Smart grids Germany

Are smart grids adapted to regional challenges in Baden-Württemberg and North Rhine-Westphalia? While the German climate protection program provides a national framework for the energy transition both states have own climate acts and strategies adapted to regional challenges. Divided across five subfields, this report provides insights on smart grids in Baden-Württemberg and North Rhine-Westphalia:

How do smart grids work?
Since smart grids can respond to changes in supply and demand, they are well suited to cope with variations in supply from renewable energy sources, helping to integrate more wind and solar, as well as new electricity loads, such as heat pumps and electric vehicles.

Why are smart grids important?
Thus,smart grids are seen as an important instrument for reducing grid extension needand integrating a rising number of decentral units efficiently into the grid. Here,information and communication technology (ICT) plays a central role. Overall standards for information technology are provided on federal level.

Should smart grids and E-energy be grouped together?
The R&D results to date on Smart Grids and E-Energy should be grouped togetherin a uniform securing of knowledge at one location,both for the im- plementations in Europe which are now com- mencing and for the E-Energy projects.

achieved in Germany in standards is therefore essential. International orientation Rapid embedding in international standards at ISO and IEC is important for the contri-bution of ...

PPC"s real-time communications platform was selected for the German Smart Grid beacon project "E-Energy". PPC"s broadband powerline technology is the optimal solution for this programme.

Germany is at the forefront in international smart grid development. Intelligent networks or "smart grids" allow fluctuating renewable energy power generation and consumption to be optimally managed by allowing a shift from "consumption-oriented generation" to ...

in Germany, smart grids can provide a feasible alternative by enabling an intelligent steering of new controllable loads, enhancing the utilisation of the existing power infrastructure and lowering the need for grid expansions. As smart grids are called to improve the integration and coordination of decentralised energy generation and

Definition of "Smart Grid": A Smart Grid is an energy network that integrates the consumption and feed-in patterns of all market participants connected to it. It ensures an economically efficient, sustainable supply system with low losses and high availability. Smart Customer o Households o Industry o Trade Transit I C T -

I n f o r ...

The objective of the German E-Energy/Smart Grids 2.0 Standardization Roadmap is to illustrate necessary prerequisites for the implementation and investment security of smart ...

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Smart grids open-up the possibility for consumers who produce their own renewable energy, for example from roof-top solar panels, to sell it back to the grid. With smart meters, final customers also get accurate and regular measurements of their energy use, and get billed only on electricity they actually use.

Smarter grid infrastructure based on digital and interoperable solutions is essential to the success of the energy transition. The report analyses a range of enabling technologies: transmission innovation, grid-scale storage ...

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