

GETTING THE LONG-TERM PLANNING RIGHT:

THE ROLE OF NATIONAL LONG-TERM STRATEGIES IN ACHIEVING CLIMATE NEUTRALITY IN EUROPE



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CLIMATE ACTION





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The following contributors have prepared this report:

Goksen Sahin, Kasia Ugryn, Federico Mascolo, Harriet Mackaill-Hill (**Climate Action Network (CAN) Europe**); Miljenka Kuhar, Veljko Vorkapić (**Society for Sustainable Development Design -DOOR-Croatia**); Tomáš Jungwirth (**Centre for Transport and Energy -CDE- Czechia**); Maris Jõgeva, Piret Väinsalu (**Estonian Fund for Nature**), Alexa Botar, Teodora Donsz-Kovacs (**Friends of the Earth Hungary**); Andrzej Kassenberg, Wojciech Szymalski (**Institute for Sustainable Development- ISD- Poland**); Bárbara Maurício (**Association for the Sustainability of the Earth System - ZERO - Portugal**); Taj Zavodnik (**FOCUS-Slovenia**); David Howell, Ana Márquez (**SEO/Birdlife Spain**).

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INTRODUCTION

The science is clear: climate action must be rapidly and drastically increased if we are to limit the devastating impacts of the climate crisis and comply with the 1.5°C temperature goal of the Paris Agreement.

Unfortunately, the impacts of climate change are already wreaking havoc in Europe, with severe detrimental effects on people's lives and livelihoods. The most recent IPCC [1] report warns that global temperature is rising faster than expected and heat waves, droughts, floods, forest fires and failed crops will become more common and ever more devastating in Europe (and anywhere else around the world), if we fail to limit global temperature rise to 1.5°C.

It is clear that current global emission reduction targets are not compliant with the 1.5°C target enshrined in the Paris Agreement. Despite new climate pledges and commitments in 2020, including the EU's new climate target of reaching at least 55% net emissions reductions by 2030 and climate neutrality by 2050, the world is still heading towards a temperature rise of 2.5-2.7°C by the end of this century [2].

To do its fair and science-based share under the Paris Agreement to reach the 1.5°C goal, the EU must reduce its emissions by at least 65% by 2030 and achieve net-zero emissions by 2040 [3]. This can be done by further increasing the ambition of the new climate and energy legislation, as well as aligning all national plans and strategies with the 1.5°C objective of the Paris Agreement.

The Governance Regulation, adopted in 2018, obliges Member States to develop national long-term strategies (nLTS) with a perspective of at least 30 years and submit them to the European Commission by 1 January 2020. The Regulation also mentions that Member States "should" update those national long-term strategies every five years, where necessary.

According to the Governance Regulation, national long-term strategies should be consistent with the National Energy and Climate Plans (NECPs), which give a comprehensive outline of Member States' 2030 climate and energy targets, policies and measures. Finally, the Regulation explains that the European Commission will assess the national Long-Term Strategies, as it did for the NECPs, but does not specify when the assessment should happen.

National long-term strategies could play an important role in the planning (and bottom-up assessments) of Member States' paths to climate neutrality. They could also include a roadmap of Member States' longer-term transitions to ensure consistency between short and longer-term policies at national level.

Nevertheless, their potential seems to be ignored by European decision-makers. According to the European Commission's website (as of 1 September 2021), **seven nLTS are still missing (despite the deadline for submissions being on 1 January 2020).** Among the countries who submitted their nLTS, some - including Germany and Czechia - did not update their long-term strategies under the Governance Regulation and re-submitted their Low Carbon Development Strategies prepared in 2016 and 2017 [4] respectively.

[1] <https://www.ipcc.ch/report/ar6/wg1/>

[2] The UNEP Emissions Gap Report (2020) and the UNFCCC NDC Synthesis Report predict that current international emission reduction commitments equate to a temperature rise of 2.5-2.6°C by the end of this century.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/34438/EGR20ESE.pdf> and <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs/ndc-synthesis-report>

[3] Please see CAN Europe's positions : <https://caneurope.org/can-europe-position-on-long-term-targets/> and <https://caneurope.org/can-europe-calls-for-an-increase-of-the-eu-s-2030-climate-target-to-at-least-65/>

[4] The European Union included long-term strategies (at the time called "low-carbon development strategies") in its internal legislation in the so-called Monitoring Mechanism Regulation in 2013. Countries like Czechia and Germany resubmitted their "low carbon development strategies" without making any meaningful change that increases climate ambition in line with the latest science.

Moreover, it is still unknown when and how the European Commission will publish its assessment of nLTS and what kind of follow-up mechanism will be established to close the ambition gap in the outdated documents.

To catch a glimpse of the developments around the national long-term strategies, **this report assesses finalised documents in the following countries: Croatia, Czechia, Estonia, Hungary, Portugal, Slovenia and Spain.** In addition, it takes a look at the situation in Poland and discusses the reasons behind the significant delay of the Polish nLTS. For each country, the report analyses the overall ambition level of the Strategy, presents key policy opportunities and gaps, verifies its consistency with the NECPs and gives recommendations for increasing climate ambition.

This report finds that the development and implementation of nLTS have very different levels of ambition, political ownership and public participation in the countries involved in the study.

The Hungarian, Portuguese, Slovenian and Spanish long-term strategies make clear references to the EU's 2050 climate neutrality objective and set the same objective for the country, but fail to bring this target date forward to reach climate neutrality earlier. The Croatian nLTS acknowledges the EU climate neutrality objective, but at national level it only mentions that "possible scenarios for climate neutrality still need to be developed". The Czech and Estonian long-term strategies set an objective (indicative for Czechia) of reducing greenhouse gas emissions by 80% by 2050, compared to 1990 levels, which needs to be urgently updated to reflect the EU's enhanced climate target as a minimum.

The Croatian, Portuguese, Slovenian and Spanish nLTS are, to a certain extent, consistent with their NECPs. The Spanish and Portuguese NECPs and nLTS use the same modeling tool, which allows for consistency between short and long-term policies. However, the Slovenian nLTS simply refers to the unambitious NECP targets and postpones the much needed climate action beyond 2030, which is quite worrying for Slovenian civil society.

The Hungarian nLTS includes 3 scenarios: business as usual, early action and late action. Based on these, the document includes a profound overview of the costs and benefits of both the Late Action and the Early Action scenarios, compares them with the costs of inaction and states that "considering avoided costs and added benefits, the Early Action scenario is the most cost-effective scenario."

On a positive note, this report highlights several policies and measures that can be considered as opportunities to accelerate transition both in the short and long-term. These include the electrification of road transport in the Portuguese nLTS, plans to accelerate the deployment of renewables in Spain, and policies and measures to increase energy efficiency across the entire energy chain in Croatia.

However, the Czech example, where only a limited number of planned policies and measures have started to be implemented since 2017 (while some have already been cancelled), raises concerns about the political ownership of these Strategies and how they will be implemented in reality.

In Estonia, civil society organisations expect the revision of nLTS in 2021. While, in Poland, the process to finalise the long-term strategy is still not clear. Poland, representing more than 10% of EU greenhouse gas emissions, is the only Member State, among those assessed in the report, that still has not published its draft or final nLTS [5]. Postponing the development of a long-term strategy is seriously hindering Poland's climate action and puts the overall EU climate goals at risk. The European Commission must therefore follow up on the missing nLTS and encourage Poland to use this document to align its climate and energy targets with the European Green Deal objectives.

[5] As of 20 September 2021

RECOMMENDATIONS

As explained in the Governance Regulation, the nLTS is an instrument to guide the economic and energy transformation towards climate neutrality by mid-century [6]. If national Long-Term Strategies were developed by taking into account the most recent scientific evidence and EU level policy developments, they would become the guiding documents for Member States' rapid and bold transition to a climate-neutral economy. In addition, they would serve as a monitoring tool for the European Commission to follow up on the EU's longer-term ambition gap and direct EU funds to close that gap.

Unfortunately, the potential of the nLTS is seriously hampered. This is because several nLTS are still missing, there's a lack of clarity around the European Commission's assessment and the process for their revision, and there are deficiencies in some of the submitted nLTS.

To ensure these Strategies become an effective planning and monitoring tool to build a climate-neutral Europe and direct investments towards a much-needed clean and green transition, the following issues should be considered:

Clear guidance from the European Commission: Under the Governance Regulation, a clear timeline is given for the revision of 2030 National Energy and Climate Plans but very limited guidance is given to explain when and how the national long-term strategies will be assessed and revised. With seven nLTS still missing, it is currently impossible to analyse and monitor whether the EU will achieve its climate neutrality target and what further steps need to be taken both at the EU and national levels to align the climate neutrality target with the EU's commitments to the Paris Agreement.

Given that Member States will need to update their 2030 National Energy and Climate Plans in order to implement the new climate and energy targets, this opportunity should also be used to revise, update and finalise their long-term strategies. In order to monitor the consistency of targets, policies and measures in NECPs and nLTS, an integrated and comprehensive monitoring system should be launched. This would greatly help measure progress made towards reaching climate neutrality. In addition, it would provide consistency between short and long-term plans, as well as clarify the reporting and evaluation ambiguity in the current Governance Regulation.

The European Commission should request, as soon as possible, the missing nLTS, assess whether there is an ambition gap and give recommendations to Member States to close the ambition gap in a timely manner. Member States should build on the Commission's recommendations to revise and improve their nLTS in order to increase their climate ambition, to at least the binding EU level.

The Commission should also update the NECP and nLTS templates contained in the Governance Regulation. The templates from 2018 no longer reflect the latest science and developments in the EU climate and energy policies, and therefore need to be amended and shared with Member States well in advance, allowing Member States the time to adapt to an updated template.

Member States should see the long-term strategies as a tool to prepare their climate and energy transition for the next 30 years, not as a box-ticking exercise: Some Member States see the development of nLTS as a formality that can be postponed indefinitely, rather than a much-needed, long-term planning tool.

[6] The specific route for each decade should be defined in detail through the NECP, which will be developed every ten years and will be updated every five, and consequently the LTS will be updated every five years with the latest information available.

This is a huge mistake, because transitioning to a climate-neutral economy requires proper timescale planning, investment, coordination between different authorities (national, regional and local), as well as public involvement. National long-term strategies can be the tool that brings all these aspects together, as it is meant to encompass different targets, policies, measures and investment plans from various climate, energy and economic plans. The nLTS should be like a litmus test for other strategic documents on economic development at various levels.

Therefore, it is of utmost importance that Member States develop or revise their nLTS as soon as possible by taking into consideration:

- The latest available science
- The current developments in the implementation of climate policy
- The EU's new climate and energy targets both for 2030 and 2050
- Other national plans and policies such as National Energy and Climate Plans, Recovery and Resilience Plans, Territorial Just Transition Plans, and sectoral plans such as transport, energy, agriculture etc.

It is equally important that each Member States uses nLTS to set the objectives for a fossil fuel phase-out and achieving a 100% renewable energy system, as well as profound improvement of their energy efficiency targets.

METHODOLOGY

This report is based on Unify project partners' assessment of publicly available long-term strategy documents with an exemption for Poland where the nLTS is not publicly available. In Poland, Unify project partners have reached out to public authorities and other stakeholders to get information about the preparations around the nLTS. Their assessment is based on the updates given during these exchanges and their analysis of the country's 2040 Energy Policy.

Other Unify partners have used the nLTS qualitative assessment tool [7], developed by the Unify project, to prepare their country assessments. This tool includes a set of questions and background information which intends to help national stakeholders in their efforts to perform their own analysis of the national long-term strategies.

Analysis and recommendations for each country set out in the country assessment pages are based on national NGO assessments and country specific needs, so in no case should this qualitative self-analysis lead to a comparison between countries.

[7] https://unify.caneurope.org/wp-content/uploads/sites/2/2021/01/nlts-qualitative-tool_final.pdf

COUNTRY ASSESSMENTS





CROATIA

In June 2021, the Croatian Parliament adopted the Low Carbon Development Strategy. This document, which was first drafted in 2016 and finalised in 2021 (after a series of updates over the last five years), represents the country's national Long-Term Strategy (nLTS).

The Croatian nLTS proposes three different scenarios for the country's climate and energy policies until 2050: a Business as Usual scenario, a Gradual Transition Scenario and a Strong Transition Scenario. These scenarios are used as strategic frameworks within which greenhouse emissions reductions are estimated overall and for specific sectoral areas. It also includes around a hundred possible measures to achieve emissions reductions across different sectors and provides in-depth assessments of how these measures could be applied according to the three possible emissions reductions scenarios.

In addition to the nLTS, Croatia has developed a draft "Climate Neutrality by 2050 Scenarios" document in which different sectoral scenarios and energy transition pathways have been elaborated. However, it is not clear how and when these sectoral scenarios and energy transition pathways will be finalised and integrated in the Croatian nLTS.

While the business as usual scenario of the Croatian nLTS speaks for itself, the Gradual Transition Scenario includes the share of renewables which will reach 36.4% by 2030 and to 53.2% by 2050. This scenario envisages an estimated reduction in greenhouse gas emissions of 33.5% by 2030, and 56.8% by 2050.

The Strong Transition Scenario is the nLTS's most ambitious scenario which estimates that the share of renewable energy sources will be around 36.4% by 2030 and 65.6% by 2050. When it comes to the emissions reductions pathways, the Strong Transition Scenario estimates a 36.7% decrease in greenhouse gas emissions by 2030 compared to 1990 levels, and a more ambitious target of an 80% reduction in greenhouse gas emissions by 2050.

Even though the document refers to the EU's climate neutrality by 2050 objective, and recognises that would require exploring all possible implications for the country, the Croatian nLTS fails to include a clear transitional pathway for reaching climate neutrality by 2050 or earlier. It simply states that the country aims to limit its emissions between the Gradual Transition and Strong Transition Scenarios, with an effort to strive towards the most ambitious scenario.

It is an important step that the Croatian nLTS refuses the "business as usual scenario" and describes trajectories that demonstrate a clear intent for the country to accelerate its energy transition. However, the current nLTS still lacks ambition to strive for climate neutrality latest by 2050 to achieve the 1.5°C objective of the Paris Agreement.



OPPORTUNITIES AND GAPS IN THE CROATIAN NLTS

Despite its lack of alignment with the Paris Agreement's 1.5°C objective, the Croatian nLTS includes some policies and measures that represent opportunities to both accelerate emissions reductions and energy transition:

Strengthens carbon sinks: The document recognises the importance of strengthening natural carbon sinks in Land Use, Land Use Change and Forestry and agriculture sectors to reduce emissions. In addition, the nLTS envisions new forest stands that will be cultivated on presently uncultivated forest land.



CROATIA

Recognises the importance of energy efficiency: The Croatian nLTS recognises energy efficiency as the most important mechanism and fundamental principle of the necessary energy transition and sets out energy efficiency targets (in terms of primary energy consumption and direct energy consumption) both in the Gradual Transition and Strong Transition scenarios.

It also includes policies and measures to increase energy efficiency across the entire energy chain, with stronger emphasis on energy efficiency in buildings. With regards to buildings, the nLTS foresees increasing the rate of energy renovations in buildings to 4% in 2050. However, it does not envision a conversion to a fully efficient and decarbonised building stock, nor does it estimate a total number of buildings yet to be renovated, by year, until 2050.

In order to fully tap into the potential of the nLTS, Croatia should address the following shortcomings:

Limited decarbonisation efforts for the transport sector: According to the nLTS, transport emissions are estimated to significantly rise between 51.4% (Gradual Transition Scenario) and 44% (Strong Transition Scenario) by 2030, and then decrease between 2030 - 2050.

The Croatian nLTS envisions an increase in the share of electric and hybrid vehicles on the road. Depending on the scenario (Gradual Transition Scenario or Strong Transition Scenario), the increase in the share of electric and hybrid vehicles in road transport is estimated from 3.5% in 2030 to 85% in 2050.

However, the nLTS does not specify a date for banning the sale of fossil fuel based vehicles, nor does it mention the amount of electric vehicles by year to be included in the market and existing car fleet until 2050. The inclusion of liquefied natural gas under the category of “alternative fuels” is also not aligned with the document’s emphasis on the need for a fully decarbonised transport sector by 2050.

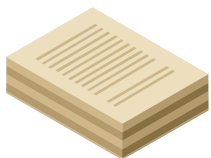
To start the much needed early decarbonisation in the transport sector, stronger policies and measures with concrete timelines and milestones are a necessity.

No 100% renewable energy target and fossil fuel phase out date: With regards to decarbonisation efforts, unfortunately the document fails to include a 100% renewables objective for 2040 or any other date. Despite leaving the second phase of the construction of a liquefied natural gas (LNG) terminal in Krk out of the document - which is a welcome step towards stopping fossil fuel extraction infrastructure - the document lacks ambition in reducing Croatia's dependency on fossil fuels and does not include a fossil fuel phase out date.

Financing the transition: The Croatian nLTS includes a section on the required financial sources for implementation. This is a very important step for long-term planning. However, despite recognising that both Gradual Transition and Strong Transition Scenarios will require important financial investments, and mentioning few possibilities of future financial sources (for example European Structural and Investment Funds), the Croatian long-term strategy does not provide a complete or detailed description of possible future investments.



CROATIA



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

The Croatian nLTS has an important complementarity to the Recovery and Resilience Plan and Competitiveness and Cohesion Operational Programme on energy efficiency in buildings and on development of grid systems for the integration of renewable energy.



RECOMMENDATIONS

The nLTS should be revised to achieve the Paris Agreement goals:

Although the Gradual Transition and Strong Transition Scenarios demonstrate a clear intent for Croatia to eventually transition its energy systems to clean energy, the current nLTS demonstrates a clear lack of ambition to strive for climate neutrality by 2050.

Action speaks louder than words. In order to give life to its climate neutrality considerations mentioned in the nLTS, Croatia must urgently revise its nLTS and align it with the latest science and the Paris Agreement's 1.5°C goal. This can only be achieved through strong commitment for emission reduction and energy transition policies and measures; as well as directing all investments to this transition.



In 2020, Czechia submitted its “Climate Protection Policy”, which was adopted in 2017 [8], as its nLTS to the European Commission. This means the document is outdated when it comes to achieving the Paris Agreement goals, the European Green Deal agenda, the 2050 climate neutrality goal and the EU’s new 2030 climate target.

The proclaimed nLTS emission targets are equal to a reduction of 32 Mt CO₂e by 2020 and 44 Mt CO₂e by 2030, compared to the 2005 baseline of 146 Mt CO₂e net. It is now clear Czechia was on track to miss the 2020 target by a substantial margin (in spite of Covid-induced short-term emission cuts) with total emissions amounting to 131 Mt by 2019, and net emissions even exceeding that sum due to sharply increasing Land Use, Land Use Change and Forestry (LULUCF) emissions since 2016. When it comes to the 2030 target, the EU’s increased ambition will require setting much more ambitious national goals than envisaged in the document.

The long-term indicative goal envisaged in the Czech nLTS amounts to an 80 % greenhouse gas emissions reduction by 2050 as compared to 1990 (with a target value of 39 Mt CO₂e). The nLTS contains eight scenarios based on modelling that was developed for this purpose. Three out of the eight lead to the 80% emissions reduction. A net-zero target by the mid-21st century had not even been considered in this document (also due to its publication date). Lastly, more specific sectoral targets such as energy efficiency and renewables targets and trajectories are missing from the document altogether; they only appear in the NECP.



OPPORTUNITIES AND GAPS IN THE CZECH nLTS

The shortcomings of the Czech nLTS are not limited to its inadequate emissions reduction target (which could be at least partly attributed to its publication date). Despite the real potential of substantially contributing to the transition to a low-carbon economy, many measures envisaged in the document have also not been implemented.

The Czech nLTS was thoroughly evaluated by experts from Czech NGOs in 2020. The report assesses 40 measures from the Czech nLTS by using a traffic light system [9].

Unfortunately, the Czech report identifies that only four measures were implemented fully or almost fully by mid-2020, with 10 not implemented at all, and 26 implemented insufficiently.

The few measures that have been implemented since 2017 include:

Support for the construction of biogas plants: The Czech nLTS envisages a substantial increase in heat production and the use of advanced biogas in transport.

[8] Czech “Climate Protection Policy” is originally the “Low Carbon Development Strategy” that is developed under the Mechanism for Monitoring and Reporting Regulation. The Czech government did not update the document after the Governance Regulation was adopted in 2018.

[9] For clarity, the starting point has been a presumption that all of the measures envisaged in the document are principally desirable and can have a positive climate impact, reflecting a broad consensus among climate/energy NGOs that the document principally constitutes a solid basis for action.

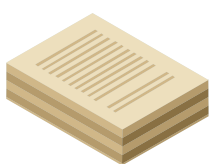


Inclusion of climate topics in the State Programme for Environmental Education: Implementation is carried out according to grant programs as described by the Ministry of the Environment. At the moment, it is not possible to directly evaluate how many approved projects are focused on mitigation and adaptation measures and how effective they are.

Financing of climate action abroad with revenues from auctioning EU ETS allowances: The required amendment to the Emissions Trading Act was finally agreed, becoming operational from 2021 onwards.

Important policies that were included in the nLTS, but later rejected or ignored politically [10], include: a **nation-wide carbon tax; a so-called anti-fossil law that should have ensured a fossil fuel phase-out; setting up standards for energy efficiency in energy; support for the use of alternative fuels in road transport, as well as a sensible reforestation policy.**

Also it is important to highlight that the nLTS does not contribute in any meaningful way to the debate on the Czech coal phase-out date. Instead, it limits itself to general comments about a gradual reduction of coal's share and actually presupposes the extended mining of lignite.



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

The reasons for such shortcomings in policies and measures lay first and foremost in the lack of political will. Being a result of the work of a relatively 'weak' Ministry of the Environment in the government setup, the Czech nLTS has never truly been perceived as a primary point of reference for policy making in energy, transport, agriculture, education etc. Thus, inconsistency with other strategic documents is a real concern, resulting in implementation deficiencies. Moreover, the NECP (produced under the coordination of the Ministry of Industry and Trade) is a much more detailed, technical document with a different set of goals whose overall complementarity with the nLTS is difficult to evaluate. Nevertheless, at least the key 2030 targets envisaged in the nLTS are then reiterated in the NECP.

Finally, as regards public participation, relying on individual recollections and press releases from the time, it appears that the Czech Climate Protection Policy was drafted in a fairly participatory and inclusive process. However, there was no public consultation whatsoever prior to its notification as an nLTS to the European Commission in 2020. Therefore, its outdatedness and other deficiencies could not be communicated and reminded by the involved public.

[10] These policies and measures were given a red light when evaluated at national level, not because they are bad measures, but because they are completely ignored in reality.



CZECHIA



RECOMMENDATIONS

From the various shortcomings of the Czech nLTS which are highlighted above, it is clear that Czechia's "Climate Protection Policy" as a whole is not in line with Paris Agreement objectives. It clearly exceeds the 1.5 °C warming target.

In order to have a long-term transition vision, the Czech government should urgently:

Update the nLTS goals and scenarios to achieve at least the EU's new climate and energy targets, notably climate neutrality by 2050 and at least 55% net emissions reduction by 2030, while also recognising the need to achieve the Paris Agreement's 1.5°C objective. In the upcoming evaluation, a critical reflection on the (in)consistency between the nLTS and other key strategic documents (NECP, State Energy Policy etc.) is necessary.

Improve climate policy governance and coordination in Czechia that would enable the full implementation of the envisaged policies and measures.

Take into account the ongoing debate on a coal phase-out date and ensure that the Czech nLTS contributes constructively to a clean energy transition.

Present different EU funding instruments that have been made available, and their expected contribution to the fulfillment of the various policy objectives.



The Estonian national Long-Term Strategy, “General Principles of Climate Policy until 2050”, was adopted by the Estonian Parliament in April 2017. The document outlines 33 policy guidelines with a vision that aims to create a competitive, low emissions economy. The nLTS aims to reduce greenhouse gas emissions by 80% by 2050 in comparison to 1990, (also 70% by 2030 and 72% by 2040). According to Estonian civil society, the strategy lacks ambition as it fails to boost both short and long-term climate action by clearly lagging behind the revised EU climate and energy targets. Given that Estonia needs to reach climate neutrality by 2035 in order to reach the 1.5°C objective of the Paris Agreement [11], the current nLTS is clearly not sufficient and it lacks ambition to guide Estonia’s climate policy.



OPPORTUNITIES AND GAPS IN THE ESTONIAN NLTS

The strategy was produced following a long consultation period. It covers the main sectors and measures necessary for the transition. However, the overall content of the nLTS remains more of a declaration of interest rather than an action plan; thus it misses several opportunities to pave the way for a transition of Estonia’s economy and energy systems. The main policies that need more specific measures with clear timelines include the oil shale phase out, the renewable energy transition, improving energy efficiency, the use of biomass and land use.

Outdated ambition needs to be updated: As the Estonian nLTS was approved in 2017, it does not take into account the EU’s enhanced 2030 and 2050 climate targets, new climate and energy legislation and falls short of the ambition needed to achieve 1.5°C objective of the Paris Agreement.

No phase-out date for oil shale: The Estonian nLTS does not set a target for oil shale phase-out, and only mentions that the country will rely on the ETS until there are more cost-efficient ways. Taking into account the EU’s new climate and energy legislation, as well as the increasing carbon prices in the ETS, it no longer makes sense to keep the oil shale industry alive.

The oil shale industry will already lose its competitiveness by 2028 [12]. Planning its phase-out and a just transition for the oil shale sector workers should be one of the main components of Estonia’s long-term decarbonisation vision.

Vague targets and unclear trajectories make room for political inconsistencies: In many sectors and indicators, the nLTS fails to provide clear trajectories to reach climate neutrality. For instance, the nLTS outlines that the share of renewable energy should be increased, but does not specify the timeline and benchmarks for achieving that. Also, the Strategy addresses enhancement of removals and carbon sinks but does not define the exact share of removals in reaching the set greenhouse gas emissions reduction target. There is no estimated trajectory on biomass demand or supply, nor assessments of the source and impact on natural carbon sinks. According to projections, the LULUCF sector is expected to become a source of emissions from 2031 onwards [13], as the use of timber in the energy sector has a negative influence on forests’ carbon sequestration ability.

[11] According to the calculations of Estonian civil society

[12] KPMG Baltics OÜ, 2020, Põlevkiviõli väärtusahela loodav Eesti rahvuslik rikkus, lk 47. https://keemia.ee/sites/default/files/2020-12/Final_Polevkivioli_rahvuslik_rikkus_O.pdf

[13] https://old.envir.ee/sites/default/files/Kliima/ghg_projections_pams_estonia_2021_15.03.21_3.pdf

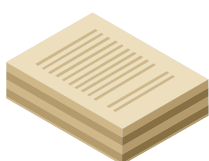


In addition, some of the principles becoming more important in climate policy are not considered. This includes developing a decentralised renewables focused energy transition to ensure energy security and reducing transport demand.

Furthermore, the nLTS does not contain sufficient information on the needed climate and energy-related investments, their potential financial sources, their co- benefits and the costs of inaction.

Fails to specify the role of energy efficiency in achieving climate neutrality: The nLTS does not include enough information on specific measures and plans to implement the energy efficiency first principle. Given that the NECP is partly based on the nLTS, the missed opportunity to mention energy efficiency potential in the latter document has much bigger policy implications on the country's short and long-term policies.

In its NECP recommendations, the European Commission [14], stated that the plan does not indicate how the energy efficiency first principle will be taken into account. Given that Estonia's contributions to the 2030 EU target are of modest ambition for primary energy consumption, and of very low ambition for final energy consumption, without substantial short and long-term policy revisions, it seems impossible to reach national targets for final energy consumption [15].



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

It is difficult to assess the consistency, alignment and sustainability of short and long-term policies as the nLTS does not indicate how the implementation of different long-term policies will be monitored and how sustainability criteria, for renewables and biomass etc., will be implemented.

The Estonian nLTS promises a long process of deliberation. It states that as of 2019, the Government will present the Parliament with a report on considering the main principles of climate policy in the preparation and implementation of cross-sectoral and sectoral strategies every four years. It also says that climate policy until 2050 will be reviewed and if necessary, updated every four years. By mid 2021, no Parliament hearing had taken place. Estonian NGOs expect that the government will start discussing the revision of the document by the end of 2021.



RECOMMENDATIONS

Given all the missed opportunities in the Estonian nLTS to align the country's climate and energy policies with the 1.5°C objective of the Paris Agreement, an urgent revision of the strategy seems necessary. This revision should take into account the following recommendations:

[14] https://ec.europa.eu/energy/sites/default/files/documents/staff_working_document_assessment_necp_estonia_et.pdf

[15] Kirsimaa, K., Peterson, K. 2018. Kas Eesti täidab Pariisi kliimakokkulepet? SEI Tallinn, lk 18. <https://cdn.sei.org/wp-content/uploads/2018/11/kas-eesti-taidab-pariisi-kliimakokkulepet-23.11.pdf>



Include a clear oil shale phase-out plan in the nLTS: In February 2021, the Estonian government announced its decision to phase out oil shale in electricity generation by 2035 and in the energy sector by 2040. In order to reach the Paris Agreement objectives, this timeline should be even more ambitious and integrated in the long-term strategy with a clear just transition plan and commitment to not open the door to the fossil fuel industry in the long run.

Set the goal to achieve a 100% renewable energy system: Instead of using projections on the growth potential of renewables, the nLTS should set the goal of a 100% renewables energy system and outline specific measures to achieve that.

Include calculations and analysis on how removals are accounted to reach net zero and describe the strategy to increase the level of natural carbon sink. For example, in comparison to the time when the strategy was adopted, the demand for biomass has increased, which results in cutting forests at a level that does not allow Estonia to achieve its climate goals.

Update the nLTS in order include the country's long-term vision and trajectories to achieve climate neutrality well before 2050, and to give clear guidance for the NECP and other short- and medium term policies and measures for all targets and sectors. At the same time the strategy needs to be open for continuous deliberation and improvement in order to respond to emergent needs in climate action. It also needs to include targets for 2030, 2040 and 2050.



HUNGARY

The Hungarian Government adopted the country's national Long-Term Strategy (called the 'National Clean Development Strategy') in early September 2021. The adoption came after a lengthy drafting process marked by a wide-scale but unpredictable series of consultations over the last two years. Meanwhile, in 2020, the Parliament passed an Act targeting climate neutrality by 2050.

The Strategy sets a climate neutrality by 2050 goal. It also refers to the Paris Agreement and the European Council decision of December 2020 to increase the climate target to at least 55% net emissions by 2030.

The Strategy draws up three scenarios (Business as Usual, Late Action and Early Action) for the country's development path until 2050 and describes their contribution to greenhouse gas emissions reduction, the use of renewables and implications for various sectors of the economy. Both the Late Action (LA) and the Early Action (EA) scenario claim to achieve climate neutrality by 2050 and fit the EU's at least 55% net greenhouse gas reduction target by 2030. However, none of the scenarios go beyond the short and long-term targets. Their trajectories diverge mainly beyond 2030, with the Late Action scenario following a more gradual reduction path. The Strategy includes a profound overview of the costs and benefits of both the Late Action and the Early Action scenarios (as compared to the costs of inaction) and states that "considering avoided costs and added benefits, **the Early Action scenario is the most cost-effective scenario.**"

As for the share of renewable energy sources in gross final energy consumption, the Early Action scenario targets 27% by 2030 (whereas the NECP aimed at 21%). This level is expected to remain constant by 2040. By 2050, renewables would provide approximately 49% of total primary energy supply and 90% of electricity production. The nLTS, however, does not provide consistent and comparable data. It also fails to base Hungary's energy supply 100% on renewable energy sources.

Regarding the target for energy efficiency, the total final energy consumption according to the Early Action scenario should be considerably lower than the Business As Usual scenario in 2030 (net 709 PJ, gross 734 PJ vs. 782 PJ), reaching net 538 PJ by 2050. This is far from the 32.5 or 40% EU target but still more ambitious than the NECP (785 PJ).

The nLTS does not specifically aim to fully phase-out all fossil fuels and foresees a phase-out of coal by 2050, which is too late.

The Hungarian nLTS in its current form, with the preference of the Early Action scenario, is already a big step forward compared to previous climate policy documents and targets. However, it still lags behind the requirements of the Paris Agreement.



OPPORTUNITIES AND GAPS IN THE HUNGARIAN NLTS

The following policies and measures in the Hungarian nLTS represent opportunities to accelerate the energy transition:

Raising awareness on the much needed just transition: The nLTS includes valuable chapters on education, awareness-raising (with a role for both the government and a wide variety of stakeholders), the role and tools for the development of sustainable production and consumption patterns, the management (toolkit) of just transition (including education, employment, incubation of enterprises, green innovation etc.). It is crucial that these measures materialise.



Financing the transition: The Strategy also includes a profound proposal on financing schemes, elaborated with the strong advice of the National Bank and other financial stakeholders. This includes the introduction of green investment funds, green bonds, green mortgage loans, a national green guarantee institute, sustainable stock market, green budgeting and reporting, a carbon pricing scheme, even though voluntary etc.

Acknowledging the role of energy communities and energy savings: The Strategy mentions the concept of prosumerism and energy communities in the context of potential financing tools worth exploring at an increasing scale. It notes that they have the benefit of not burdening the grid with the volatility of renewable energy production and supply. Looking at the scenarios however, much more space and scope needs to be devoted to such decentralised energy production and consumption based on a wide variety of renewable energy sources. This should be coupled with removing regulatory barriers from exploiting the potential of wind energy [16].

The Strategy also acknowledges the **high potential of energy saving in households** and aims to exploit it via renovation, via the construction of new, energy efficient buildings and the replacement of low-efficiency household appliances/machinery. Fossil energy boilers in households would be replaced mainly by solar, and by heat pumps, with hydrogen, even if preferably RES-based, used as a transition fuel to a small extent around 2040.

In terms of **renovation**, however, the Strategy does not express preference for deep (or at least a moderate level of) renovation. The Strategy fails to provide a quantified timeline for the necessary/targeted scale of building renovation, although we assume such calculation must have been made (maybe in an annex that is not available) because the Strategy gives a cost estimation for it. While the chapter on financing acknowledges the need for a complex state funding system for building refurbishment, and lists a variety of financing schemes for this, the description of the sector-specific policies seems to rely mainly on energy efficiency obligation schemes (EEOS) for residential buildings. It would be crucial for all target groups (low-income/energy poor as a priority) to be provided the most suitable financing schemes (identified according to their needs, motivations and barriers; including refundable and non-refundable support etc.).

Unfortunately, some policies and measures in the Hungarian nLTS miss the opportunity to accelerate the energy transition. These include:

Conservative and techno-optimistic approach to the energy mix: the Hungarian nLTS relies heavily on nuclear energy and adjusts both the rest of energy supply and the structure of energy demand to that. It also relies heavily on the latest technologies and those in the development phase, eg. hydrogen (mostly renewables based), carbon capture, utilisation and storage (including the combustion of biomass, as coupled with CCUS technology), innovation-based, intensified agriculture such as precision farming etc. Regarding renewable energy sources, the Strategy is biased towards solar, biofuels and biomass, seeing a big potential in biomass-based electricity production with CCUS technology that can be accounted for as negative emissions. The Strategy completely disregards the potential of wind energy and fails to consider geothermal a substantial source of energy.

The strategy looks at gas as a transition fuel which is underlined by the latest news on the signing of the agreement with Russia on the provision of gas for another 10-15 years [17].

[16] https://energiaklub.hu/files/study/Energiaklub_Sz%C3%A9lenergia%20a%2021.%20sz%C3%A1zadban_2.pdf
<https://energiaklub.hu/en/news/wind-power-is-an-essential-part-of-modern-energy-systems-even-in-hungary-4875>
[17] <https://hungarytoday.hu/hungary-russia-gas-delivery-deal-long-time-agreement/>



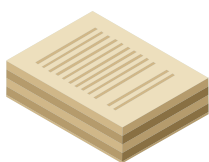
HUNGARY

Missed opportunities for the reduction of air traffic and transport needs: For transport, the Strategy does not aim to reach zero emissions but to cut emissions to 16% of the 2020 level by 2050. In terms of energy consumption, the scale (energy demand) of road transport would remain almost constant, and emissions reduction would mainly be achieved through electrification. A substantial reduction in the number of flights is not foreseen - the Strategy only sees minor potential in shifting short-distance air traffic to high-speed rail. The reduction of transport needs (and thus energy demand) through measures like teleworking, short supply chains etc. is not taken into consideration.

Electrification as the only alternative to fossil-based heating: This shift carries high energy security risks. With mainly solar and nuclear on the supply side and heating and transport high on the demand side, on cloudy winter days, when the sun doesn't shine and wind doesn't blow enough, not even the Paks nuclear plant is likely to be able to serve the demand and the country may need to import electricity. Out of 69 PJ total energy consumption of households, 65 PJ is expected to be covered from electricity in 2050. However, the expected composition of electricity used by households is not specified, nor is it relevant what percentage of electricity is used for various purposes (espec. heating/cooling vs. cooking etc.) in households.

Limited public consultation: The drafting process of the nLTS was, despite the government's effort to involve the general public and stakeholders to varying extent, rather opaque. In November 2019, an online questionnaire was made available to the public on the ministry's website for one week. It was published without a significant effort to raise awareness of the consultation. It was probably largely thanks to stakeholders' awareness-raising that 200,000 respondents filled in the questionnaire. The first draft of the Strategy was then published in January 2020 (and submitted to the European Commission as a draft). This was followed by stakeholder consultations during 2020 which lacked a clear timeline of how long the consultation process would last, and failed to state when a new draft or a final version would be published. The government promised to carry out a strategic environmental assessment for the nLTS but it was not apparent when and in which form it happened (environmental NGOs were not notified). In the end, the Government adopted the final version of the Strategy on 3 Sept 2021 and published it a week later. Its annexes were not published so the calculations and Strategic Environment Assessment forming the basis of the nLTS are not visible.

No process for monitoring implementation: There are practically no safeguards to guarantee the implementation of the nLTS. Its implementation relies on existing mechanisms, i.e. UNFCCC and EU reporting requirements and the mechanisms for the NECP. (The NECP lists a number of institutions who are 'affected' by its implementation but their role in monitoring and safeguarding is not specified.)



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

The nLTS is already more ambitious than the NECP and notes that the NECP needs to be updated along the targets set in nLTS. Being a long-term strategy, the nLTS is much less detailed when it comes to the description of measures. It proposes a set of approaches and tools (policy, regulatory, financing etc.) that should be applied, leaving the specifics of the scale and related financial allocation to implementing documents.

The nLTS assesses the scale of European Union funds (including Cohesion, Recovery, Just Transition, ETS and direct EU programmes like the Modernisation Fund etc.) potentially available to Hungary between 2021-2030 and declares this amount exceeds 10 billion EUR. However, it does not rule out using these funds for climate-destructive purposes.



HUNGARY



RECOMMENDATIONS

In order to fully tap the potential of the Hungarian nLTS, the following actions must be urgently considered:

Reduce total national energy demand and phase out all fossil fuels as early as possible (eg. reducing energy use via short supply chains, teleworking, deep renovation etc.). Diversify the energy (especially heat) supply in the building sector.

Focus the Strategy on an energy mix phasing out nuclear energy and exploiting a wider scale of renewables in small-scale, decentralised manner, with a higher (specified) share of citizen-owned energy communities.

Publish all annexes and supporting documents (underlying studies, assessments) of the nLTS.

Set safeguards to monitor the implementation of policies and measures: The design of implementation documents including subsequent strategies (eg. Long-term Renovation Strategy, Waste Management Strategy and Plan, National Waste Prevention Programme, National Sustainable Capital Market Strategy, RDI Strategy, Hydrogen Strategy, NECP etc.) should undergo public and stakeholder consultation.

The Government should set up a clear timeline for **regular and transparent consultations with stakeholders** (including advisory bodies like the National Environment Council and National Council for Sustainable Development etc.) on the progress of the nLTS and its implementing measures. It should also report to the national Parliament on an annual basis.

Develop the framework of a national social-economic tool to ensure the absolute reduction of energy demand and fossil use: The climate protection incentive system (carbon pricing) should be strengthened, including a fossil fuel consumption allowance trading system where the total amount of allowances distributed decreases year by year, ensuring a timely real reduction of fossil energy use. Allowances can be converted into green money (a money substitute) which can be exchanged for goods or services in a closed trading system (a green market). The system should be also backed by a revolving fund providing interest-free loans in green money that is also repayable in the same green money currency [18]. This would create an opportunity for everyone to invest and save, improve social justice, and contribute to a significant reduction in environmental pressures through the restructuring of the economy.

[18] https://mtvsz.hu/uploads/files/life_affirming_FoE_HU_recommendations.pdf



Poland has neither prepared nor submitted its long-term strategy to the Commission. Instead of preparing a long-term strategy that embraces the EU's Green Deal objectives, and paves the way for a Paris compatible energy transition, Poland has prepared a fossil fuel addicted "Polish Energy Policy" until 2040. This document coordinated by the State Treasury is actually protecting state owned energy companies like ORLEN and LOTOS (crude oil refineries), PGNiG (natural gas distributor and seller) and four big electricity companies (PGE, TAURON, ENEA, ENERGA).

This goes against the definition and objective of national long-term strategies defined in the Governance Regulation where Member States are expected to present a decarbonisation perspective for the next 30 years.

Currently, there is an effort to prepare the Polish Long-Term Strategy and therefore the Ministry for Economic Development and Technology organised a working group. At the time of publishing this report, one meeting has been held. Polish civil society is being told that the nLTS is in consultation among different ministries but no document has been made publicly available yet.

Having a long-term climate and energy vision that creates synergies to accelerate investments for a clean and just energy transition, while leaving no one behind, is of utmost importance for Poland. Companies and investors in the country have been struggling with the lack of a long-term energy perspective which could give them policy certainty and guidance.



RECOMMENDATIONS

Develop a national Long-Term Strategy that aims to contribute to the European Green Deal's objectives and helps the EU achieve its Paris Agreement goals: It is unacceptable that Poland keeps postponing its climate action, while the devastating impacts of climate change keep affecting society [19]. The European Commission must follow up on the missing nLTS document and encourage Poland to use this document to align its climate and energy targets with the European Green Deal's objectives.

It is also important to note that there has not been any public consultation on the preparation of nLTS which is an important reason for concern. During the public consultation on the programming of EU funds, there was a well-established process of public hearings and 'reverse' public hearings. During a public hearing, NGOs and citizens could express their plea or opinion on the document. During a 'reverse' public hearing, the government explained how they used the opinions and included the pleas into the document. Parallel to the hearings, a written consultation also took place. A similar public participation process should apply to designing Poland's decarbonisation pathways in its forthcoming nLTS.

Besides a clear commitment to climate neutrality by 2050, the Polish nLTS must include the following policies and measures:

- massive energy efficiency increase, with the use of ESCO mechanisms and any other mechanism that would boost energy savings on the consumer side;

[19] The EUI estimates that the global economy will be 3 percent smaller by 2050 due to lack of climate resilience. Climate costs as share of GDP by 2050 in Europe will be like the followings: Eastern Europe (3%), Western Europe (1.7%)
<https://www.eiu.com/n/global-economy-will-be-3-percent-smaller-by-2050-due-to-lack-of-climate-resilience/>



- fast development of prosumer electricity generation, with a strong role for energy cooperatives and energy storage to build energy security from the bottom. This should include greater use of locally created financial flows and mechanisms, rather than external funding support;
- strong shift in transport policies towards developing more railways, public transport and infrastructure for bicycles, including energy and transport efficient spatial planning;
- nature based solutions in cities and elsewhere to change the way water is used in the Polish hydrological system and increase carbon sinks;
- strong ecological education that would lead to behavioral change, such as reducing the use of private cars, increasing public transport, diet change, reducing food waste and hierarchical waste management, encouraging prosumers, decreasing the use of airplanes etc.

Finally, if the Polish nLTS is to ensure a clean and fair energy transition in the country, it should definitely avoid the following problematic measures from the “Polish Energy Policy” up to 2040 :

- **Missed opportunity on energy efficiency:** which results in the policy of very high demand for new power in the energy grid. According to the Institute for Sustainable Development Poland’s assessment, about 50% of new planned power plants would not be necessary if energy efficiency analyses were to be made for Poland.
- **Failure to deploy renewable energy:** in the “Polish Energy Policy” document, it is assumed that the current state owned energy companies should maintain their role in the energy mix. The renewable energy objective is only 23-25% in 2030, whereas the technical and economical situation already allows for much more renewable energy to be delivered, mostly through small energy installations. The Polish think-tank Forum Energy estimated that in 2030 the share of renewables could reach 43%.
- **Coal-exit date:** A 2030 coal phase out date for Poland must be enshrined in its nLTS. Currently the closing dates given for coal mines and coal-fired power plants are either too late in relation to the needs, or their just transition potential and dates are not assessed. The Polish nLTS should definitely include an early coal phase out date and a well designed Just Transition plan.
- **Replacing coal with natural gas:** This is going to lock the country in fossil fuels for the coming decades and these natural gas investments risk ending up as stranded assets. Replacing one fossil fuel with another is very risky and short-sighted. Poland must design its transition from fossil fuels to renewable energy in its nLTS.

Finally, the Polish Energy Policy plans to introduce nuclear energy in large units. This is a threat to the clean energy transition as it would block the deployment of renewables and take up all the financial resources. In no way will it help the country to achieve climate neutrality in time.



The Portuguese national Long-Term Strategy is in line with the EU's objective of reaching climate neutrality by 2050. However, Portugal should update its climate neutrality goal and advance the date to 2040 by the latest to ensure that the EU does its fair share under the Paris Agreement.

The Portuguese nLTS derives from a modeling exercise (TIMES model) that takes possible technologies for different sectors and respective prices into account. It also considers different socio-economic scenarios for 2050. Based on the results of this modeling exercise, the government has made a significant effort to involve stakeholders and identify the most cost-effective and socially acceptable transformation pathway.

However, since the technologies are evolving very fast, and renewable prices are going down, this modeling exercise should be repeated to reflect the current circumstances. In addition, Portugal has anticipated its coal phase out date from 2023 to 2021. This is also an important element of the country's decarbonisation plan which is not currently reflected in the nLTS.



OPPORTUNITIES AND GAPS IN THE PORTUGUESE NLTS

Accelerate further investment in renewables and support energy communities: The Portuguese nLTS includes renewable energy targets that are in line with the country's climate neutrality by 2050 objective. However, studies show that due to decreasing renewable prices, the country can rapidly accelerate its investments in renewables. For instance, the Portuguese Renewable Energy Association, APREN's [20] recent study shows that Portugal could produce approximately 90% of its electricity from renewable energy sources by 2030, which is much higher than the potential considered in the nLTS. This includes a much greater potential for the development of offshore wind. Therefore, more investments should be allocated to renewables to accelerate the decarbonisation of the energy sector.

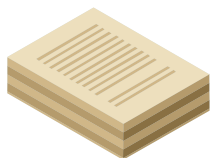
The Portuguese nLTS acknowledges the role of energy communities in the decarbonisation of the energy sector and foresees their development, mainly after 2030. However, it is possible and desirable to develop energy communities before 2030, if current obstacles to their expansion are removed. The Renewable Energy Directive requires Member States to create an enabling framework to promote the development of renewable energy communities. These enabling frameworks must include policies and measures on the removal of unjustified regulatory and administrative barriers, tools to help renewable energy communities to access finance and information and capacity building. This would provide a level playing field for their development.

Room for improvement for transport policies and measures: Transport measures in the nLTS give priority to the electrification of road transport. However the nLTS neither addresses obstacles such as price and charging points to increase the number of electric vehicles especially for private use, nor does it mention measures to assure full circularity of battery materials, and the use of renewable energy sources. If these obstacles are overcome, Portugal can accelerate the decarbonisation of the transport sector and generalisation of electric vehicles.

[20] APREN, Impact of Renewable Electricity <https://www.apren.pt/pt/publicacoes/apren/impacto-da-eletricidade-de-origem-renovavel/>



PORTUGAL



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

The Portuguese nLTS and NECP are prepared through parallel processes, therefore they are well aligned. However, these documents are not designed as living documents that might integrate recent policy updates. For instance, Portugal has recently prepared and published its National Hydrogen Strategy which foresees a faster development of green hydrogen. The incorporation of this strategy into the nLTS (and in the NECP) could further accelerate decarbonization and allow for the achievement of the targets sooner than expected.



RECOMMENDATIONS

Revision of the nLTS in line with the Paris Agreement's 1.5°C objective: With its advanced coal phase out date and huge renewables potential, Portugal can achieve carbon neutrality sooner. Therefore, it should revise its nLTS by integrating other recently developed policies and measures, and take into account the decrease in renewable prices.

Development of additional measures to reduce transport emissions: Despite measures to accelerate the electrification of road transport, the nLTS falls short of supporting public transport. The strategy should be further developed to include measures restricting individual road transport in cities and promoting public transport.

In addition, railway transportation was not considered enough in the Portuguese nLTS and should be further promoted. Despite the urgent need for investment in renewing existing railway infrastructure and broadening its coverage, investment has declined in recent years. Finally, it is essential to improve the Lisbon-Oporto route to represent a viable alternative to road and air transport and to develop the Lisbon-Madrid route faster.



SLOVENIA

Slovenia's national Long-Term Strategy (nLTS), which was adopted by the Slovenian parliament in July 2021, aims to achieve net zero emissions by 2050. To reach net zero by 2050 Slovenia plans to reduce greenhouse gas emissions by 80-90% compared to 2005. The LULUCF target for 2050 is a net sink of at least -2,500 kt CO₂ eq. For renewable energy sources, the strategy sets a target of a total share of 60% by 2050. For energy efficiency, the goal is to ensure that final energy consumption in 2050 does not exceed 40TWh. Based on the latest scientific data, to do its fair share to limit temperature rises to 1.5°C, Slovenia needs to significantly strengthen its targets and measures by 2030 and bring them in line with new EU climate targets and beyond.

Although the Slovenian nLTS was adopted after the EU agreed to increase its 2030 climate targets, it does not reflect the need to increase ambition by 2030 at national level [21] to accelerate the transition to a low carbon economy. It is also very disappointing that the nLTS does not set an end date for the use of coal, nor does it plan for a 100% renewable energy system as soon as possible. Instead, it includes plans to build a new nuclear power plant.

In addition, the Slovenian nLTS relies heavily on carbon sinks which are expected to contribute between 10% and 20% to the climate neutrality target. This calculation does not take into account the current poor condition of Slovenian forests, which have already become a source of CO₂ emissions due to recent natural disasters and pest attacks. Climate change induced extreme weather events and the potential reduction of sinks are not taken into account in the projections of the Slovenian nLTS. The intensity of natural disasters is defined only as a circumstance, an indicator of the resulting climate change, and not as a fact that should be taken into account. Such a scenario does not inspire confidence that Slovenia will actually achieve climate neutrality by 2050.

The national Long-Term Strategy should be a national climate agreement that guides the preparation of other sectoral strategy documents. In its current form, it summarises existing plans uncritically, leaving the ambition setting role to plans that still need to be prepared.



OPPORTUNITIES AND GAPS IN THE SLOVENIAN NLTS

Missed opportunity for accelerating the deployment of renewables: Slovenia's nLTS envisages an increase in the share of renewables in final energy consumption in all sectors: transport, electricity, heat consumption and cooling. The total share of renewables will reach at least 60% by 2050, while the 2030 target is set at 27%. In order to achieve the decarbonation goals, the strategy analyses only two scenarios. In both scenarios 60% of total energy use is covered by renewables, while the rest is either covered by an additional nuclear power plant or by the use of natural synthetic gas. With only two scenarios, the Slovenian nLTS makes a political decision on the long-term use of nuclear energy without consulting the public and without carrying out a strategic environmental assessment. Furthermore, it paves the way for investment planning for a new unit at the Krško nuclear power plant.

There is increasing evidence that there is far more potential for renewables in Slovenia. During the preparation of Slovenia's Energy Concept, nine scenarios [22] were presented and evaluated, which include

[21] The targets in the Slovenian NECP have been criticized by international organisations and the European Commission in the past, due to its unambitious goals and measures. Please see here: <https://focus.si/slovenija-v-bruselj-poslala-najslabsi-osnutek-energetsko-podnebnega-nacrta/>

[22] https://www.energetika-portal.si/fileadmin/dokumenti/publikacije/eks/razprava_jun_2017/eks_priloga1.pdf

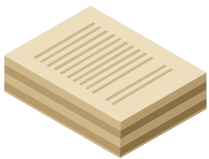


SLOVENIA

“the intensive renewables scenario” with an objective to achieve a renewables share of 39.9% by 2030, and a long-term climate target of reducing greenhouse gas emissions by 80% by 2050. It is clear that the intensive renewables scenario will lead to faster decarbonisation and more radical emission reductions.

Another study by the Institute Jožef Stefan [23] shows that the technical potential of solar power plants in Slovenia (on existing buildings and degraded areas) is estimated at more than 27 TWh per year, which is almost twice the current electricity production in Slovenia. It also states that achieving the 100% renewables scenario by installing 10,831 GWh of photovoltaic energy by 2050 (almost twice last year's electricity production at the Krško Nuclear Power Plant), requires an investment of €7.8 billion over three decades (2020-2050).

No mention about the Slovenian coal phase out date: The strategy fails to propose clear measures or a timetable for abandoning coal production in Slovenia. The document states that the timeline will be defined in the National Strategy for Coal Exit and the Restructuring of Coal Regions. Given that the Termoelektrarna Šoštanj coal power plant is the largest single greenhouse gas emissions source in the country, it is not realistic to plan Slovenia's long-term decarbonisation pathway without setting a coal phase out date. Slovenia, like other OECD countries, should set itself the goal of abandoning coal production by 2030 at the latest.



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

Slovenia should approach the climate crisis as ambitiously as possible. The speed of reducing emissions by 2030 will determine whether we will be able to limit the long-term catastrophic consequences of climate change. Hence, it is very problematic that the nLTS repeats the unambitious targets for 2030 already set out in the NECP and postpones climate action to the period between 2030-2050 by including steep reduction projections. In addition, urgent measures are postponed beyond 2030, jeopardising the achievement of the long-term goal, and likely to increase the cost of climate action.

Additionally there is a flawed approach to sectoral targets, in particular in transport and agriculture:

For transport emissions, which are expected to increase by 12% by 2030, the nLTS foresees a reduction of 90-99% by 2050, leaving the sector to figure out how to achieve this.

In the agriculture sector, the strategy makes it clear that it is not possible to reduce emissions by more than 5-22% by 2050. This estimation is unfounded and dangerous for the future of the agriculture sector that is very much exposed to climate impacts. Science reminds us that achieving the goals of the Paris Agreement will require changes and a radical reduction in greenhouse gas emissions in all sectors.

[23] https://www.podnebnapot2050.si/wp-content/uploads/2020/06/Deliverable_C_1_1-Part-5B-Potencial-son%C4%8Dnih-elektrarn-na-strehah-objektov-v-Sloveniji.pdf



SLOVENIA



RECOMMENDATIONS

During its EU presidency, Slovenia should lead by example and set Paris Agreement aligned targets and policies. In this regard, Slovenia should:

Announce Paris Agreement compatible long-term goals and scenarios: In order to achieve the Paris Agreement's 1.5°C objective, Slovenia must start preparations for a significant increase of its 2030 targets and the adjustment of the sectoral targets to reach climate neutrality before mid-century.

Take into account the need for an **urgent fossil fuel phase out** and make a decision to end the use of coal by 2030 at the latest to contribute constructively to the clean energy transition.

To ensure the alignment of the Slovenian nLTS with the Paris Agreement, Slovenia should also:

Analyse the current state of forests and include projections of forest changes due to further rises in temperature. This should feed into an impact assessment for increased nature protection and carbon sink targets.

Include sustainable and clean energy scenario(s) in the long-term strategy that do not envisage the construction of an additional nuclear reactor. These should be based on strong measures to reduce energy use, increase energy efficiency and the boost use of renewable energy sources, with special emphasis on solar and wind energy.

Prepare additional analysis of emission reduction potentials in the agriculture sector and develop measures to support this. Slovenia should accelerate the transition to a mostly plant-based, organic, and as local and wholesome diet as possible.

Significantly strengthen measures in the transport sector before 2030 to ensure a higher share of public passenger transport, a faster expansion of railway infrastructure and a much higher reduction in the share of passenger cars.



The Spanish Government's "Climate and Environmental Emergency" declaration, issued in January 2020, included pledges to pass a national Climate Law, set a decarbonisation pathway to climate neutrality by 2050, and form a Citizens' Assembly on climate change. After a rapid consultation, the Government approved Spain's national Long-Term Strategy in November 2020, setting out a roadmap for 2050, with intermediate milestones in 2030 and 2040. To reach its climate neutrality target, the Strategy aims to reduce emissions by 90% in 2050 compared to 1990, with the remainder (37 MtCO₂-eq) absorbed by natural carbon sinks. This will require a deep transformation of all sectors of the economy.



OPPORTUNITIES AND GAPS IN THE SPANISH NLTS

As IPCC Report shows [24], even the possible 1.5°C end-of-century target would have grave implications for Spain and the Mediterranean Region. To avoid the worsening impacts of the climate crisis and achieve net zero emissions before 2050, the following targets, policies and measures will play a key role and have great potential to be upscaled:

Energy targets are on the right track, but there is still room to accelerate: According to the Spanish nLTS, primary energy consumption would halve from 2021 to 2050, thanks to advances in the use of renewable energy, energy efficiency, the circular economy and behavioural change. The nearly 100% renewable coverage of final energy consumption is due to decarbonisation of electricity (100% renewables in energy end use); transport (79%); and heating and cooling in buildings and partly in industry (97%). The electrification of final energy use would double, from 26% in 2020 to 52% in 2050, with the remainder of the renewable total coming from renewable fuels and end-use renewable energy. The Spanish Recovery and Resilience Plan (RRP) offers a unique opportunity for a 'fast start' towards reaching climate neutrality much sooner than 2050.

Fostering the green urban agenda: prosumerism, efficient buildings and sustainable transport: Specific measures for faster energy decarbonisation and reduced energy consumption have been identified in the nLTS, including the promotion of prosumerism and energy communities. Even though these do not have specific trajectories or objectives, strong progress is expected in the coming years driven by EU and national energy policies. The National Prosumerism Strategy is due by late 2021, and further legislation is expected to boost the formation of renewable energy communities, which according to Friends of the Earth Spain [25] could cover 60% of total electricity demand by 2030. Both energy production models will receive significant funding from the Spanish RRP by 2023.

For energy efficiency, the nLTS foresees a gradual decarbonisation of the building sector, reaching zero emissions by 2050. Proposed measures by 2030 include: the rehabilitation of existing buildings and the promotion of new buildings with nearly net zero energy consumption; the promotion of thermal renewables and electrification in buildings; housing renovation to improve thermal insulation (reaching 1.2 million homes by 2030) and renew thermal installations (300,000 homes/year by 2030).

[24] <https://www.ipcc.ch/report/ar6/wg1/>

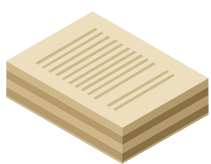
[25] <https://www.tierra.org/las-comunidades-energeticas-podrian-cubrir-el-60-de-la-demanda-electrica-total-de-espana/>



In 2019, transport represented 27% of Spain's greenhouse gas emissions (91 MtCO₂-eq). A profound transformation is needed, with modal and behavioural shifts and a change to zero-emission vehicles. The nLTS proposes to reduce transport emissions to near zero (2 MtCO₂-eq) by 2050, by first focusing on energy efficiency measures, including changes in mobility models and needs, and electrification (with a target of 5 million electric vehicles in use by 2030). However, the more challenging measures for heavy transport (road freight, aviation and shipping), will be left for later and they remain highly dependent on research & development.

Prioritising the conservation and restoration of natural carbon sinks: The Spanish nLTS recognises the crucial role of natural carbon sinks for reaching net zero emissions. However, there is little public awareness of the key role of sinks and the urgent need for their conservation and restoration. This is especially important in Spain given the climatic risks they face, in addition to existing threats to biodiversity. Thus, the early application of the measures proposed in the nLTS is vital to halt and reverse threats to their long-term removal and storage capacity. However, specific forestry measures must be applied carefully, especially if related to bioenergy use.

Spain's agricultural emissions are in the spotlight, while climate change impacts threaten the sector: Agriculture emissions in Spain have remained static or even increased during the last decade, and modelling suggests that nearly half of emissions in 2050 will be from this sector. Among the proposed nLTS measures, priorities must be directed to: crop management and soil conservation; livestock feed improvements; increased area under rotation in rainfed herbaceous crops, including legumes and avoiding monocultures; reduction of food waste; and promotion of organic farming, crops with lower water needs, the Mediterranean diet and local products. Technological measures directed at irrigation and fertilisers, the production of biogas and improved management and application of livestock manure and slurry, must minimise the risks of biodiversity loss, and water, air and soil pollution. In addition, the use of coated nitrogen fertilizers, nitrification inhibitors, and advanced tillage techniques, with as yet unproven climate benefits, should not be prioritised over other measures which may be more effective in reducing emissions from intensive cropland.



RELATION AND CONSISTENCY WITH THE NECP AND OTHER PLANNING DOCUMENTS

Consistency with the National Energy and Climate Plan (NECP): For the Spanish nLTS and NECP, the same energy system modelling (TIMES-Sinergia) is used. All sections and projections clearly demonstrate the continuity of the nLTS following the trends presented in the NECP. Logically, the level of detail available for the NECP (with a 2030 time horizon) is much higher than for the LTS (with a 2050 time horizon), and uncertainty increases with the longer time horizon.

Consistency with the National Adaptation Plan (NAP): Because climate change impacts are not evenly distributed across geography or society, the nLTS stresses the need to follow Just Transition principles to avoid or reverse social and territorial inequalities. Investing in adaptation will not only help improve resilience, but reduce the risks of serious economic losses through better social and territorial cohesion. The nLTS cites the need for transversal tools to create comprehensive adaptation and observation systems and regionalised climate scenarios, in line with the horizontal actions of the Spanish NAP 2021-2030.



Consistency with the Spanish Recovery and Resilience Plan (RRP): Spain's RRP allocates 39% of total funds (€27bn) to the green transition between 2021-2023, allowing several NECP measures to be brought forward, so some targets planned for 2025 may be met in 2023. Relevant investments for energy decarbonisation include: sustainable mobility (€13bn); renovation of buildings and urban regeneration (€7bn); renewables deployment and integration (around €3bn); renewable hydrogen (€1.5bn); electricity infrastructure, storage and smart grids (around €1.4bn); and Just Transition (€300 million, to be added to the Just Transition Fund). Other key actions for the net zero and adaptation goals include: preservation of the coast and water resources (€2bn), conservation and restoration of ecosystems and biodiversity (€1.6bn), and the environmental and digital transformation of the agri-food and fishing systems (€1bn).



RECOMMENDATIONS

Increase headline objectives: Spanish NGOs consider that Spain, as a developed country, should do more to help meet the global 1.5°C objective of the Paris Agreement, e.g. by reaching net zero by 2040 and setting more ambitious objectives for 2030. This would imply faster decarbonisation in all sectors, as well as accelerated energy efficiency. Spain should use all its renewable potential and new investment capacity to ensure a well-designed and coherent energy transition that respects biodiversity and people, complemented with some of the main measures foreseen in the Spanish RRP for the green transition.

Rapid deployment of renewables, with territorial planning and sustainability criteria: Current conflicts between large renewable electricity projects and biodiversity or agriculture, must be quickly resolved and avoided in the future if renewable electricity generation is to rise faster than the nLTS proposes. Actions needed include: clearer land-use planning and zoning policies; rigorous environmental assessment; greater responsibility from promoters of large projects; more transparency and public participation; removing delays for prosumer connections in built-up and degraded areas; faster progress with storage, and electricity grids and markets fit for 100% renewables; and better alignment of municipal, regional and national policies. The various bioenergy options proposed for electricity generation, heating and transport should only be pursued under strict sustainability criteria, given the value of forests as carbon sinks, and of composting and mulching wastes to maximise soil organic content, instead of burning them for energy.

Transport, buildings and heavy industry need an early, big push: The Spanish RRP and high carbon market prices offer significant opportunities for rapid progress in these sectors. The nLTS should prioritise: accelerating the shift from fossil-fuel powered cars and vans to electric alternatives and greater use of public transport, cycling and walking, and the decarbonisation of aviation, maritime and heavy road transport; a deep renovation of existing buildings, especially focused on tackling energy poverty; and bringing forward emission reductions in heavy industry, especially the refining, cement and steel sectors.

Strengthening natural carbon sinks and the conservation and restoration of carbon-rich ecosystems: The principal measures proposed in the Spanish nLTS on natural carbon sinks (forests, 'dehesa' woodlands and other pastures, wetlands, croplands) should be prioritised and further supported with new funding together with greater and better territorial coordination. The proposed creation of new woodland and promotion of sustainable forest management must respect biodiversity and wider sustainability criteria.

Enhancing agriculture's carbon sinks while reducing emissions. Given the climate vulnerability of this sector, the nLTS should identify the necessary reforms and transitions to reduce agriculture emissions and increase its carbon storage capacity and resilience. Along with the promotion of agroecological practices,



the Strategy should consider supporting the reduction in meat and dairy production and consumption. Also emissions from production, transformation and transport of concentrated feed, particularly from imports, should be addressed as a key action in reducing the carbon footprint of Spain's agriculture.

Joint, sustained efforts by present and future governments at all levels in Spain: In many areas of environmental and other policies in Spain, non-compliance with EU law is often due to delays, opposition or neglect from national, autonomous regional or municipal governments. Coordination between these authorities, and internally between different departments, must improve dramatically in order to align sectoral and territorial policies and budgets with LTS objectives. Continuity of approach between successive governments, even of different political parties, will also be crucial.



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unify@caneurope.org



unify.caneurope.org

