CAN Europe's recommendations for the European Grids Package

The European Commission has announced its intention to publish an European Grids Package later this year, to integrate affordable renewable energy, support rapid electrification, and speed up permitting. CAN Europe welcomes the attention being given to our electricity network, and sees this as an opportunity to raise EU ambition and support a 100% renewable energy system, while lowering prices and better integrating our infrastructure with nature and communities.

Financing

The EU foresees a massive investment need for electricity grids of €730 billion for distribution and €472 billion for transmission grid until 2040, while the energy regulators envisage a growth of grid investments between €75 and €100 billion per year.

CAN Europe's Paris Agreement Compatible scenario foresees annual investment needs in transmission alone of €42 billion annually by 2040, in a system that halves today's energy demand.

Europe's Connecting Europe Facility for Energy (CEF-E) is hardly making a dent into the levels of investment needed. Under the MFF 2021-2027 period, €5.84 billion has been allocated to CEF-E. In response to a call in 2024, only €750 million was awarded to cross-border electricity projects[1], while €500 million was diverted towards hydrogen and CO2 infrastructure.

The current high interest rate environment not only makes it harder for system operators to raise private capital, but also can translate to higher network tariffs for consumers and industry, hitting the most vulnerable hard, dampening EU competitiveness, and stalling efforts to electrify demand.

Grid operators are also at risk of creating stranded assets as new cables are built in anticipation of new demand and generation materialising in the future. Rather than sourcing forms of flexibility, such as energy storage, system operators are still incentivised to build new infrastructure due to poor incentives under a CAPEX weighted regulatory framework.

Research commissioned by CAN Europe recommends the use of public financing in Europe to reduce grid costs and to help steer private investment towards grid infrastructure.[2] An Austrian study by the consumer rights organisation highlights that state-backed financing of

[1] European Commission (2025) Press Release
[2] CAN Europe/FÖS (2025) Powering the future: Balancing Grid Investments and Consumer Protection in Europe's Energy Transition

grids and longer payback periods can reduce total grid costs by 13.5%.[3] While research from the UK highlights having low interest rates for grid investment can lead to lower household bills.[4]

In light of this context, a European Grids Package should:

Increase the CEF-E for electricity projects: More dedicated EU financing is needed towards cross-border electricity infrastructure. However, any increase in the budget must be limited to new electricity projects, not towards fossil gas, hydrogen, or CO2.

The next MFF should focus on electricity projects: The next MFF needs dedicated funding for electricity grids, including at the distribution level. This can include Cohesion Funds and the Modernisation Fund. NextGenerationEU funding for grids will stop next year, and this money needs to be replaced.

Support EIB low-interest and State Aid: Low-interest loans from the European Investment Bank and State Aid not only help lower overall grid costs, but also provide confidence for co-investors to join projects.

TOTEX and Output-Based Incentives: The recuperation of costs from network tariffs is tied to an approach which overvalues CAPEX investments. The regulatory framework should better include OPEX investments to ensure efficient investment in cheaper alternatives, leading to a total expenditure (TOTEX) approach. Output-Based Incentives would also ensure cost effective solutions such as efficiency, grids enhancing technologies (GETs), and flexibility are pursued.

Streamline and increase funding for distribution: The majority of renewable connections will be on the distribution grid, however EU funding today is scattered and lacking. A one-stop-shop at EU level and increased funding will help avoid bottlenecks.

Permitting

The development of grid infrastructure faces delays across Europe, stalling the roll-out of renewables. Over 500GW of potential wind power in Europe sits in connection queues.[5]

While the European Grid Package should support faster permitting, this must not come at the cost of the environment and biodiversity, and should avoid creating a public backlash to electricity infrastructure.

In light of this context, a European Grid Package should:

[3] Finanzierung des Stromnetzausbaus in Österreich (2025)
[4] New Economics Foundation (2024) Reducing interest rates for clean energy investments
[5] Wind Europe (2024) Immediate actions needed to unblock grid capacity for more wind energy

Support REDIII implementation: REDIII provides clear rules and guidance on accelerating permitting for renewables, storage and grids. Reopening its provisions would risk further delays and increase uncertainty on the ground. The focus should instead be on supporting Member States in swift and coordinated implementation, aligning with related planning processes such as Network Development Plans and Nature Restoration Plans.

Avoid environmental backsliding: The rapid deployment of electricity grids should go hand in hand with biodiversity protection and full compliance with environmental legislation. Reopening existing laws would create further uncertainty in permitting and risks triggering public backlash against much-needed infrastructure.

Tackle staffing issues: The lack of staff within system operators and permitting authorities remains among the main bottlenecks to swift permitting. Projects wait months to receive a response from submitted permits. More resources should be allocated to recruit and train skilled staff, enabling timely assessment of application in respect with article 16 of RED III. This can accelerate permitting without compromising environmental standards, and would also enhance the effectiveness of public participation schemes. In parallel, and still in respect of Article 16 of RED III, the permitting process should be fully digitalised with single contact points to facilitate procedures and communication.

Prioritise the connection of renewables and electrified flexible demand: The connection of renewable energy and flexible demand should be prioritised over other connection requests, such as those for data centres, gas turbines and inflexible industrial processes.

Ensure the development of public engagement and participation: Transparent and meaningful public participation from the earliest stage of the permitting process increases project acceptance, improves data collection and therefore can help shortening permitting timelines. Public participation should be institutionalised by both public authorities and project developers, through early and effective consultation, diverse engagement tools and linked to appropriate benefit-sharing mechanisms.

Planning

European grid planning needs an overhaul to better facilitate the cross-border flows of renewable power and to build a more resilient system against blackouts and actively anticipate the impacts of climate change on energy infrastructure. In addition, the interplay with short-, medium- and long-term energy storage, to address seasonal needs, should be considered[6].

The current European planning system leads to an inefficient over reliance on “back-up” fossil fuels in each Member State, often in the form of capacity mechanisms. A future European energy system needs to ensure power can flow easily, from Ireland to Greece, from Malta to Sweden.

[6] World’s largest seasonal, thermal energy storage to become operational in Finland by 2028

The Ten-Year Network Development Plan is in need of greater independent oversight to ensure alignment with a rapid deployment of renewables and flexibility, nature and biodiversity goals, and climate change. The ambition level of the TYNDP central scenario, as an aggregate from current national plans, fails to adequately anticipate the far-reaching system change that will be necessary.

In light of this context, a European Grid Package should:

Introduce a 100% renewable scenario by 2040: Renewable energy, such as solar and wind, is the cheaper and faster technology to deploy to decarbonise, yet current European planning is limited by its strict alignment with national trends. A 100% renewable scenario, including a fossil gas phase out by 2035, would allow existing trends to be fairly compared and ensure relevant grid infrastructure is in place to allow for raised renewable energy ambition in the future.

Include more independent oversight of European grid planning: Increasing the role of ACER, the European Environmental Agency (EEA), and the European Scientific Advisory Board on Climate Change (ESABCC). ACER's role will ensure planning better reflects the need to procure non-wired solutions such as energy storage, and minimise the risks of stranded assets.

Align planning with nature and climate: Input from EEA and ESABCC should be prioritised, to evaluate the impact of the energy system on nature and biodiversity, and how infrastructure is affected by future climatic conditions such as droughts, heat waves, and flooding, providing recommendations at EU level and specific Member States.

Increase TYNDP timeline to 20 years: Planning and investment into energy infrastructure requires strong foresight, as future-orientation, assisted by regular updates to the Innovation Roadmap of TYNDP scenarios[7], which a 20 year horizon would better provide. ENTSOs should make better use of the two-year scenario cycle to allow sensitivity analyses on key issues.

Switch in planning to open-source modelling with transparent data: Open-source modelling and transparency with detailed access to data would allow for the input greater expertise and support closer alignment of other planning exercises at the EU or country level. Additionally this provides better democratic scrutiny.

Launch a European Grid Plan Depository (EGPD): Grid plans, particularly on the distribution level, are difficult to source. A central online EU depository for grid plans, both at the transmission and distribution level, with English translations would support more coordinated planning.

[7] TYNDP Scenarios Innovation Roadmap by ENTSO-E and ENTSOG (2025)

Interconnectors

While the majority of Member States have surpassed their 15% interconnect target, the vast proportion of Europe's renewables reside in countries below the target.[8] A notable example is Spain, which suffers from poor interconnection with France leading to the curtailment of renewable power. Of the three new interconnector projects in development between Spain and France delays of 3, 7, and 11 years exist.[9]

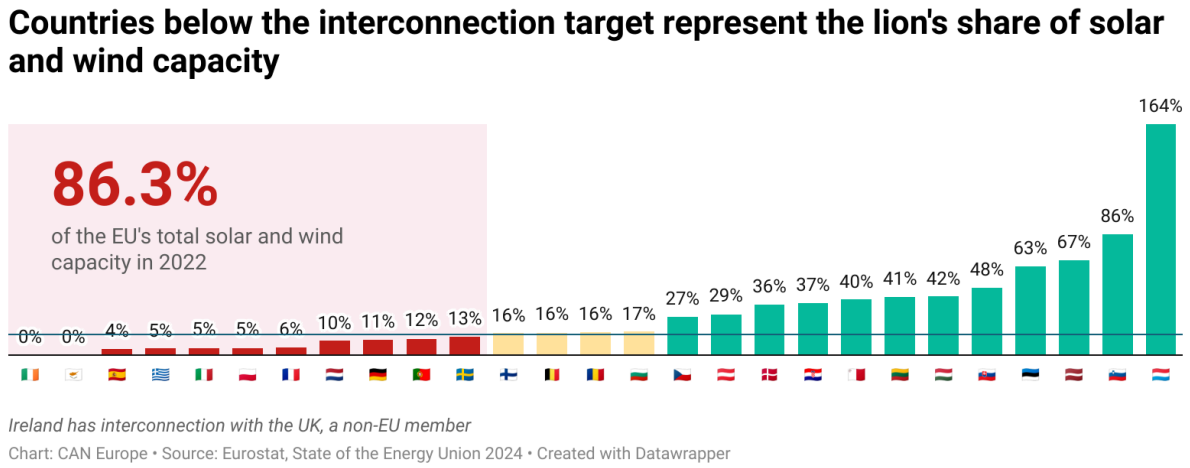

Figure 1 - Levels of interconnection per each EU Member State.

Conflicts regarding interconnectors have been on the rise, including between Germany and Sweden, Denmark and Norway, and Spain and France, with cost allocation being central to the debate.

In light of this context, a European Grid Package should:

Broker interconnector agreements via direct intervention: Stalled interconnector projects due to political disagreements and unjustified protection of legacy thermal assets from cheap renewable power cannot continue. The EU Commission should bring parties to the table to help facilitate negotiations and reach a deal.

Revise Cross-Border Cost Allocation: Allocation of who pays for interconnection should also reflect the benefits received from neighbouring countries, and factor in the need to reinforce internal grids in the case of cross-country flows.

[8] CAN Europe, 100% RES-based electrification (2024)
[9] ACER PCI and PMI monitoring report (2025)

An efficient and optimised grid

Increased grid capacity is needed today, with the benefits of new grid infrastructure, particularly on the transition level, taking several years to materialise. Short term measures are required to bridge the gap until new cables come online.

The Netherlands launched a National Grid Congestion Action Programme in late 2022 following high levels of grid congestion and problems with connecting new supply and demand to the grid. The plan has a particular focus on incentivising more efficient grid use and increasing flexibility of grid users, to relieve short term issues and not stall the transition.[10]

In Belgium, rather than taking 5 years and spending €24 million on a new cable to connect 9MW of new wind power, the system operator installed dynamic-line rating, taking only 3 months to install and increased the capacity of the cable by 50%.[11] Dynamic line rating can also improve grid resilience by ensuring cables reduce capacity turning extreme heat.

Every new cable has an impact on nature, the local community, material usage and finance, and therefore, an energy system should be planned to limit these burdens and to maximise the benefits.

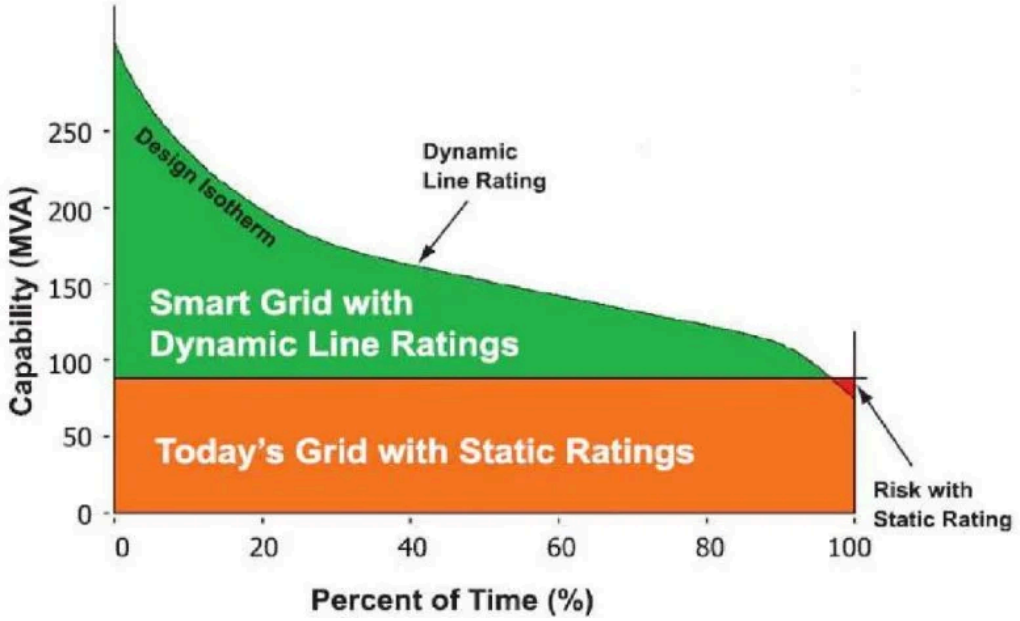

Figure 2 - Variation in available cable capacity over time when using Dynamic Line Rating. Source: Department of Energy, USA

Advanced conductors have increased the capacity of a Belgian line by 100%, Storage as a Transmission Asset (SATA) increased a line by 40% in Germany, Grid Inertia Measurement reduced renewable curtailment in the UK, and high temperature superconductors were able to increase lines between 400% and 1000% in Germany. Overall, research shows that a fast

[10] Regulatory Assistance Project (2024) Gridlock in the Netherlands
[11] currENT (2025). Member Case Studies

deployment of Grids Enhancing Technologies could lead to a 20-40% increase of capacity in Europe by 2040.[12]

In light of this context, a European Grid Package should:

Enact Member State Rapid Capacity Plans (RCPs): Member States should enact urgent short term measures to optimise the utilisation of the existing network in an efficient manner to relieve pressure on electricity networks. These plans should include measures to boost energy storage and demand, connection sharing, non-firm connection contracts, fair connection prioritisation, GETs and demand reduction.

Prioritise the retrofitting of existing lines: In many cases capacity can be increased on existing corridors, either by adding new cables to existing pylons, or replacing existing cables with higher capacity. This is a faster approach as many permitting requirements are already taken care of.

Support the deployment of grid enhancing technologies (GETs): GETs should benefit from funding under the Connecting Europe Facility when used for cross-border projects, and should be eligible under the Innovation Fund. A mapping of the potential of GETs across Europe should be undertaken, with recommendations on how to better support uptake.

Support the procurement of storage and demand-side flexibility: System operators should have Output-Based Incentives to procure a flexibility to support the integration of renewable power. In the case of significant congestion and in the case of no market solution, the partial ownership of storage by system operators should be explored, following European electricity market design rules.

Community Energy, Public Participation, and Local Benefit Sharing

The development of our electricity system cannot be detached from our aims to democratise the energy system. Community energy groups across Europe have been struggling to gain grid connection, and are burdened with high grid tariffs when sharing energy over local grids. Local communities on the other hand, need to be able to see the benefits of new infrastructure, whether that be financial or through an understanding of benefits to the local environment, the climate and health, and should have a role in planning the system.

The Pact for Engagement has been an excellent example of how system operators, energy ministries and NGOs can come together to support public participation in the energy system.[13]

In light of this context, a European Grid Package should:

[12] CurrENT (2024) Prospects for innovative power grid technologies
[13] Pact for Engagement

Dedicate grid capacity to community energy groups: When new grid capacity comes online, capacity should be set aside for the connection of community energy groups. This supports the ecosystem of community energy, supporting lower bills for members,enhancing public support for the energy transition, and investment in local economies.

Expand the Pact for Engagement: The launch of the European Grids Package should come alongside a new round of signatories to the Pact. The implication of developed recommendations made by the signatories should be tracked.

Benefit local communities: The upcoming European Grids Package should embed a harmonised EU approach to embed benefit sharing for local communities, with clear principles and minimum standards. Local communities must see tangible benefits from grids deployment close to their homes and industries, and be meaningfully involved in planning to ensure trust and fairness in the overall energy transition at local and European levels.

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