

Smart Grids Development in Austria

USA, September 2010

Dynamik mit Verantwortung

1

Grand Challenges

Vision: Low Carbon Economy

minus 80% Greenhouse gasses in industrialized countries (2050)

Prior Need for Action

- § Energy Efficiency
- § Renewable Energy
- § Private Transport (e.g. E-Mobility)

Dynamik mit Verantwortung

2



Key R&D Areas in Austria

- § **Low-Carbon Mobility Technologies and -Systems**
- § **Cero-Energy Buildings, Energy Plus Buildings**
- § **Smart Energy Systems (Smart Grids, Smart Cities, Green ICT)**
- § **Energy Efficiency and Renewables in Industry**
- § **Bio-based Industry**



Governmental Energy R&D Investment 2005-2010: ~280 Mio. EUR

Dynamik mit Verantwortung

European Strategic Energy Technology Plan

- § Technology fabric under pressure, markets alone will not deliver; global issue
- § **SET-Plan is the technology pillar** of the EU's energy and climate policy
- § Investing in the future – an opportunity rather than a burden!
- § Key Instruments: Industrial Initiatives and European Energy Research Alliance
- § Financing: Public-Public-Private (EU + Member states + Private Sector)
Joint Programming in variable geometry
- § Investments: 70 Billion EURO until 2020

Dynamik mit Verantwortung

9

EU SET-Plan: Industrial Initiatives

- § Wind
- § Solar
- § CCS
- § Bio-Energy
- § Nuclear Fission
- § Electricity Grids
- § Hydrogen and Fuel Cells
- § Smart Cities



Dynamik mit Verantwortung

10

Key Challenges for Smart Grids

Key challenges for the Smart Grid deployment are:

- Gather experiences from appropriate **demonstration projects**
- Analysis and quantification of benefits achieved in these experiences
- Reduce uncertainties regarding the global investments needed, the new market models and the technology needed
- Largely also of **regulatory nature**
- Coordination and dissemination of **lessons learned**

Dynamik mit Verantwortung

Source: European Smart Grids Taskforce

12

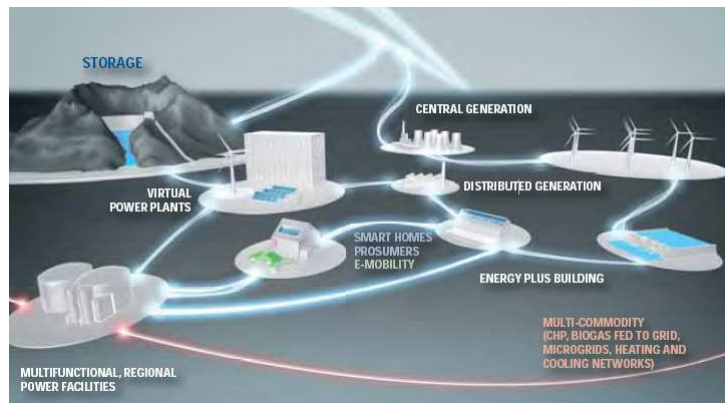
European Activities on Smart Grids

- § **Task Force** to advise the Commission on policy and regulatory directions at European level and to coordinate the first steps towards the implementation of Smart Grids under the provision of the Third Energy Package. From end 2009 to middle 2011.
- § A mandate for **European Standards** to enabling interoperability of utility smart-meters has been launched for 2009 –2012.
- § **European Industrial Initiative on Electricity Grids** under the SET Plan for the deployment of half of the EU network operating on the 'smart grid' principle by 2020.

Dynamik mit Verantwortung

13

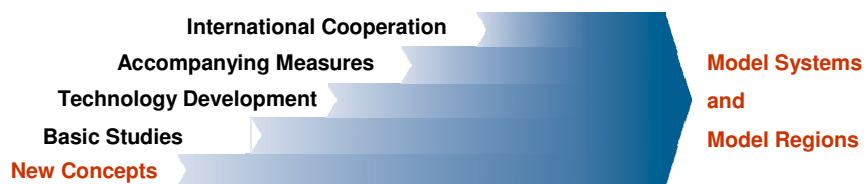
Smart Grids in Austria



Dynamik mit Verantwortung

14

Program Strategy



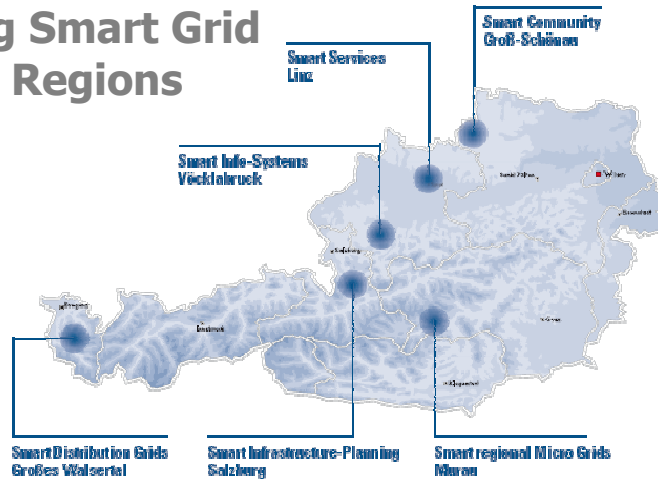
2003 → 2013 - 2015

- Development of legal and regulatory framework for a broad dissemination of smart grids
- Development of use cases and business models

Dynamik mit Verantwortung

17

Evolving Smart Grid Pioneer Regions



Dynamik mit Verantwortung

18

Major Projects

- § **Smart Grids Showcase Regions Salzburg:** Active Distribution Grids in Medium and Low Voltage Grids- Customer2Grid, Building2Grid, Vehicle2Grid
- § **Smart Distribution Grids Großes Walsertal:** Alpine Region, integration of small hydro power
- § **Smart Regional Microgrids Murau:** self sufficient eco energy region, self-healing distribution grids in urban areas, supply security for critical infrastructure
- § **Smart Services Linz:** smart integrated energy- and information infrastructure as a basis for smart services (Metering, maintenance, information, ...)
- § **Smart Info Systems Vöcklabruck:** smart metering field test, smart metering laboratory, active distribution grid- focus on PV integration
- § **Smart Community Groß-Schönau:** integration of community infrastructure (water supply, pump systems, buildings, sewage treatment plant)

Dynamik mit Verantwortung

21

Technology Platform and Roadmap



www.smartgrids.at

Dynamik mit Verantwortung

22

International Cooperation

- § IEA ENARD, PVPS, 4E, ...
- § EEGI- European SET-Plan Initiative on Electricity Grids, European Research Alliance, European Smart Grids Task Force, ERA-Net Smart Grids
- § Smart Grids D-A-CH

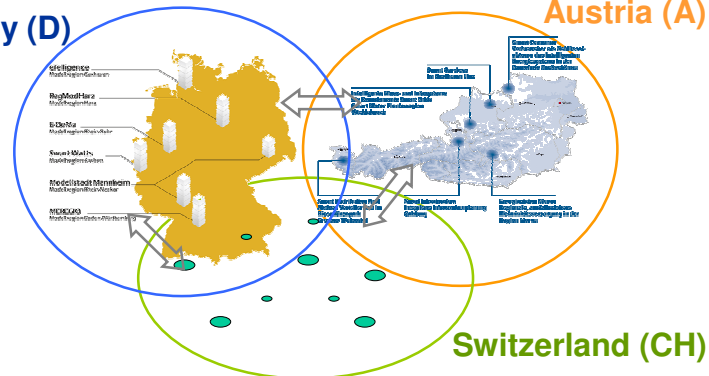
Dynamik mit Verantwortung

23

Technology Cooperation Smart Grids D-A-CH

Germany (D)

Austria (A)



Dynamik mit Verantwortung

24

Outlook

- § Implementation of Model Regions until 2013-2015
- § Identification of relevant use cases and business models
- § Development of legal and regulatory framework for broad dissemination of Smart Grids in Austria (2020 goals and beyond)
- § Electro Mobility: 900.000 Hybrid-vehicles and 130.000-150.000 Electric cars on the road until 2020 (1/4 of Austrian car stock).

Dynamik mit Verantwortung

26

Further Information

- § Smart Grids Pioneers in Austria-
Strategies, Projects, Pioneer Regions
<http://www.energiesystemederzukunft.at/publikationen/view.html/id838>
- § Smart Grids Showcase Region: Salzburg
http://www.energiesystemederzukunft.at/nw_pdf/fofo/fofoz_10_en.pdf
- § Synopsis: Smart Grids Projects in Austrian R&D Programs 2003-2010
http://www.energiesystemederzukunft.at/edz_pdf/1016_smart_grids_projects.pdf
- § Smart Grids Week Salzburg 2010
<http://www.energiesystemederzukunft.at/results.html/id5911>

www.ENERGIESYSTEMEderZukunft.at
Contact: michael.huebner@bmvit.gv.at

Dynamik mit Verantwortung