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From Measurement to Grid Intelligence
Completing the Smart Meter Rollout in the EU

ESMIG position paper on the Regulation on Future-Proofing Electricity Prices

Europe's energy system is becoming more digital, electrified and decentralised. The rapid uptake of EVs, heat pumps and distributed renewable energy sources require smarter grid management, stronger flexibility and improved system resilience. In this context, ESMIG strongly welcomes the European Commission's announcement[1] to introduce smart meter deployment targets.

Deployment targets will only deliver full value to the system and consumers if they reflect not just installation rates, but whether smart meters provide the data, communication and functionality needed for modern grid operation. Smart meters should therefore be recognised as core infrastructure for grid visibility, flexibility and data-driven system management, as key enablers to accelerate the energy transition and empower consumers to actively participate in the system.

[1] The **Strategic Roadmap on Digitalisation and AI in the Energy**, adopted by the European Commission on 3 June 2026, announces the adoption of an upcoming legislative proposal (expected to be adopted on 15 July 2026) to accelerate the rollout of smart meters, including the introduction of minimum deployment levels across Member States.

As the grid edge becomes increasingly defined by data exchange among numerous connected devices and actors, the smart meter remains unique as the only device owned, governed and trusted by the regulated grid operator, forming part of the smart grid critical infrastructure. It therefore acts as a trusted anchor point within the home, enabling secure grid operations and reliable data exchange.

The objective of the upcoming Regulation on future-proofing electricity prices, should be completing smart meter rollouts across the EU and ensuring functional performance standards to ensure a fully visible and flexible grid where all stakeholders benefit. Only at sufficient scale can smart meters unlock their full system value: eliminating grid blind spots, enabling AI-driven network management, and reducing the need for costly conventional grid reinforcement.

Below are ESMIG's recommendations to ensure that smart meters are not only installed but that they deliver the functionalities required to support Europe's evolving system needs and empower consumers:

1. Smart metering as an enabler of data-driven grid operation:

1.1. Improving data availability

Large parts of the electricity system still operate with insufficient visibility. Without granular and timely data, grid operators rely on assumptions rather than real-time system insights. Smart meters provide the data layer needed to understand consumption, generation, congestion and flexibility potential. Improving data availability is therefore a precondition for efficient grid operation, electrification and AI-supported system management.

1.2. Enabling flexibility at DSO and TSO level

Smart metering supports flexibility at two levels:

- **DSO level (local flexibility):** congestion management, better use of low- and medium-voltage grids, and integration of distributed resources.
- **TSO level (system flexibility):** aggregation of flexibility from consumers, EVs, heat pumps and other flexible loads to reduce wider grid stress.

Both require **reliable and cyber-secure metering infrastructure, trusted (real-time) data exchange and appropriate incentives for market players and consumers**, including dynamic electricity and network tariffs.

1.3. Smart metering as the backbone of flexible and resilient grid

Smart meters should not be seen solely as billing tools, but as critical digital infrastructure for the energy transition. They enable granular, near real-time visibility of consumption, generation, storage and flexibility resources, unlocking more efficient use of existing grid capacity.

This enhanced observability allows system operators to optimise network operation, activate flexibility, integrate distributed energy resources and manage congestion more effectively, reducing reliance on costly grid reinforcement while supporting electrification.

To deliver these outcomes, smart meters must ensure key functional capabilities, including secure two-way communication, interoperability, near real-time data access and interfaces with energy management systems.

At the same time, smart meters provide the trusted cybersecurity foundation at the grid edge, ensuring secure data exchange, protecting sensitive information and enabling the safe orchestration of distributed assets. Cybersecurity is therefore a prerequisite for scaling flexibility and maintaining trust in an increasingly digital energy system.

Ultimately, smart meters form the backbone of a flexible, resilient and (cyber)secure energy system, enabling a shift from assumption-based to data-driven grid management and delivering greater value for consumers and society.

2. Smart meter minimum deployment targets

ESMIG urges setting binding and ambitious EU-wide minimum deployment levels, to accelerate digital readiness and reduce fragmentation across Member States. However, a percentage target alone is insufficient and must be complemented by an adequate level of ambition.

ESMIG calls for EU-wide minimum deployment targets of **at least 60% of metering points by 2030** and **at least 80% by 2032**. According to ACER's 2025 retail energy country sheets, these targets have already been achieved by over half of the EU Member States.[2]

Furthermore, ACER's monitoring finds that smart meters are a key enabler of demand-side flexibility and that low deployment levels limit consumers' ability to respond to price signals, access innovative retail offers and benefit from lower electricity costs. ACER

[2] European Union Agency for the Cooperation of Energy Regulators. (2025, July 18). *ACER monitoring reveals limited competition and untapped flexibility in EU retail energy markets*. ACER. https://www.acer.europa.eu/news/acer-monitoring-reveals-limited-competition-and-untapped-flexibility-eu-retail-energy-markets

estimates that households switching to dynamic electricity contracts could achieve savings of up to €270 per year, depending on their consumption patterns.[3]

Therefore, setting targets below the recommended percentages risks locking in the current situation in which consumers in laggard Member States remain excluded from fully benefitting from smart metering. The benefits for the system and consumers scale with penetration: a partial deployment of smart meters limits flexibility, constrains dynamic tariff uptake, and leaves grid operators with incomplete observability. The full value is only realised when deployment levels reach the critical mass needed for market-wide participation.

ESMIG urges the Commission to recognize that the objective must be full rollout across all Member States, with the recommended minimum 60% (2030) and 80% (2032) targets regarded as intermediate milestones for a fully digitalised and flexible grid.

2.1. Targets based on certified metering points

To better reflect whether infrastructure can support flexibility services, data exchange and grid management, targets should be based on certified metering points rather than number of households or consumers. This approach ensures that minimum deployment targets reflect tangible consumer benefits and system readiness rather than formal compliance.

2.2. Minimum functional requirements

The future vision for smart meter development and deployment needs to include the following minimum functional requirements:

- real-time or near real-time data access,
- secure two-way communication,
- interoperability,
- compatibility with dynamic tariffs,
- support for flexibility service.

Without this, smart meter rollout risks becoming formal compliance without system benefit.

2.3. Cost-benefit analysis must capture full system and consumer value

[3] European Union Agency for the Cooperation of Energy Regulators. (2025, April). *Unlocking flexibility: No-regret actions to remove barriers to demand response (2025 monitoring report)*. ACER. https://www.acer.europa.eu/sites/default/files/documents/Publications/2025-ACER-Unlocking-flexibility-demand-response-barriers.pdf

Where cost-benefit assessments are retained for deployment beyond mandatory minimum deployment levels, their methodology must be fundamentally updated to fully reflect smart metering value by including:

- **consumer benefits:** savings from dynamic tariffs, improved billing transparency, and the ability to manage energy costs actively;
- **system benefits:** reduced congestion management costs, deferred grid reinforcement, improved integration of renewables and distributed resources and the unlocking of implicit and explicit flexibility, enabling more efficient use of existing grid infrastructure and addressing network peaks;
- **energy transition benefits:** enabling electrification at scale, including EV smart charging, heat pump optimisation, and demand response aggregation.

2.4. Alignment with electrification and grid performance

Smart meter deployment must keep pace with electrification, including EVs, heat pumps and distributed generation.

Targets therefore need to be linked to:

- Electrification trends and supporting the EU's expected electrification target,
- Smart grid key performance indicators,
- Improved use of existing grid capacity and reduced congestion.

3. Supply chain integrity and cybersecurity as preconditions for trustworthy rollout

Accelerated smart meter deployment at EU scale will only deliver its benefits if the infrastructure deployed is secure and resilient. Dependencies on third-country vendors that may pose non-technical (cyber)security risks must be addressed as a condition for trustworthy rollout at scale.

ESMIG welcomes the EU's ongoing work on the revised Cybersecurity Act and the Trusted ICT Supply Chain Framework, and the upcoming Public Procurement Directives review and calls for these frameworks to be explicitly linked to smart meter procurement requirements and deployments under any EU-wide minimum target obligation. Specifically:

- Procurement processes must not increase dependencies on suppliers from third countries where state interference with critical infrastructure cannot be excluded - a risk that is directly relevant given the role of smart meters as data-collecting, two-way communication devices embedded in critical energy infrastructure.

- Fair competition in smart meter supply must be ensured based on high and equivalent ESG and cybersecurity standards. Market access for vendors that do not meet high standards and are involved in unfair commercial practices, below-cost pricing, state subsidies, or absence of equivalent regulatory obligations in their home jurisdiction distorts the level playing field and creates both economic harm for European technology vendors and long-term systemic risk for critical infrastructure.

About ESMIG

ESMIG is the European voice of the providers of smart energy solutions. Our members provide products, information technology and services for multi-commodity metering, display and management of energy consumption and production at consumer premises.

Our activities are focused on systems for smart metering, consumer energy management and safe and secure data transfer.

We work closely with EU policy makers and other EU associations to make Europe's energy and water systems cleaner, reliable, more efficient and the European consumer informed, empowered and engaged.

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