

Wired for tomorrow

Unleashing the power of digitalisation in grids

Eurelectric policy recommendations



Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

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May 2024

Overview of policy recommendations

Future-proofing the grid	Implementation	The main priority in the coming years should be to ensure coherent implementation and avoid overlaps when implementing new laws. Furthermore, cooperation between the data and energy regulators is key.	 
	Remuneration	Ensure the appropriate compensation for digitalisation in national remuneration schemes. Recognise increasing costs arising from complying to an increasing number of legislations.	
	Skilling	Foster a skilled workforce by formalising education by supporting and developing skills initiatives. Introduce certificated formation recognised across the EU.	 
Ensuring interoperability and cohesiveness	Cybersecurity	Rules and guidelines must ensure coherent and harmonised cybersecurity requirements for all stakeholders across the value chain, incl. connected devices such as batteries or inverters. ENISA should assess legislative overlaps and evaluate EU bodies.	 
	Data management	Ensure coherent data management regulation between the Data Act and sector-specific regulation, such as implementing acts on data interoperability.	
	Data interoperability	The Common European Energy Data Space should be developed in an interoperable manner with national energy data platforms rather than imposing technical requirements.	
Fostering innovation	Artificial intelligence	The AI Act and its implementation should promote innovation by fostering non-high-risk solutions. Provide clear guidelines, specific for the energy sector, on what classifies as a safety component.	
	Grid observability	Speed up the measures to foster grid observability by using smart meters, equivalent devices, or innovative ones such as the future EU network digital twin.	 
	Scaling pilots	Introduce regulatory sandboxes and ensure sandboxes are time limited.	 

 EU level  National level

Future-proofing the grid

1. Implementation

Policy issue

As shown in the regulatory mapping on p. 5, the past EU mandate has introduced many new regulatory changes under the twin transition. In addition, many provisions on digitalisation and/or provisions where digitalisation is a prerequisite can be found in the Electricity Market Design (EMD), Renewable Energy Directive (RED), Energy Performance of Buildings Directive (EPBD) and the Grids Action Plan (GAP).

Recommendation

A main priority in the coming years should be to ensure coherent implementation and avoid overlaps and gaps when implementing new laws. Moreover, it's key to ensure regulatory cooperation between the Data and Energy Regulators.

Policy level

EU Commission, Ministries, National Regulatory Authorities (NRAs)

2. Remuneration

Policy issue

DSOs are incentivised to invest in capital expenditures (CAPEX) above operational expenditures (OPEX) under the regulatory framework. Digitalisation initiatives, often classified as OPEX, become less viable for DSOs to invest in. More on p. 28 in Wired for Tomorrow.

Recommendation

Recognise the role of digitalisation measures by ensuring the appropriate compensation in the national remuneration schemes. NRAs should recognise increasing costs arising from complying to an increasing number of legislations. The Smart Grids Performance Indicators should be designed to monitor and incentivise grid digitalisation.

Policy level

NRAs, National Governments

3. Skilling

Policy issue

The energy and digital transitions entail many challenges in talent acquisition. Moreover, many formations for field workers are solely recognised on company or country level. More on p. 31 in Wired for Tomorrow.

Recommendation

Foster a skilled workforce by supporting and developing skills initiatives. Introduce certificated formation recognised across the EU matching the different certificates of Member States, to identify which degrees are equivalent.

Policy level

EU Commission, Ministries

Ensuring interoperability and cohesiveness

1. Cybersecurity

Policy issue

Wired for Tomorrow shows that DSOs heavily engage in cybersecurity (p. 21). However, the cyber attacks are on the rise towards EU countries¹ and towards energy utilities². Many new laws are to be implemented in the coming years and many of them are recognised as overlapping.

Recommendation

Avoid overlapping and ensure coherent and harmonised cybersecurity requirements for all stakeholders and across the value chain. The CRA should cover all electrical equipment connected to the electrical grid (such as inverters) and the internet. The implementation of this act should be closely monitored to ensure full compliance. The European Union Agency for Cybersecurity, ENISA, should assess any overlaps in legislation and evaluate the EU governance bodies.

Policy level

EU Commission, ENISA, Member States, Designated national authorities

2. Data management

Policy issue

The Data Act covers a wide array of topics to ensure data access and data usage rights. This entails a challenge when understanding which laws take precedence, in particular when the laws are only partly overlapping.

Recommendation

Ensure coherent data management regulation between the Data Act and sector-specific regulation, such as implementing acts on data interoperability, considering critical infrastructure needs. If guidelines are foreseen, the energy sector should be involved in its development.

Policy level

EU Commission

3. Data interoperability

Policy issue

The Common European Energy Data Space, CEEDS, being formalised under several research projects, can be valuable if designed appropriately.

Recommendation

The CEEDS should be developed in an interoperable manner with national energy data platforms rather than imposing technical requirements. Moreover, the existing European data exchange solutions should be considered.

Policy level

EU Commission

¹ [Le Monde \(2023\)](#)

² [IEA \(2023\)](#)

Fostering innovation

1. Artificial intelligence

Policy issue

The Artificial Intelligence Act entails an administrative burden when assuring compliance. In the coming years, it will be vital to receive guidance on implementation and technical assistance from the Commission.

Recommendation

The AI Act's implementation should promote innovation by fostering non-high-risk solutions. This could be fostered by precisising the less clear definition of a safety component in Article 3 (14) with the more concrete wording from recital (55) through the foreseen guidance or delegated act. In the process of specifying the definition, it will be key to involve the power sector.

Policy level

EU Commission

2. Grid observability

Policy issue

Wired for Tomorrow, p. 26 & 39, shows that grid observability is an essential capability to unlock and work as a pre-requisite for many other digitalisation measures. The EU DSO Entity identified observability as a priority area for the Smart Grid Performance Indicators and it is crucial for fulfilling the Grids action plan, action 6. The average rate of smart meter roll-out in the EU is 56 % (2022)³.

Recommendation

Speed up the measures to foster grid observability and leverage the available data by using smart meters, equivalent devices, or innovative ones such as the future EU network digital twin. In the revised Renewable Energy Directive (RED), it is stated that "Member States shall incentivise upgrades of smart grids to better monitor grid balance and make available real time information" (Art 20a).

Policy level

National regulatory Authorities (NRAs), EU Commission

3. Scaling pilots

Policy issue

The need to foster innovation is vital for DSOs. This is due to the energy transition effects on the grid, due to higher expectations from other stakeholders such as customers on data, while cyber-attacks are increasing.

Recommendation

R&D projects should more easily benefit from flexible regulations, so-called regulatory sandboxes. Meanwhile, it is important to ensure that the regulatory sandboxes are either time-limited or lead to legislative changes. Moreover, the Grids action plan, action 7, has the potential to improve the uptake of new technology.

Policy level

NRAs, EU Commission, EU DSO Entity

³ [Eurelectric Power Barometer \(2023\)](#)

DSOs have many digitalisation files to keep track of, and more regulation is set to come

A selection of relevant to DSOs:

				Applicable	Cross-sectoral
				In negotiation/planned	Energy sector
Data	Platforms	Technology	Cybersecurity		
Data Act Regulation (EU) 2023/2854	Data Governance Act 2020/0340(COD)	Artificial Intelligence Act (2021/0106(COD))	NIS 2 Directive 2020/0359(COD)		
General Data Protection Regulation (GDPR), (EU) 2016/679	Digital Services Act 2020/0361(COD)	European Chips Act, (EU) 2023/1781	Radioequipment Directive (2024/53/EU)		
Implementing Act on high-value data sets 2023/138	Digital Markets Act (EU) 2022/1925	EU Path to the Digital Decade (COM/2021/574)	Directive on Critical Entities Resilience (CER Directive)		
Electricity Directive (2019/944)	Energy data space (Data Strategy COM(2020) 66 final)	Machinery regulation (2023/1230)	European Digital Identity Regulation (2021/0136(COD))		
Implementing act on data access and interoperability for smart meters (1162/2023)		Artificial Intelligence Liability Directive, 2022/0303(COD)	The EU Cybersecurity Act (2017/0225(COD))		
GDPR Additional rules on enforcement (2017/0003(COD))		Product Liability Directive (PLD), (EEC) 1985/374, 2022/0302(COD)	EU Cyber Solidarity Act (2023/0109(COD))		
E-Privacy Regulation (2017/0003(COD))		Gigabit Infrastructure Act 2023/0046(COD)	Cyber Resilience Act (2022/0272(COD))		
		Development of a digital twin of the grid (COM (2022) 552)	Network Code on Cybersecurity (C(2024)1383)		
		Smart grid indicators (SGI) Art. 59(l) Electricity Directive (2019/944)			

Source:

Almudena Diaz, Senior EU Regulatory Advisor at Enel
Overview of EU Legislations in the Digital Sector, by Kai Zenner, J Scott Marcus, Kamil Sekut (2023)

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability



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