



E.DSO Agenda for Strategic Grid Investments

With the EU High-Level Electricity Forum “Future of our Grids: Accelerating Europe’s energy transition” just around the corner, we are emphasizing the pivotal themes that hold the greatest relevance for DSOs, along with the entrepreneurial and managerial endeavors that define the essence of this industry’s innovation and progress.

Introduction

E.DSO, the Association representing leading European DSOs serving over 350 million customers, calls on European institutions and policy makers to commit to taking bold action to achieve net-zero greenhouse gas emissions by 2050. These actions cannot be achieved and completed without a forward-looking understanding of the needed investments and necessary reforms to the current reference legislative and regulatory frameworks. E.DSO members account for a very significant part in current and future investments on European power grids.

The role of DSOs is constantly evolving and will soon become almost extremely complex, requiring radical change in the way that DSOs function and operate. Our industry is experiencing rapid growth with the massive influx of renewables, change in customer behaviors and rapid electrification.

We are equally conscious that the time to deliver this green transition is short. Time is of essence for it requiring significant leaps rather than piecemeal steps. This leap must begin by empowering the distribution networks, where above 85% of renewables will be connected to.

In this document we outline key pledges for the future grid, fully aligned with EU targets. It seeks to inspire policymakers, industry stakeholders, and customers to prioritize grid modernisation, enabling a sustainable future for Europe.

Our pledges

1. The role of the DSOs must not be overlooked

The role of Distribution System Operators (DSOs) is vital in shaping the future of the energy grid. Until now, DSOs challenges have been relatively overlooked, primarily from an industrial perspective rather than solely from a regulatory standpoint.

European DSOs are now under pressure, faced with the integration of RES, changing of customers’ behavior resulting in higher coincidence and new loads because of electrification. Massive investments are needed in grids - both physical and digital - to accelerate the energy transition. According to recent IEA studies the global ratio of grid to renewable investments will reach 0.75 this decade and will approximate 1.0 the next decade.¹. Specifically, DSOs operating within densely

¹ IEA Study on "Net Zero by 2050; A Roadmap for the Global Energy Sector"



populated urban regions encounter the difficulty of having restricted space for new stations, which demands the use of compact technologies (such as substations) and dedicated zones for grid projects.

Furthermore, with the increasing adoption of large-scale smart electrification and the gradual decarbonisation of the power sector, many countries will find it necessary to transform their power systems. While these changes represent long-term climate-change aspirations and will take considerable time to implement fully, it is crucial for DSOs to begin preparing for this future eventuality right away.

We advocate for:

Frequent Industrial Dialogue: Establish regular dialogue between policymakers and the leading DSOs. This will enable a continuous exchange of ideas and expertise to inform policy decisions and ensure alignment with the real needs of the distribution grid.

Inclusion of E.DSO in High-level Policy Discussions/Events: Ensure active participation of E.DSO in policy discussions related to the distribution grid and investments.

2. Grid investments shall be high on the EU agenda

Distribution grids are the backbone of the digital and energy transition, as they ensure a continuous and reliable electricity flow, integrate most renewable energy sources, and enable new customer services. They play a crucial role in ensuring seamless electricity flow, integrating renewables, and enabling innovative customer services. To support the evolving energy system effectively, increased swift and cost-effective investment in power grids is imperative.

E.DSO members account for a very significant part in current and future investments on their grids. Out of the estimated 425 billion euros earmarked for grid investments until 2030², a significant portion, approximately 80%, is allocated to the leading DSOs. The significant investment in grid infrastructure is essential to efficiently distribute the growing clean energy generated across the continent.

Anticipatory investments are ultimately cost-efficient and risk free as they optimise power flows arising from the continuously growing shares of variable renewable energy sources. It is clear that the risks associated with underinvestment are significantly exceeding the risks resulting from possible overinvestment. These investments also ensure the smooth integration of loads from electrified heating and transport systems while upholding consistently high levels of security of supply.

² Study on grid investments <https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/energy-resources/deloitte-ch-en-eurelectric-connecting-the-dots-study.pdf> This comprehensive study from 2021 is still the only one with a satisfactory Europe-wide analysis.



We advocate for:

Collaboration with NRAs: We strongly desire NRAs to facilitate the much-needed investment in grid infrastructure. Enhancing the relationship between NRAs and DSOs is of utmost importance and should be prioritised through all available means.

Regulatory Incentives: Create regulatory incentives that reward DSOs for making anticipatory investments in grid infrastructure. Incentives could include performance-based regulations or financial support for grid modernization projects and well-balanced financial returns of investment to ensure a successful grid modernization.

Electrification Policies: Implement policies that encourage electrification in sectors like transportation and heating. Electrification can increase the demand for clean energy and drive the need for grid investments.

3. Grid technologies and manufacturing capabilities shall be European

Grid technologies are included under the strategic net-zero technologies in the Net-Zero Industrial Act (NZIA). Such an inclusion recognises the vital role of electricity grids and infrastructures in achieving the Green Deal objectives. Grid technologies are vital for facilitating the significant reinforcement and expansion of Europe's distribution-level physical infrastructure, which is crucial for realizing the energy transition.

To achieve a reliable, flexible, and smart power system, it is crucial not to overlook investments in net-zero technology manufacturing and digital technologies. Enforcing and modernizing grids, including smart grids, in Europe requires additional incentives, especially for financing grid expansion.

We advocate for:

Promoting European-Based Grid Technologies: Encourage the development and manufacturing of grid technologies within Europe. Support and incentivize companies to establish their manufacturing capabilities in Europe to boost the region's grid-related industry.

Financial Framework for Manufacturing and Development: Establish a dedicated financial framework that facilitates manufacturing and development activities related to grid technologies. This framework should encompass private and public investments to foster innovation and growth in the sector.

4. Rebuilding the workforce in the DSO industry

The impending retirement wave poses a significant challenge for DSOs considering that a considerable number of their workforce is expected to retire within the next decade. This mass exodus will result in the loss of critical knowledge held by experienced staff in various roles. To avoid this, we must explore methods of capturing and digitalising this expertise for effective transfer to the incoming workforce, which may not have the same level of tenure.

DSOs not only face a shortage of technical skills and a retiring workforce but also struggle to find candidates with essential leadership skills to foster resilience and adapt to industry changes.



Additionally, as the industry invests in electrification, the demand for powerline workers and specialized personnel will increase, necessitating upskilling and reskilling of EU workers.

We advocate for:

Collaboration and Target Investments: Introduce target investments to address workforce challenges during the global energy transition. This can involve funding initiatives aimed at upskilling and re-skilling workers to adapt to the changing labor market driven by clean energy transition and technological advancements.

Industry-Recognized Certification: Establish industry-recognized certifications and standards for clean energy-related skills. Standardisation will enhance workforce mobility and ensure a high level of proficiency among workers.

Establishing Net-Zero Industry Academy: By equipping individuals and industries with the necessary knowledge and skills, we can accelerate the transition to a more sustainable and environmentally friendly future.