the finalisation of the NECP, making use of existing formats like working groups, task force or other consultative bodies that involve all stakeholders; provide the dialogue with an administrative structure to ensure its duration and its involvement in regularly following up on the NECP implementation from 2020 onwards.
- Adopt a climate law to monitor policies and measures and form a social and political compromise for future generations and political cycles.



Sweden

Objectives and targets

Greenhouse gas emission target

Sweden's main climate target is to achieve net-zero greenhouse gas (GHG) emissions by 2045. In order to achieve this target, Sweden plans to go beyond its 2030 greenhouse gas emission reduction target established in the Climate Action Regulation (CAR), committing to a 50-59% GHG emission reduction compared to 2005 levels.

A very clear decarbonisation target is set for the transport sector, which is to achieve a 70% GHG emission reduction by 2030 (compared to 2010 levels).

However, the draft plan does not contain a detailed analysis, along with projections, on how these targets will be reached and what annual emission reduction is required to achieve them. As also pointed out by the European Commission in its recommendations, the final plan would benefit from including assessments of the impact of individual or groups of policies and measures.

Moreover, Sweden should reconsider the use of flexibility mechanisms such as the possibility to use credits from the forestry sector or the over-supplied EU Emissions Trading System (EU ETS) to compensate for emissions from the CAR sectors.

Renewable energy

Sweden does not set an explicit target for renewable energy by 2030 in its draft energy and climate plan. However, projections based on current measures show the renewable energy share to increase to up to 60-66% of final energy consumption by 2030, which is double the renewable energy target set at the European level.

This decision is due to the fact that Sweden believes it is more cost-efficient to deploy renewable technologies which the market deems most profitable than to determine the share of each technology beforehand.

Based on the projections included in section 4.2.3 of the draft plan, Sweden will achieve this target without additional measures.

While no additional measures are foreseen to reach the target, more details on how each sector will contribute to the overall target with current measures is missing. This should be included in the final plan, as it would ensure more certainty for the sectors and coherent contribution to the overall renewable share.

Energy efficiency

Sweden aims to reduce energy intensity by 50% by 2030 compared to 2005, expressed in terms of primary energy consumption in relation to gross-domestic-product (GDP). The final energy consumption foreseen for 2030 is higher than the one foreseen for 2020. It, therefore, remains unclear how Sweden will contribute to the joint European effort to reduce energy consumption. The measures to be implemented in order to reduce energy intensity are outlined in the plan. They mostly cover buildings but also include strategies for different types of businesses.

However, instead of setting an energy efficiency obligation scheme, the draft plan includes other policies like energy and CO₂ taxes to incentivise energy efficiency. While this is in line with the Energy Efficiency Directive, it might be a contributing factor to the poor progress in the country's energy efficiency. The weak decrease in energy consumption is also expected to continue until 2040, as can be seen in chapter 4.3 of the draft plan. Figure 18 shows a slight decrease in energy consumption in the transport sector, as well as the buildings and service sectors, while the industrial sector is relatively steady at the current level. Moreover, no figures are presented that would allow assessing the compatibility of the plan with the energy efficiency targets set at the EU level.

Analysis of sectors

Transport

In the draft NECP, Sweden aims to reduce emissions from the transport sector by 70% by 2030 compared to 2010. This is an ambitious target but it is important to consider the details on how this target is supposed to be achieved.

Sweden sets out a 50% blending obligation for biofuels for the year 2030. However, the plan doesn't provide details on what type of fuels and feedstocks are going to be used to meet this obligation, which is well above the requirements set by EU legislation and risks to be met in an unsustainable way. Electricity, for example, will not be allowed to count towards this blending obligation, which is negative as renewable electricity for transport should be promoted as a solution for the decarbonisation of the sector. Moreover, Sweden foresees tax incentives for gas vehicles. This is not a good solution, considering that electrification can be renewable if electricity is produced with renewable sources, whereas gas is a fossil fuel and therefore not a solution to decarbonise transport.

With regard to electrification, the draft NECP contains some positive measures such as plans to ensure company cars are green, and incentives to charge electric vehicles (EVs) at home. However, there are no clear targets for sales of EVs or for phase-out of internal combustion engine vehicles.

The Swedish draft NECP does not include any details with regard to the decarbonisation of heavy-duty transport and shipping sectors. On aviation, taxation is mentioned as a key measure to decarbonise the sector. While this is a positive initiative, Sweden should put more effort into this sector, and add measures such as the promotion of clean renewable fuels.

Recommendations

- Foresee measures to make renewable electricity count for renewable targets in transport.
- Clarify what fuels and feedstocks are planned to be used to meet the 50% blending obligation for biofuels.
- Include measures to tackle the heavy-duty transport and shipping sectors, and consider more efforts to decarbonise aviation.

Buildings

The Swedish draft NECP does not set a greenhouse gas (GHG) emissions reduction target for the building sector nor a binding renewable energy objective for the heating and cooling sector. The scenarios for heating and cooling show only a slight increase in the share of renewables in the next 15 to 20 years from 68% in 2014 to 69% in 2030 and 71% in 2040.

There is no 2030 or long-term objective for the energy consumption in the buildings sector and it is unclear if the existing energy savings potential will be exploited.

While the draft NECP does not include details on the overall buildings sector, for the existing buildings and industry connected to the district heating system a 20% reduction of energy consumption by 2030 is foreseen. This reduction, however, is significantly less ambitious than the EU wide scenarios for 2030.

The Swedish energy performance requirements for nearly-zero energy buildings set in the building codes are less strict than the recommendations of the European Commission, leaving energy savings potential untapped⁹. As a result, it remains unclear how a transformation of the building stock in line with the new requirements of the new Energy Performance of Buildings Directive will be achieved.

The Swedish draft NECP does not include information on planned measures but lays out the existing instruments. Sweden uses economic instruments in particular, including energy and carbon taxation. The carbon taxation is subject to a yearly indexation of the tax level to maintain a steering effect.

9 <https://www.rehvam2018atic.eu/images/workshops/4/Kurnitski.pdf>

Recommendations

- Set out a binding objective for the transformation of the building stock towards net-zero energy buildings.
- Strengthen energy performance requirements for existing and new buildings taking into account the recommendations of the European Commission and ensuring that the full energy savings potential are exploited.
- Define sectoral targets for greenhouse gas reductions and share of renewable energy in heating and cooling.
- Include information on fossil fuel subsidies and present a roadmap on how to phase out fossil fuels well before 2030.

Agriculture

The Swedish draft NECP does not include any greenhouse gas (GHG) emission reduction targets for the agricultural sector, although the Swedish government expects a decrease in agricultural GHG emissions of 23% (compared to 1990) by 2030. This objective is only reported in the projections and is not a binding target.

Regarding policy measures to mitigate GHG emissions from the agricultural sector, the Swedish government will rely on existing policies such as:

- The Rural Development Programme (2nd pillar of the CAP)
- Rural network
- 'Focus on Nutrient' advisory service
- Support for biogas production
- The potential of carbon sinks, in particular, forests

By simply keeping the already existing policies, the Swedish government does not consider the possibility to remove existing measures that currently harm the climate. Secondly, while some of the suggested measures could potentially mitigate GHG emissions, no financial commitment is made beyond 2020, and no adoption targets are included for the measures.

Moreover, support for biogas production, which can reduce emissions, can also lead to an increase in livestock, if the financial incentive is not well balanced. Such risk should be taken into account in the plan.

Finally, while the draft NECP mentions existing measures with good potentials, such as restoration and establishment of wetlands or sustainable perennial grass ley with reduced soil tillage, it fails to truly transition the agricultural sector towards decarbonisation.

Recommendations

- Set a specific GHG emission reduction target for the agricultural sector.
- Define which policy measures will be needed to reach this target and when they will be implemented.
- Go beyond the rural development programme and include all possible policy instruments from the CAP (such as eco-schemes).
- End subsidies that are harmful to the climate.

Transparency and public participation

A first version of the Swedish draft NECP was submitted to the EU Commission in June 2018, ahead of the deadline. A second, updated draft, was submitted in autumn 2018. Both versions were made available in Swedish and English, and the latest one can be accessed on the website of the Swedish government.

Prior to the creation of the first version of the draft NECP, Sweden held a public consultation on the plan from 19 January to 23 February 2018. Some of the comments provided by stakeholders such as local and regional authorities (LRAs), civil society organisations (CSOs), community groups, industry and business were then reported into the second draft of the NECP. Stakeholders also requested more information about the NECP and earlier involvement in the overall process, an aspect that the government has committed to improving for future NECPs.

An informal consultation on the second version of the draft plan is currently ongoing, and an official public consultation is foreseen for the finalisation of the plan.

The Swedish draft NECP includes no reference to multilevel energy and climate dialogue, although it mentions the strong involvement of LRAs in contributing to policy planning, including for the NECP.

Recommendations

- Make the timeline for the remaining NECP process publicly available, so that stakeholders and citizens receive the early and effective information they have requested in the public consultation on how they can best contribute.
- Use existing local energy and climate initiatives, such as the Covenant of Mayors, to gather the potential contribution of LRAs to the final NECP.
- Establish a multi-level energy and climate dialogue for the finalisation of the NECP, making use of existing formats like working groups, task force or other consultative bodies that involve all stakeholders; provide the dialogue with an administrative structure to ensure its duration and its involvement in regularly following up on the NECP implementation from 2020 onwards.

Conclusions



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The analysis of these five draft NECPs shows an overall high ambition to mid and long-term climate goals, especially in Finland, Sweden and Portugal.

However, all plans lack details and quantifiable expected results with regard to policy measures in the transport, buildings and agricultural sectors.

While Finland and Sweden have set a clear GHG reduction target for the transport sector, Portugal, France and Germany should strongly consider setting one as this would provide a clear indication on what the objective for the sector is and help better plan policies to reach it. Moreover, heavy-duty transport, shipping and aviation should be better addressed in all draft plans as they represent a major source of GHG emissions.

With regard to the building sector, deep renovation rates and energy efficiency improvements, as well as clear objectives for the decarbonisation of the building stocks, should be reviewed and improved in all plans. While Germany, and to some extent France, have recognised the importance of the building sectors in reducing emissions, other countries like Finland and Sweden, should set out a binding objective for the transformation of their building stock towards net-zero energy buildings and should strengthen energy performance requirements for existing and new buildings.

Agriculture is largely omitted in the draft plans, with the exception of France and Portugal. However, more robust and concrete policies to decarbonise this sector should be included in all final plans along with the reconsideration of subsidies that can be harmful to the climate.

With varying degrees of stakeholder engagement, governments have missed a crucial opportunity to effectively involve civil society and local and regional authorities early in the process. However, four of the five countries foresee a public consultation and dialogue with multiple stakeholders for the finalisation of the plans.

Overall, all five countries can and should improve their plans and use the next six months to strengthen the policies and measures underpinning their climate and energy targets, and better involve stakeholders in the process.

LIFE PlanUp project description

LIFE PlanUp supports the shift to a low-carbon and resilient economy through the development and implementation of effective and ambitious national 2030 energy and climate plans (NECPs) in Hungary, Poland, Romania, Spain and Italy. A key objective of the PlanUp project is to strengthen the climate and energy governance processes in these countries by increasing the involvement of local and regional authorities (LRAs) and civil society organisations (CSOs) in the development and implementation of the NECPs.

Aiming to support the five target countries in strengthening their national NECPs and to engage in their development, a core action of the PlanUp project is the participatory assessment of draft and final NECPs. In order to conduct meaningful and consistent analyses for all five Member States, we developed a set of assessment criteria that will guide the assessments and ensure their comparability.

LIFE PlanUp

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Expert group: Agnese Ruggiero, Elisa Martellucci, Cristina Mestre, Roland Joebstl, Berenice Dupeux and David Donnerer.

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The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Commission.

Further Information

Agnese Ruggiero

Policy Officer

Carbon Market Watch

agnese.ruggiero@carbonmarketwatch.org

Rue d'Albanie 117, B-1060 Brussels, Belgium, Belgium | Tel: +32 2 335 36 66

www.carbonmarketwatch.org | [@carbonmrktwatch](https://twitter.com/carbonmrktwatch) | fb: Carbon Market Watch



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