1. System Integration as part of Energy Transition

SHAPING SMARTER GRIDS FOR YOUR FUTURE

Energy System Integration

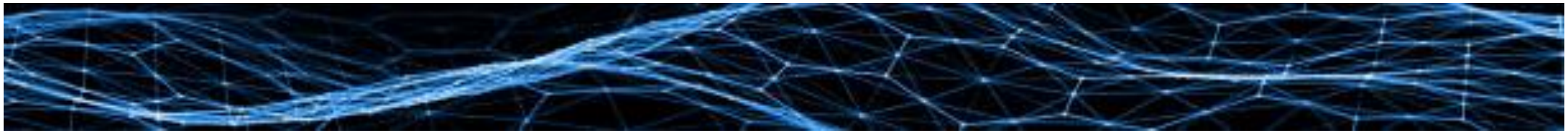
- System Integration entails:

"the coordinated planning and operation of different energy systems with associated infrastructures to which end users are connected."

- System integration will need a focus on local and regional levels.

Structure of the Energy Transition

- EU-wide increase of electrification.
- Cross-sector integration where fully electrified solutions are not viable and harder to abate
- Integrated energy systems of different sizes and characters – where cost-effective and sustainable.
- Top-down/bottom-up approach.



2. Characteristics of System Integration

Components of System Integration

- Coordinated investment planning and operation of the grids for electricity, gas/hydrogen, and heat.
- Intense interaction between parties concerning use of flexibility and enhancing energy efficiency.
- Accommodating opportunities for local sector coupling.
- Enhanced investment in digitalization, interoperability, data management, smart grid systems management.

DSOs as neutral System Integration Facilitators

- DSOs are now widely involved in national 2020-2050 planning procedures (see FR/NL).

Next Steps at EU level

- Harmonisation of the conditions for provision of flexibility.
- Harmonisation of general principles for optimised infrastructure planning/operation as kick-starter (top-down/bottom-up).