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# **Financing Mechanisms for Distribution System Operators (DSOs)**

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## Background and Objective

At the end of last year, the European Commission published its Grid Action Plan (GAP)<sup>1</sup>. The GAP aims to enhance the efficiency and resilience of Europe's power distribution network. It focuses on expanding, modernising, and smartening the grid to accommodate increasing renewable energy sources, the rise of electric vehicles, and the integration of advanced technologies. The EU DSO Entity and the distribution system operator (DSO) community have been tasked with several actions, many related to financing.

Action 9 in the GAP tasks the European Commission with identifying tailored financing models and strengthening dialogue to address financing obstacles faced by the grid infrastructure sector. This includes developing specific financial instruments and mechanisms to ensure that necessary investments can be made to support the energy transition.

Although Action 9 is primarily a task for the Commission, the DSO community is seizing the opportunity to support this action on a voluntary basis. By engaging proactively, DSOs aim to support the creation of the financing models that will be developed, ensuring they address the unique challenges and opportunities within the grid infrastructure sector.

Given the different financial landscapes of E.DSO members, depending on factors such as debt ratios, regulatory incentive models, access to capital markets and country credit ratings, there will likely not be a one-size-fits-all solution. Instead, a toolbox of instruments can be used to tailor optimal solutions for each DSO, taking into account their specific needs and regulatory environment.

This paper is also intended to contribute to the next Multi-Annual Financial Framework (MFF) 2028 – 2034, anticipated to be published by the European Commission on 1 July 2025.

### Key Messages:

- 1) Grants are the most preferred method of external financing because of their impact on several key areas, such as investment catalysts and tariff relievers.
- 2) Innovative loan types, such as forgiving loans with enterprises as direct counterparts, would be a way to address the issue of unused loans for future initiatives like the Recovery and Resilience Facility (RRF) and REPowerEU.
- 3) Tax reforms can enhance the EU's competitiveness, and DSOs are ideal stakeholders to accelerate the green transition, as they are exempted from state-aid guidelines.
- 4) Regulatory reforms are essential to ensure that de-risking strategies by DSOs are effective. Current practices by National Regulatory Authorities (NRAs), such as lowering the equity rate in response to decreased risks and neutralising grant-financed assets in the Regulatory Asset Base (RAB), erases the effect that was to be generated by the measure in the first place.
- 5) Optimizing Depreciation Strategies: DSOs should have the flexibility to apply various regulatory depreciation methods, such as degressive and accelerated depreciation, to align investment costs with equipment lifecycles and specific investment needs.

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<sup>1</sup> Grids, the missing link - An EU Action Plan for Grids, COM(2023) 757 final, 28 November 2023.

## 1. Introduction

DSOs face numerous challenges as they work to expand, modernise, and maintain Europe's vast power grid, which comprises 10 million kilometres of power lines and 4 million distribution transformers.

Significant financial investments are required to ensure the grid can meet future demands, with an annual investment challenge of around €67 billion per year until 2050<sup>2</sup>. This is critical as approximately 40% of the distribution grid in the EU is over 40 years old and requires substantial upgrades to remain reliable and efficient.

The decentralised electricity grid is the central nervous system of the energy transition and by 2030, the EU aims to achieve a 42.5% renewable energy sources (RES) target, with 70% of these renewables connected to the DSO grid, increasing to 80% by 2040. In 2022 alone, 25GW of rooftop solar was connected to the DSO grid, enough to power 7.5 million European homes.

The electrification of transport and heating also presents significant challenges. By 2035, Europe is projected to have 130 million electric vehicles (EVs), with 85% of them charging at home and thus relying on the distribution grid. Additionally, there is a target to install 10 million more heat pumps by 2027, which will further strain the distribution infrastructure.

DSOs are at the forefront of transforming Europe's energy landscape. They face substantial challenges in securing the necessary funding to upgrade and expand the grid, integrating a growing share of renewable energy, accommodating the rise in electric vehicles and heat pumps, and supporting energy communities, all while much of the existing grid is over 40 years old. Addressing these challenges requires coordinated efforts and significant investment to ensure a reliable and efficient power distribution system for the future.

## 2. Maintaining Financial Stability to Manage the Energy Transition

To deliver the investments that are needed to build a grid that enables net-zero, DSOs must deliver on their financial triangle: They must not exceed their debt ceiling, deliver financial results and growth that reflects their investments and be able to pay out dividends. Meeting these parameters, which sometimes can be conflicting, must be carefully managed to ensure financial stability and investor confidence.

Rewarding investors for their investments is a necessity, no matter the ownership structure, whether companies are listed on the stock market or owned by municipalities. As long as DSOs deliver on the financial triangle, their economic and financial situation will remain healthy. However, if any of these parameters falter, a downward spiral in financial performance and company valuation is to be expected.

Maintaining financial health is crucial for DSOs' ability to meet the demand for additional connections. A strong financial foundation enables DSOs to invest in infrastructure and innovative solutions required to support a successful transition to sustainable energy sources.

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<sup>2</sup> Eurelectric - Grids4Speed - 2024

### 3. The Impact of Regulatory Treatment on DSO Financial Strategies

When considering the financial strategies for DSOs, it's crucial to evaluate the impact of various investment instruments, not only on the immediate financial impact of an investment, but also on the broader economic and regulatory landscape.

De-risking strategies by DSOs aim to lower debt and reduce investment uncertainty, leading to reduced expenses while maintaining investment returns. However, when National Regulatory Authorities (NRAs) respond to decreased risks by inappropriately lowering the equity rate, it fundamentally erases the effect that was to be generated by the measure in the first place.

Furthermore, the effectiveness of grants as investment incentives is compromised when NRAs neutralise assets financed by grants in the Regulatory Asset Base (RAB) and tax these grants. This redirects public funds away from project development and undermines the rationale for DSOs to engage in lengthy and complex application processes for financial support, thereby preventing them from realising the full benefits of strategic funding efforts for critical infrastructure projects.

While grants can play an important role, an enabling, supportive and predictable regulatory framework is of utmost importance in securing the much-needed investments in distribution grids. Network tariffs will continue to be a mainstay of DSO funding even as grants play a greater role. It is also important to note that rating agencies place significant value on regulatory certainty. Regulatory uncertainty can lead to lower ratings, which in turn increases the cost of capital for DSOs. Therefore, maintaining a stable and predictable regulatory environment is essential for DSOs to secure favourable financing conditions.

Given that DSOs in a Member State may use different amounts of subsidies, it is important for regulators to take this into account properly and fairly in any comparison between different DSOs. DSOs who effectively manage to attain subsidies should also be able to benefit from them without being subject to sterilisation. At the same time, DSOs who do not have the same possibilities or ambitions should not be penalised.

### 4. Grants: A Comprehensive Support Mechanism for DSOs

Grants are considered the most beneficial support mechanism for DSOs, thanks to their impact on several key areas:

- **Financial Relief and Stability:** The upcoming investment pipeline creates significant pressure on the financial equilibrium of DSOs, with many DSOs having already reached their respective debt capacity limits. Consequently, conventional financing instruments (i.e., loans, guarantee-backing) will not address the funding challenge. Instead, grants provide crucial support in mitigating financing costs and relieving debt capacity. By alleviating some of the financial burdens, grants enhance the financial stability of DSOs, leading to additional strategic investments.
- **Investment Catalyst:** Grants play an important role in turning otherwise economically unfeasible projects viable. This financial support is in some cases essential for initiating investments in grid modernisation and expansion that on short-term might not be financially feasible, but in the long run ensure that DSOs can meet future demands.
- **Tariff Relief:** Grants prevent substantial increases in tariffs, thereby making energy bills more affordable for all customers of the benefiting DSOs. This affordability can also foster socio-

economic improvements and add value to the affected region, as well as more accurately allocate the costs when there are benefits to the entire society. This is vital for a just transition.

- **Awareness and Acceptance:** Grants help elevate regional and national awareness of the challenges and benefits associated with grid expansion and the integration of RES. This increased awareness fosters broader public and political support for these essential initiatives.
- **Risk reduction:** Additionally, grants significantly reduce the financial risks associated with large-scale investments in grid infrastructure by lowering the uncertainty and potential financial exposure for DSOs. This encourages investment in higher-value projects and technologies with higher Technology Readiness Levels (TRL), which might otherwise be considered too risky. Consequently, DSOs can innovate and implement advanced technologies, enhancing grid reliability and efficiency, while minimising the financial risks typically associated with such investments.

Grants not only boost DSOs' financial operations, but also support broader energy policy goals, making them indispensable in the pursuit of a sustainable and resilient energy infrastructure.

## 5. Evolving EU Loan Models

The energy industry, including DSOs, has access to loans from the European Investment Bank (EIB). However, these loans often do not offer significantly better rates than those available from other lenders. The EIB itself must demonstrate the purpose of the loans to the public, enforcing a commitment from DSOs to use the funds according to agreed plans. This requirement restricts companies' ability to adapt the use of funds optimally in response to changes in market conditions, regulations and national specificities.

Securing EIB loans is a resource-intensive process, which often does not justify the potentially lower interest rates offered. For energy groups operating several legal entities, the structure typically requires the holding company to act as the guarantor. This arrangement can negatively impact the group's credit rating by increasing perceived financial risk.

To address the unique financial needs of DSOs more effectively, a movement toward developing more adaptable loan structures is recommended. One idea being considered is to introduce forgiving loans, where loan reductions are granted when projects successfully meet their specified goals.

As the Recovery and Resilience Facility (RRF) is set to close in 2026, the window of opportunity for making amendments has essentially passed. Given the substantial amount of unused loans within the RRF, for future initiatives of this nature, it should be considered to involve enterprises as direct counterparts to the Commission. This approach would prevent enterprises from being subject to Member States' potentially suboptimal priorities from an energy system perspective.

## 6. Blended Finance – Terms Matter

Blended finance, in this context, refers to a combination of loans and grants. This model reduces the initial investment requirement and the debt burden on DSOs by integrating non-repayable grants with repayable loans. However, the effectiveness of blended finance heavily depends on several factors, including the proportion of grants to loans, the terms attached to both grants and loans, and the flexibility allowed in project implementation. As the needs of DSOs evolve, it is essential that financial structures and terms are continuously adapted to meet these changing requirements effectively. And, as is the case with grants alone, appropriate regulatory treatment is essential for DSOs to be able to effectively access blended finance.

## 7. Tax Reforms to Enhance EU's Green Competitiveness

Both the US and China are challenging Europe for technological and green leadership by subsidising their industries, a strategy that the EU must counterbalance.

A forward-thinking approach to taxation can catalyse the deployment of green infrastructure, essential for meeting the EU's ambitious environmental targets by enhancing the attractiveness of investing in DSO infrastructure. Non-refundable tax credits represent a potent instrument for promoting green investments. By directly reducing the amount of tax that DSOs owe, these credits provide a direct incentive. According to the recently revised state-aid guidelines, DSOs have an exemption due to being natural monopolies, hence allowing them to be key-tools to enable green transition initiatives.

Imposing taxes on grants for projects that rely on public funding is highly counterproductive, as it reduces the financial resources intended for precise project implementation. Grants are not issued as gross sums but are intended to cover precise costs of project implementation, taxing them reduces the financial resources available to realise these projects.

## 8. Governmental Guarantees

Regulated industries such as energy networks can often rely on stable and predictable cash flows. That, in combination with governmental guarantees, have the potential to provide an uplift in credit ratings.

The overall impact on the financial ecosystem is however mixed. Governmental guarantees do not really free up any additional debt capacity and while improving credit ratings and issuing new debt under better terms is generally positive, it must be managed strategically to prevent adverse effects on the company's overall financial stability, particularly concerning older debt issues.

## 9. Strategic Bond Issuance for DSOs

Bonds are debt securities issued to raise capital by borrowing money from investors, who are repaid with interest over a fixed term. Bonds can be an efficient mechanism to support DSOs' large-scale investments in infrastructure.

It is not unusual that DSOs are part of larger energy companies that also engage in unregulated segments such as energy generation or customer solutions. These companies must manage different risk profiles across their various operations, which can affect the overall attractiveness and pricing of their bonds.

Issuing bonds independently from other business segments allows DSOs to isolate financial risks, attracting investors with a preference for stable returns thanks to regulated operations. This targeted approach enables DSOs to raise capital specifically for their infrastructure needs without the burden of supporting unrelated business activities. Managing financing separately also ensures compliance with regulatory frameworks which might be a necessity in some Member States.

## 10. Optimising Depreciation Strategies

As DSOs prepare for a significant increase in investments to expand and upgrade infrastructure, having a versatile set of financial tools becomes essential. Another component of DSOs' finance optimisation toolbox could be the ability to implement flexible depreciation strategies. Employing various depreciation methods, such as degressive (non-linear) and accelerated depreciation, allows DSOs to align investment costs more closely with equipment lifecycles and specific investment needs. Regulatory bodies should support this flexibility by enabling DSOs to choose regulatory depreciation methodologies that best suit their operational requirements.





E.DSO is a European association gathering leading electricity distribution system operators (DSOs) **shaping smart grids for your future.**

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