



Information on the funding programme entitled ‘Smart Energy Showcases – Digital Agenda for the Energy Transition’ (SINTEG)

As the share of electricity generated from wind and PV installations rises, electricity generation, grids, consumption and storage have to be combined in a smart way. This means that we need innovative technologies and procedures, and the digitisation of the energy sector.

This is what the **SINTEG** funding programme – ‘**Smart Energy Showcases – Digital Agenda for the Energy Transition**’ is about. It is to interconnect generation and consumption by using innovative technologies and procedures, in particular smart grids and pioneering grid technologies. The goal is to set up large-scale model regions and show that it is possible to have an electricity supply that is climate-friendly, secure and efficient even with high shares of intermittent electricity coming from wind and PV installations. The solutions developed within these model regions are to serve as a blueprint for wider implementation across Germany.

The **Federal Ministry for Economic Affairs and Energy** is providing up to **230 million euros** to the five model regions selected over a time period of four years. The project partners receive funding for investing in modernisation measures and innovative technologies. More than 200 partners have already committed themselves to working together as part of several consortia. These include companies, research institutes, but also municipalities, local districts, and the German states. We expect the funding programme to have considerable leverage, and to create 1.6 euros in additional private-sector investment in the energy transition for every euro of government funding. In total, some 600 million euros is to be invested in the digitisation of the energy sector as part of the funding programme (Federal Government + private sector).

The SINTEG programme forms part of a package of measures entitled ‘Innovative Digitisation of German Business’ geared towards implementing the Federal Government’s Digital Agenda. At the same time, SINTEG is an important component of the energy transition. The projects will start over the course of next year.

All five energy showcases focus on one specific issue.

- **‘C/sells: large-scale showcase in the ‘solar arch’ in southern Germany’:**

The ‘C/sells’ showcase spans the states of Baden-Württemberg, Bavaria and Hesse, and focuses on solar energy. The goal is to optimise energy generation and consumption at regional level. The energy system which will be set up will be organised into cells – cells at regional level that function autonomously and interact at the supra-regional level. The use of more than 10,000 smart meters and the necessary gateway infrastructure – to be accessed by the cells – is envisaged.

- **‘Designnetz: a modular concept for the energy transition – from isolated solutions to an efficient energy system of the future’:**

The ‘Designnetz’ model region which spans North Rhine-Westphalia, Rhineland-Palatinate and the Saarland is to develop solutions to show how decentralised energy (mix of solar and wind) can be used to supply (industrial) centres of demand. More than 7,000 households and around 140,000 meters will be included in the demonstration project.

- **‘enera: the next big step in the energy transition’:**

The ‘enera’ showcase located in Lower Saxony is about regional ancillary services that serve to stabilise the grid at regional level. enera has three priorities, namely grid, market and data. On grids: by upgrading the technology used by generators, consumers and storage units, by using new technology, and by using new equipment to build a better grid, the energy system is to be made more flexible. On market and trade: the EPEX electricity bourse is to account for information on grids in its order books for the intraday market. In order to ensure that trade runs smoothly, the necessary data and ICT framework has to be set up. The plan is for 40,000 smart meters and sensors to be installed in the grid and to be connected to the communication network.

- **‘NEW 4.0: the energy transition in the north of Germany’:**

The ‘NEW 4.0’ showcase spans Schleswig-Holstein and Hamburg. It is to demonstrate that 70 percent of the entire region’s energy can be generated from renewable sources in a way that is both secure and reliable, and that this can be achieved as early as 2025. A two-pronged approach is used here. First of all, the frequency with which wind-powered installations in the model regions have to be curtailed is to be reduced by stepping up the export of electricity to other regions. Secondly, the amount of renewable energy consumed in the region itself is to be increased by employing suitable flexibility options.

- **‘WindNODE: showcase for smart energy from the north-east of Germany’:**

The ‘WindNODE’ showcase unites five states in the north-east of Germany and Berlin. The goal is to efficiently integrate renewable energy into an energy system that works irrespective of the energy source and combines the electricity, heat and mobility sector. The ‘WindNODE’ project provides an ICT platform that connects generators and users of electricity, grids and markets and coordinates flexibility options (e.g. movable industrial loads, power-to-heat and cooling systems, electric mobility). There are nine demonstrators where innovative solutions – at all levels of the interconnected energy system, from generation to grids, storage, users/prosumers – are presented and combined to form one joint model.