EU-ASE RESPONSE TO THE ROADMAP ON THE DIGITALISATION OF THE ENERGY SECTOR

EUROPEAN ALLIANCE TO
SAVE ENERGY
Creating an Energy-Efficient Europe

EU Roadmap on the Action Plan for the Digitalisation of the Energy Sector

Response to EU roadmap

The European Alliance to Save Energy (EU-ASE) welcomes the opportunity to provide feedback to the inception roadmap on the EU Action Plan on the Digitalisation of the Energy Sector.[1]

Digitalisation is key to accelerate the decarbonisation of the economy while ensuring business competitiveness. Digitalisation makes it possible to deliver energy at the right time, in the right place and at the lowest cost. It provides excellent opportunities to further reduce energy demand and optimise energy consumption . Furthermore, the digitalisation of the energy system allows citizens to actively participate in the energy market and is the foundation for energy systems integration, ensuring better integration and use of energy from e.g. distributed energy resources directly powered by renewables (e.g. heat pumps, EV charging, on-site solar panels, etc.) and surplus heat. In support of this, according to the International Energy Agency (IEA), investments in digital electricity infrastructure and software has grown by over 20% annually since 2014.[2]

The energy efficiency potential of digitalisation spans across sectors:

- Significant energy efficiency gains can be achieved via smart technologies like automation and controls, sensors, smart meters, smart and micro grids, lighting systems and connected devices that collect data on energy use or other elements affecting energy use, like climate conditions and weather forecast. This data gathered can be exploited through data analysis technologies such as Artificial Intelligence (AI) algorithms and leveraged in digital twins.

- On demand response, the European Commission estimates that the volume of controllable load in the EU is at least 60 GW. Shifting this load from peak times to other periods can reduce peak-generation needs in the EU by about 10% and contribute to large monetary savings, avoiding over-investing in new energy infrastructure.[3]

- Safe, reliable and readily available digital technologies can reduce and optimise the energy used for manufacturing goods and delivering public services like public transportation; heating and cooling buildings; and abstract, move and treat water. The combination of these technologies with additional water sector-specific digital solutions can further increase the effect in energy savings since water uses a high amount of energy for extraction, treatment and transport In the EU, where water losses average 23%, digitally-optimised water management and monitoring would help the prevention of leakages and would thus considerably reduce energy consumption.[4]

- Digitalisation allows to both increase end-use efficiency and the efficiency of the entire energy system. Digitalisation will also ensure system efficiency by support grid stability, improving operation and manage integration of intermittent sources of energy such as renewables in a

[1] Digitalising the energy sector – EU action plan, European Commission
[2] Digitalisation and Energy, IEA, November 2017
[3] Commission Staff Working Document Incorporating demand side flexibility, in particular demand response, in electricity markets, European Commission, November 2013
[4] Energy-Water nexus: Accelerating energy savings for the clean energy transition, EU-ASE, June 2019

safe and efficient way. This greatly enhances sector integration as outlined in the EU Strategy on Energy System Integration.[5]

To tap into the potential of digitalisation for energy efficiency we recommend to:

- Strengthen the implementation requirements related to smart technologies in the Energy Performance of Buildings Directive (EPBD) that can reflect real energy performance and support the uptake of the Smart Readiness Indicator across Member States. It is also essential to reform the Energy Performance Certificates to complement the calculated performance of a building with a data-model approach in reference points about their level of performance, while also integrating new metrics such as CO2 performance.[6]
- Mandate energy management systems (with digital interfaces) for large companies to secure energy efficiency improvements in the long-run.
- Mandate the roll-out of Building Information Modelling (BIM) in construction work to provide all stakeholders with a digital representation of a building's characteristics in its whole-life cycle.[7]
- Leverage AI technologies in buildings and in the energy grids as a key enabler to monitor, manage and automatically adjust energy consumption efficiently.
- Launch up-skilling programmes to develop skills necessary to realise digital transformation while ensuring that those programmes foster the integration of all technologies (passive, active and digital).[8]
- Promote digitalisation and use of real-time data to measure water consumption and use for critical analysis, the optimisation of energy performance of industrial processes and wastewater treatment.[9]
- Promote best practice examples in energy efficient data centres through more efficient cooling systems, heat reuse, penetration of renewable energy or constructing these centres in cold areas.

[5] Powering a climate-neutral economy: An EU Strategy for Energy System Integration, European Commission, July 2020
[6] Review of the EPBD: Recommendations to shape the decade of buildings renovations, EU-ASE, April 2021
[7] Review of the EPBD: Recommendations to shape the decade of buildings renovations, EU-ASE, April 2021
[8] Review of the EPBD: Recommendations to shape the decade of buildings renovations, EU-ASE, April 2021
[9] Energy Efficiency for a Competitive and Decarbonised EU Economy, EU-ASE, June 2019