



Danish non-paper: Delivering an EU Energy Union 2.0

A system fit for a greener future

The EU energy legislation needs to be ready for a future with a higher degree of fluctuating renewable energy in the energy system. It also needs to be designed in a way that will ensure the necessary steps to achieve the 2040 climate target and climate neutrality by 2050. This will require a revision of the energy legislation and a new take on what the EU energy architecture, which expires in 2030, should be after 2030. An updated strategy for an Energy Union 2.0 that sets out this new architecture should be a key priority for the next European Commission.

This strategy should focus on how to provide the right framework for a flexible energy system that can facilitate the electrification process and support system integration. It should also include a future-proof and post-crisis approach to security of supply for both gas and electricity, provide the right incentives for the deployment of large-scale hybrid projects and on- and offshore grid development and ensure the necessary financial backing from both public and private investments.

The green transition of the EU's energy sector has come a long way since the launch of the Energy Union in 2015. However, the energy transition is not fulfilled yet. Looking ahead towards 2040 the continued decarbonising of the energy sector will be a key driver in delivering on an EU 2040 climate target. This is also reflected by the European Council. The continued green transition of the energy sector, including deployment and development of renewable energy and green technologies, is also necessary for Europe to stay competitive in the global competition and ensure European businesses a place as frontrunners. Just as the rising geopolitical tensions and Russia's war of aggression in Ukraine call for a stronger focus on economic stability and de-risking of critical dependencies such as Europe's energy supply. EU needs an energy union, which is cost-effective, secures connections across borders and which exploits the full potential of renewable energy. This implies the right funding, both private and public.

A green energy system fit for the future beyond 2030 will need to focus on the following key elements:

- Incentivising direct and indirect electrification, system integration and the development of flexible resources necessary to support the integration of renewables.
- Providing the right incentives for renewable energy deployment, including large-scale projects with wider EU benefits.
- Ensuring the needed on- and offshore grid development at both transmission and distribution levels.
- Ensure an appropriate financial backing from both public and private investments.
- Developing a future-proof approach to security of supply, including a revision of the Gas Security of Supply Regulation.

Energy policy framework beyond 2030

Renewable energy and energy efficiency will continue to be the key deliverables beyond 2030 for Europe to succeed in reaching its climate targets. Different forms of renewable, low- and zero-carbon solutions will be needed, but the Commission's impact assessment for the EU 2040 target Communication clearly shows that the vast majority will come from renewable energy sources. It is key, that the European Commission analyses and explore further, whether the horizontal targets for renewable energy and energy efficiency should be prolonged, or whether it could be more cost-effective to replace these targets with a different horizontal target or objective. Such a target could at the same time set the necessary direction towards 2040 with substantial contributions from renewables, but also make it possible for those Member States that today produce low-carbon energy sources such as nuclear power to continue to pursue this as their path towards a transition. Some targets have shown to



be beneficial to help stimulate an industry such as greenhouse gas intensity reduction and biofuels while others, such as requirements for renovation of buildings and an annual energy savings obligation are overlapping and administrative burdensome. If an in-depth analysis shows the need to continue with horizontal targets, it would be important to ensure synergy between renewable energy and energy efficiency as these aspects become more and more interlinked. The analysis should also cover whether it is necessary to have sub-targets for e.g. heating/cooling, industry and transport as a measure after 2030 to steer the transition. Going forward, we need better alignment between regulations to minimize the administrative burdens, while steering the energy transition in the right direction towards climate neutrality.

Therefore, the Commission should focus on:

- Designing the most cost-effective and balanced energy policy framework after 2030, which includes all relevant measures necessary for reaching the 2040 target.
- Conducting an in-depth impact assessment that covers the advantages and disadvantages of prolonging horizontal targets and especially sub-targets embedded in the Energy Efficiency Directive and the Renewable Energy Directive
- Focus on simplifying the legislation in order to minimize the administrative burdens for businesses and public authorities.

Well-functioning internal market that delivers flexibility and security of supply

A flexible energy system creates the possibility to take advantage of and reduce risks, which a fluctuating energy production entails and is important to ensure a cost-effective green transition. A higher degree of electrification including fluctuating production and high demand calls for adequacy of supply. The last revision on the electricity market design was primarily focused on prices following the crisis, where we now need to shift the focus to long-term solutions to ensure an electricity market fit for the future. Households can also play a big part in achieving a flexible energy system if they consume electricity when the prices are low. Energy storage through district energy, thermal storage, Power-to-X production and batteries may need to be utilised to a higher degree than now. It is important to focus on removing barriers to flexibility. An example could be taking advantage of the batteries in cars by selling excess power back to the grid, which could both benefit grid stability and be a source of revenue for car owners. A key aspect of ensuring proper utilisation of renewable energy is also to ensure the availability of cross-zonal electricity capacity within the EU. As a way to ensure power adequacy and avoid the risk of power shortage, there is a need to support solutions that can deliver energy in critical periods.

Therefore, the Commission should focus on:

- Publishing a Flexibility Strategy, which ensures adequate sector integration; focuses on heating and cooling, an analysis of adequate bidding zone design and minimising potential legislative barriers.
- An adequate framework for utilising vehicle-to-grid where socio-economic efficiency and thereby using the batteries already at hand in the growing industry for electric cars. It may serve as a way of balancing the grid.
- Better use of the existing capacity of infrastructure through better enforcement of the EU requirements to ensure optimal conditions for cross-border electricity trade, removal of bottlenecks and that action is taken in case of non-compliance. This includes at least ensuring compliance with the 70 per cent capacity requirement across bidding zones. A step could be to look at strengthening ACER.
- A revision of Regulation (EU) 838/2010 regarding transmission charges would also be relevant to look into to ensure cost reflectiveness.
- Conducting an analysis of the need to ensure green strategic reserves e.g. by a combined heating and power plant, thermos power station and district heating.



Realising the EU offshore ambitions through large-scale offshore infrastructure projects

Offshore renewable energy represents a considerable part of the EU's renewable energy potential. Yet, the deployment of large-scale renewable energy projects is facing barriers that need to be tackled if we are to realise the offshore renewable potential and reach our climate and energy targets. Currently, the proper incentives to invest in the necessary cross-border grid projects are not there. On the one hand, there is not sufficient incentive for hosting Member States with the potential to export renewable electricity to make the upfront investments and facilitate tenders, when the profit margins are too thin and corresponding risks are too high. Therefore, it is clear that cost-sharing mechanisms will be important in order to realise the offshore renewable potential. They should ensure that consumers of net-exporting Member States are not burdened with the total costs of offshore grid investments needed to export electricity to Europe, which benefits other Member States. At the same time, there is not sufficient incentive for Member States, who are net importers of energy, to contribute to the realisation of renewable energy projects, if the imported renewable energy solutions have wider benefits beyond the directly connected Member State. Consequently, there is a need for an enabling framework that incentivises countries to contribute to these projects of joint European interest to ensure their realisation.

Therefore, the Commission should focus on:

- Putting forward an enabling framework with a cost and benefit sharing mechanism that enable TSOs and Member States to share all relevant investment costs, risks and benefits of offshore renewable projects of joint European interest, including infrastructure cost, in order to fulfil the EU offshore ambitions. Relevant to explore how to analyse and connect supply and demand for green electricity across Europe.
- Need to explore ways to address the collective action problem at the regional/sea-basin level, e.g. through looking at planning at the regional level by bundling projects, a regional offshore transmission entity to support TSOs or a regional offshore fund to bundle and distribute financing to ensure that the right projects are prioritised.
- A service check of existing regulation to make it fit for cross-border cooperation on large-scale renewable offshore projects such as hybrids. Important to ensure that sufficient monitoring, compliance, incentives and – in the end – sanctioning are in place.
- Ensure adequate access to existing EU funding in order to “cover the gap”, cf. section below.

Financing

In particular, hybrid projects (combination of a renewable energy source and transmission assets) have proven to be complex and difficult to fit into the context of the existing EU funding mechanisms, despite the fact that this kind of projects often have the largest EU benefit. Options and timelines for funding and financing energy projects in the future should be adjusted to facilitate faster access and account for, e.g., supply chains that demand earlier final investment decisions. Furthermore, EU funding should be better utilised as a stepping-stone to unlock additional private investments – instead of a sole focus on direct support.

Therefore, the Commission should focus on:

- Make existing funding fit for hybrids, as these can be difficult to “separate” into renewable energy generation and infrastructure deployment respectively when the project applies for funding. Consider a more flexible approach to the current Connecting Europe Facility (CEF) windows as well as any future funding and financing frameworks to ensure that projects are not stalled unnecessarily due to the timing of application rounds.
- Consider a step-based model for projects of common interest (PCI)s, projects of mutual interest (PMI) and cross-border renewable energy (CB-RES) to facilitate access to financing that can help realise the projects. Projects may, depending on their business cases, be better suited for certain loans, “bridging” investments or funding, or funding in case the project is of great European value but is not commercially viable, as is the case now. However, once a project has reached PCI, PMI or CB-RES status, the access to financing, including loans, private financing and direct funding, should cover more avenues and be better facilitated to get the projects realised and cover risks.



- ENTSO-E's work with Offshore Network Development Plans (ONDP)s could also contribute to this work by not only providing an overview of the investment needs but also scoring the projects on EU added values in terms of interconnectivity, security of supply, regional benefits, etc.
- Ensure a dedicated focus on supporting predictable funding opportunities when it comes to green projects, since these kind of projects are spread across various schemes, each with individual dynamics regarding scope, timelines, and different possibilities for funding accumulation.

Energy security

The energy crisis in 2022 highlighted the importance of both short and long-term security and predictability of energy supply. The energy crisis also showed that the electricity market served Europe well and it helped us maintain our security of supply and ensured the energy flow across borders. However, the crisis also highlighted some shortcomings in our ability to respond to unforeseen and unprecedented events, especially when it comes to the security of gas supply where the adoption of temporary measures proved necessary to reduce gas price fluctuations and enhance solidarity between member states. To ensure resilience a coordinated planning across various energy sources is needed to optimise cost efficiency and effectiveness. Additionally, safeguarding critical supply chains and critical infrastructure, both onshore and offshore, is crucial for supplying Europe with sufficient energy.

Therefore, the Commission should focus on:

- A revision of the Gas Security of Supply Regulation in order to ensure that the legislation is fit for the future in order to address future supply crises with simplicity and flexibility.
- Proposing an adequate framework for the protection of vulnerable consumers, conducting risk assessments and regional coordination among Member States.
- An assessment of the legislative need for measures regarding electricity shortage or electricity distribution in case of a crisis.

