

20 June 2025

EUREC's review of European Commission's assessment of 23 final NECPs, with a focus on RES innovation

On 27 May, the European Commission released its 'EU-wide assessment of the final updated national energy and climate plans Delivering the Union's 2030 energy and climate objectives'. This is composed of (1) a <u>Communication</u> giving a general overview of EU countries' compliance with EU climate and energy objectives and (2) country-by-country assessments in a <u>Commission Staff Working Document</u>. The final 'NECPs', as they were sent by EU countries and published over the past year, can be found <u>here</u>.

Failing to reach collectively 42.5% RES

Out of the EU's 27 member states, 23 were included in the assessment. Belgium, Estonia, Poland and Slovakia were not included – where the first 3 had not submitted their plans by the date of publication, and Slovakia did so recently (too close to include it in the assessment). The European Commission committed to evaluate the remaining plans when they are ready.

In general terms, the Communication states that the 'EU is well on track to reach the 2030 targets of reducing net GHG emissions by at least 55% compared to 1990 [...], though further efforts are needed to reduce energy consumption by 11.7%'. The binding 2030 EU 42.5% renewable energy target is within reach – off by 1.5% - although the aspirational 45% objective is further out of reach.

While zooming into specific countries, it is clear that there are significant differences in ambition. The Renewable Energy Directive has a binding 2030 RES target at EU level, but no RES targets at individual level. The Commission uses a formula in Annex II of the <u>Governance Regulation</u> to determine whether a Member State's stated contribution is likely to result in the EU as a whole exceeding or falling short of its target. The blue markers in the chart below show what the EC would expect individual Member States to achieve so that the collective EU RES target is reached.



Chart 1 National contributions to the EU's renewable energy target per their final updated NECPs and (red/green colouring) whether EC considers them to be delivering or under-delivering on reaching the EU binding target. Source: <u>Communication</u> (Figure 4)

Only 5 countries with clear target for deploying i-RES

In 2023 and 2024 EUREC, using the draft NECPs available at the time from a representative sample of countries, published analysis of their ambition on

- i) new innovation-promoting measures for the decarbonisation of buildings (2023 report) and
- ii) the Renewable Energy Directive's innovative renewable energy technologies (shorthand: i-RES) deployment target of 5% of all new RES capacity to 2030 from such technologies, or their policies to support innovative renewable energy more generally (2024 report).

According to the European Commission's overview <u>Communication</u>, 10 countries aim to meet the i-RES target, but according to our review of the Staff Working Document, we reach a different count:

- 5 countries have dedicated i-RES targets Bulgaria, Latvia, Portugal, Slovenia and Finland
- 3 countries don't have explicit targets, but have relevant measures that put them close to having one Spain, Cyprus and the Netherlands
- 3 more have country projections that include innovative RES, but it's unclear in their plans if these projections are actual targets (this is a recurrent issue that also impacts other mandatory EU targets) Denmark, France and Italy

Concrete measures are hard to find in the NECPs' innovation section

According to the Commission assessment, the plans' coverage of the 'Competitiveness, research and innovation' dimension (shorthand: 'RIC dimension') often lack defined instruments, dedicated funding and instrument to boost competitiveness in clean technology manufacturing. Some plans list promising measures on skills, circular economy and digitalisation.

Below is a table summarising our country-by-country take on the Staff Working Document's findings. The table also looks at whether a country implements the 5% innovative renewables target.

Country	i-RES target - Country has one? Other points of interest in RES dimension?	Points of interest from NECP dimension on 'Research, Innovation and Competitiveness'
Bulgaria	YES - Bulgaria sets a specific target of 6.2% for deployment of innovative renewable energy technologies by 2030.	No targets to support research, innovation and competitiveness in clean energy technologies. Instead, Bulgaria refers to numerous mid-term European funding programmes (2021- 2027) as the main source of funding.
Czechia	NO - It does not include an indicative target RES by 203	The plan includes a comprehensive approach, although it does not include targets to support research, innovation, and competitiveness in clean energy technologies, nor establishes a pathway to 2030 or 2050. No information on policies and measures for clean energy-related skills and resilient and sustainable supply chains.
Denmark	NO/UNCLEAR - Sector-specific projections, including for innovative renewable energy technologies, heating and cooling and renewables in buildings for 2030 are included, but the plan does not refer to these as specific national targets to achieve the sectoral targets of Directive	The plan includes national objectives in research, innovation, and competitiveness, and a trajectory to deploy clean technologies by 2030. It provides measures for the digitalisation of the energy system, promoting flexibility solutions in electricity via data, sector coupling and a strategy (2022-2025) for cyber and information security in the electricity, gas, and district heating sectors. It refers to development of skills but does not convincingly prevent a potential green skills gap from emerging. The plan does not contain clear national competitiveness targets contributing towards competitiveness.

Germany	NO - DE does not include an indicative target for i-RES by 2030. It has trajectories for all renewable technologies over the next 10 years, with an outlook to 2040. It also has 2030 projections for large industrial heat pumps and for district heat pumps.	The plan includes targets and measures to support research, innovation and investments in clean energy technologies, the manufacturing of clean energy technologies and equipment, and the digitalisation of the energy value chain. It includes information on measures and investments to bridge potential skills gaps. No specific breakdown of investment in research and innovation (R&I) for the energy sector.
Ireland	NO - There is no specific innovative RES target, but states that this will be addressed through different policy instruments. NECP includes projections and trajectories for renewable technologies and trajectories for renewables in heating and cooling, industry, and transport for 2030 - but not for buildings and DH&C.	The plan includes national objectives in research, innovation, and competitiveness to deploy clean technologies, establishing a pathway for 2030. Public investment in R&D was at 1.3% of Gross National Product in 2022 (all sectors) and Ireland has a target of boosting that to 2.5% of Gross National Income by 2030. It puts forward policies and measures to promote the development of net-zero projects, such as for offshore wind. No policies and measures for the digitalisation of the energy system, but some mentions of skills including apprenticeships and further education.
Greece	NO - No target for innovative RES. NECP includes estimated projections for renewable energy technologies over the next 10 years with an outlook to 2040.	The plan includes a comprehensive approach, although it does not include specific targets to support research, innovation, and competitiveness in clean energy technologies, establishing a pathway to 2030 and 2050. Significant policies and measures include scaling up manufacturing capacities in the value chain of zero-emission technologies and supporting innovative production processes like photovoltaics, offshore wind infrastructure, and hydrogen.
Spain	NO, but nearly - NECP does not include an indicative target for innovative RES by 2030, but it includes a plan to adopt such a target and measures expected to achieve it	The plan provides a comprehensive approach, including strategies and measures to support research, innovation (R&I) and investments in clean energy technologies, the circular economy and the digitalisation of the energy value chain. It does not include a specific breakdown of investment in R&I for the energy sector for 2030. It has policies and measures for the development of clean energy-related skills.

France	NO/UNCLEAR - There are sector-	It has a comprehensive approach,
	specific 2030 projections, including	including targets to support research,
	the different renewable energy	innovation, and competitiveness in
	carriers for heating and cooling,	clean energy technologies. It has
	district heating and cooling,	detailed policies and measures for the
	industry, buildings, transport and	digitalisation of the energy system, the
	innovative renewable energy	development of clean energy-related
	sources, but the plan does not	skills, and resilient and sustainable
	confirm whether those constitute	supply chains of key net-zero
	national targets or not. It does not	components and equipment. It also
	include an explicit contribution of	has concrete circular economy
	renewables to gross final energy	measures. Concrete objectives
	consumption by 2030 (i.e. main RES	include: the development of two
	target). An extrapolation of the	electrolyser gigafactories by 2030 for
	numbers France provided put it well	producing hydrogen from renewable
	below where it should be per an	and low-carbon energy sources.
	'Annex II' calculation (see chart 1).	together with a trajectory for hydrogen
		cost reduction; the development of
		manufacturing capacity of two million
		zero-emission vehicles by 2030, and
		associated battery gigafactories; the
		development of small modular nuclear
		reactors by 2035; as well as concrete
		roadmaps for the decarbonisation of 50
		emissions intensive plants in seven
		sectors.
Croatia	NO - No innovative RES target, also	The plan includes national goals on
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Cyprus	NO, but nearly, - NECP does not include an indicative target for innovative RES by 2030, but it includes a plan to adopt such a target and measures expected to achieve it. Level of ambition of general RES target in line with 'Annex II'.	The plan includes comprehensive approach, with specific targets to support research, innovation, and competitiveness in clean energy technologies, establishing a pathway to 2030 and 2050, but does not specify the support per technology. There are relevant skills programmes partly funded by RRF.
Latvia	YES - The plan has a target of 5% for deployment of innovative renewable energy technologies by 2030. The level of ambition of the general RES target in line with an 'Annex II' calculation. Latvia has measures to promote electrification in district heating and cooling, including on reducing the use of biomass in the sector after 2030, measures to gradually reduce fossil fuels in heating and cooling and industry.	The plan includes some national objectives in research, innovation, and competitiveness to deploy clean technologies. Significant policies and measures include increased support for digitalisation in energy and climate, e.g. through the establishment of the European Centre for Digital Innovation and Regional Hubs. It also supports regulatory sandboxes. The plan provides detailed policies and measures for the development of clean energy-related skills.
Lithuania	NO - The plan does not mention an i- RES target, nor for decarbonisation of industry or energy efficiency in buildings.	The plan includes national objectives in research, innovation, and competitiveness to deploy clean technologies. It makes an upward revision of the Smart Specialisation Strategy's budget (EUR 747M), the establishment of a Centre for the Development of Energy Technology (2024-2030) and a significant increase in the budget for planned measures in research, innovation and competitiveness.
Luxembourg	NO - Luxembourg has not included an indicative target for innovative renewable energy technologies by 2030, indicative sub-targets in buildings or in industry. The plan has trajectories for 2030 and 2040 but it does not confirm whether the included trajectories for different sectors constitute the specific targets that contribute to the sectoral targets.	The plan includes national targets or measures to support research, innovation and to deploy clean technologies. It has significant detail on circular economy R&I activities. It has policies and measures for the digitalisation of the energy system, and for skills in clean energy.

Hungary	NO - There is no mention of innovative RES target. The level of ambition of the general RES target is significantly below that derived from an 'Annex II' calculation. The plan does not incorporate a specific target for buildings, but the projected share of renewable energy, with a breakdown per technology, was revised upward (compared to draft), with a stronger emphasis on heat pumps.	The plan includes national objectives in research, innovation, and competitiveness to deploy clean technologies, although without establishing clear pathways to 2030 or 2050.The plan envisages the adoption of an "Industrial and Technological Action Plan" to support domestic manufacturing and competitiveness, but the timeline is unclear. It recognizes the importance of digitalisation, the development skills, and the strengthening of supply chains for key net-zero components and equipment, but it does not describe detailed policies and measures.
Malta	NO - The plan does not provide an indicative target for the deployment of innovative renewable energy. The level of ambition of its overall RES target is below that determined from 'Annex II'. It refers to support schemes for solar PV, but without quantifying their impacts or contribution towards achieving Malta's target of 24.5% renewables for 2030.It does not mention specific targets for buildings, industry and the heating and cooling sector.	The plan lacks a comprehensive approach and does not include targets to support research, innovation and competitiveness in clean energy technologies. It does not set a pathway to 2030 or 2050, nor measures to promote the development of net-zero projects, nor does it include information on policies and measures for the development of clean energy- related skills.
Netherlands	NO, but supports some tech deployment. The plan refers to plans to deploy innovative technologies (e.g. solar power at sea, offshore electrolysis), even though the Netherlands does not set a specific indicative target for innovative renewable energy. The level of ambition of the general RES target in line with an 'Annex II' calculation.	The plan includes national objectives in research, innovation and competitiveness to deploy clean technologies. It mentions a general target of 3% GDP spending on R&I (not energy specific). Significant policies and measures include the development of hydrogen infrastructure and production, additional capacity for nuclear energy and offshore wind parks in the Supplementary Roadmap Windenergie 2030. It includes policies and measures for digitalisation and developing skills. Projects are mentioned to develop resilient and sustainable supply chains for key net-zero components and equipment, in the field of solar PV (SolarNL), circular batteries and polymer materials. Circular economy considerations are well integrated throughout the plan.

Austria	NO - The plan does not contain the target on innovative renewable energy technologies, nor does it include specific targets to achieve the indicative sub-targets in buildings, transport and industry for 2030. It has a target of 1 GW of installed electrolyser capacity by 2030.	The plan includes a comprehensive approach, although it does not include specific targets to support research, innovation and competitiveness. There are relevant measures on skills and sustainable supply chains.
Portugal	YES - The plan states that offshore wind and wave capacity will lead to the achievement of the indicative target for innovative renewable energy technologies of at least 5% by 2030. The level of ambition of general RES target in line with an 'Annex II' calculation.	The plan includes national objectives for research and innovation in energy for 2030. It lacks information on concrete initiatives to promote the manufacturing of clean energy technologies and equipment, as well as on digitalisation. It has relevant measures on reskilling.
Romania	NO - It does not include an indicative target for innovative renewable energy. The level of ambition of the general RES target is a bit below that given from an 'Annex II' calculation.	The plan largely lacks a comprehensive approach that includes targets to support research, innovation and competitiveness in clean energy technologies, the manufacturing of clean energy technologies and equipment, and the digitalisation of the energy value chain. The specific national objectives and funding targets for clean energy remains unclear within the Romanian R&I strategy. Its references to funding for skills and upskilling are vague.
Slovenia	YES - Slovenia aims to install 5% of innovative renewable energy technologies but the level of ambition of its overall RES target is a significantly below the 'Annex II' calculation. It has a developed strategy for district heating, along with dedicated targets.	The plan provides a comprehensive approach, including targets to support research, innovation, and competitiveness. Significant policies and measures include an increase in R&D investment to reach at least 3.5% of GDP by 2030, planned increased cybersecurity in all strategic systems, support to the upgrade and deployment of research infrastructure. It has relevant and detailed measures supporting clean energy skills.

Finland	YES - Finland will endeavour to reach 5% the innovative renewable energy target. The level of ambition of the overall RES target in line with an 'Annex II' calculation. It has a target for RES use in industry, but not for building decarbonisation.	The final plan includes broad targets and objectives in research, innovation and competitiveness. Finland targets spending 4% of GDP on R&I by 2030, the spending coming both the public and private sectors. The plan does not include concrete policies or measures to promote the development of net- zero projects, but the government is preparing an eight-year plan on R&D funding and other aspects related to RDI policy. It does not set out measures on skills. Circular economy measures are well covered.
Sweden	NO - The plan does not have information on the innovative renewable energy target. The country intends to meet a significantly lower share of RES by 2030 than the one derived from an 'Annex II' calculation.	The plan does not include national objectives in research, innovation, and competitiveness to deploy clean technologies. It only partly details specific policies and measures to promote and implement research in the identified priority technological areas. Nonetheless, it puts forward policies and measures to promote the development of net-zero projects, such as Industry Leap, which can support projects running until up to 2031 and covers strategically important net zero technologies and activities (e.g. biofuels, hydrogen production, battery production, CCS).