

Andreas Lugmaier  
Coordinator NTP Smart Grids Austria  
Siemens AG, Corporate Technology CEE  
email: [koordinator@smartgrids.at](mailto:koordinator@smartgrids.at)  
[andreas.lugmaier@siemens.com](mailto:andreas.lugmaier@siemens.com)



[www.smartgrids.at](http://www.smartgrids.at)

---

# National Technology Platform Smart Grids Austria

CEER Workshop on Smart Grids, Brussels, June 29th 2009



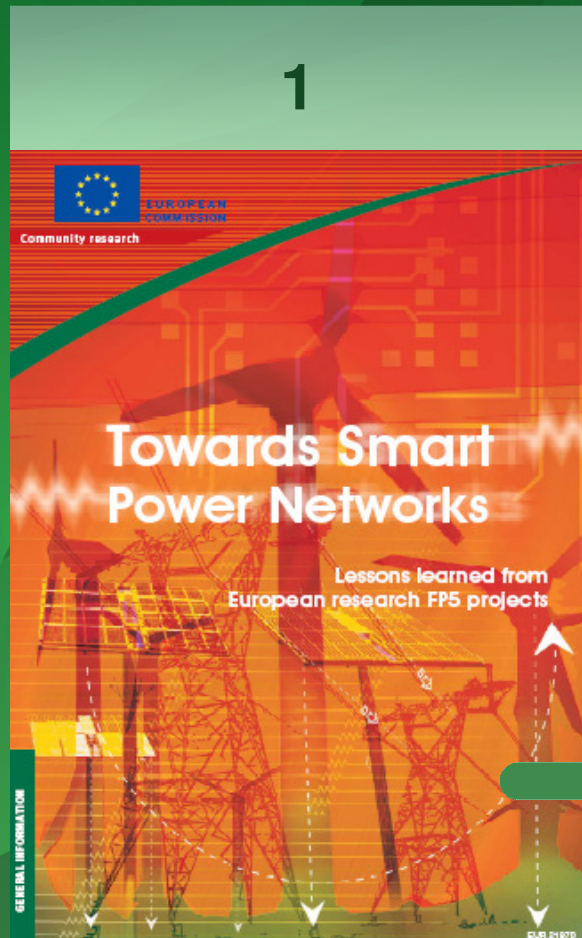
- 1. Background**
- 2. NTP Smart Grids Austria**
- 3. Cooperation Results**
- 4. Summary**



**SMARTGRIDS**  
AUSTRIA

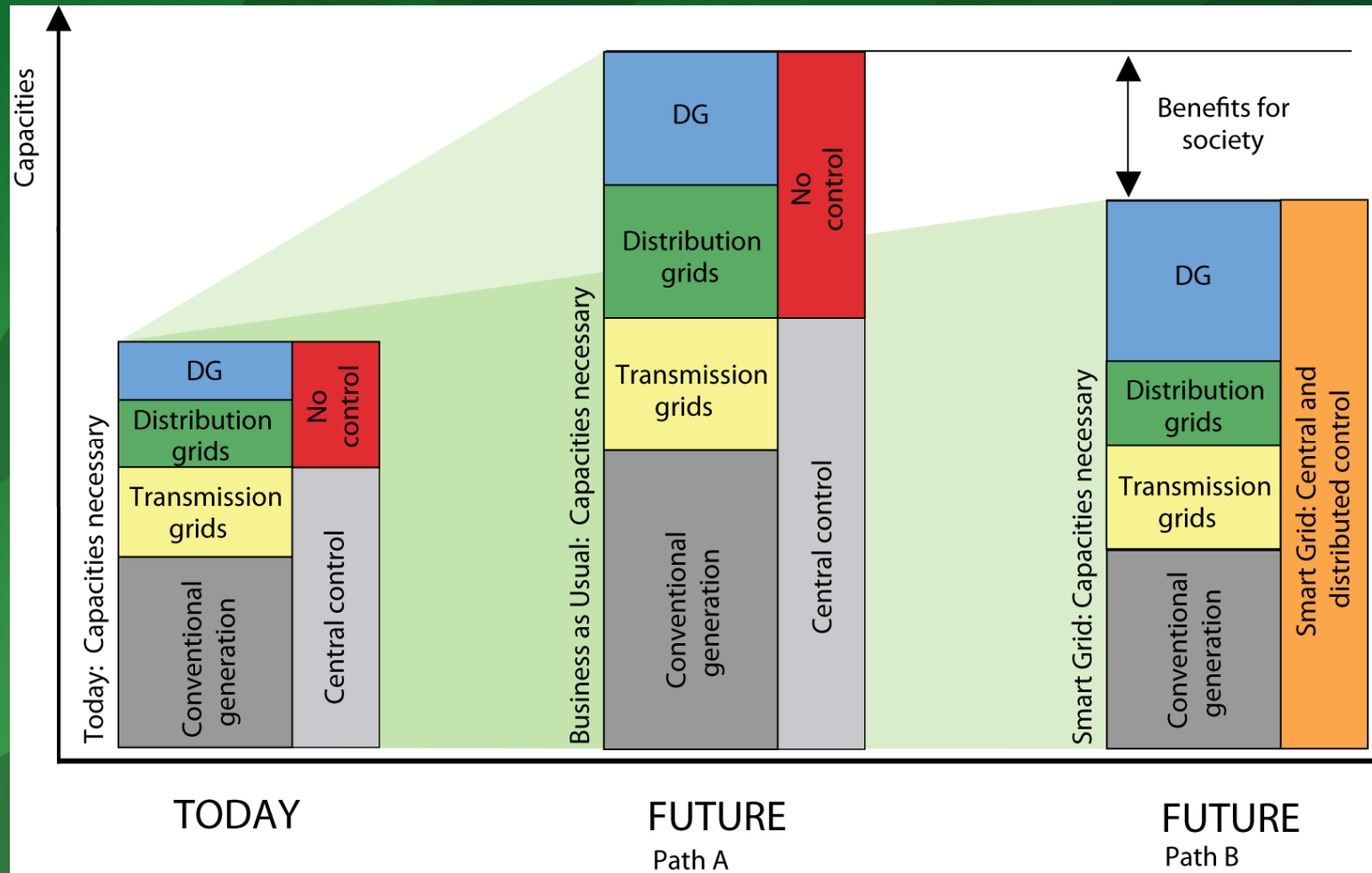


# Background - European Technology Platform (ETP) Smart Grids





# Background - Smart Grids - benefits for society

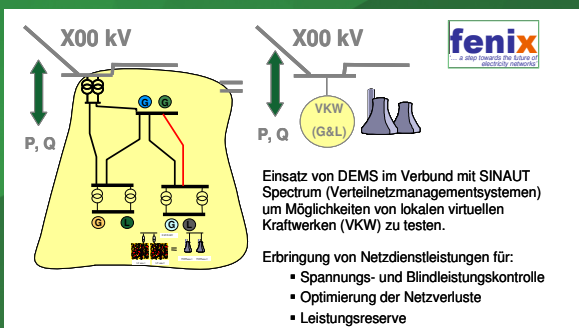


Source: vgl. dazu Djapic et al. (2007): Taking an Active Approach. IEEE power & energy magazine July/August 2007, 1540-7977/07/\$25.00©2007 IEEE. S. 70.



# Background - National starting conditions

- an industry with high technology competence and know how, shown by products and innovations
- innovative grid operators and electricity suppliers
- complementary and active R&D institutions
- a supporting R&D environment





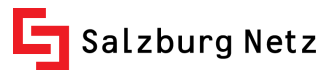
# Members : NTP Smart Grid Austria



## Industry



## Network operators & Energy sup.



## R&D Partners



## Consumer, user

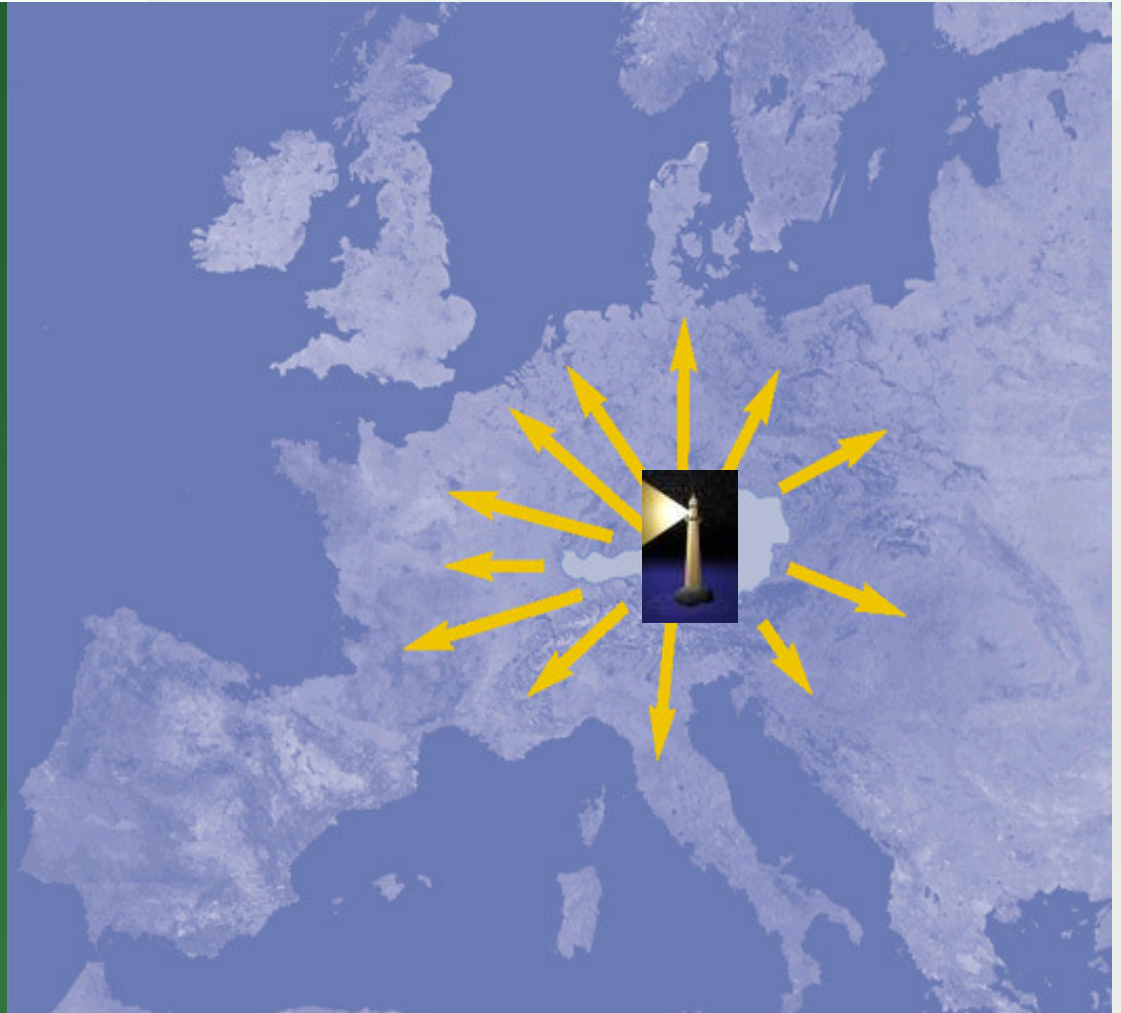




# Objectives NTP Smart Grids Austria

---

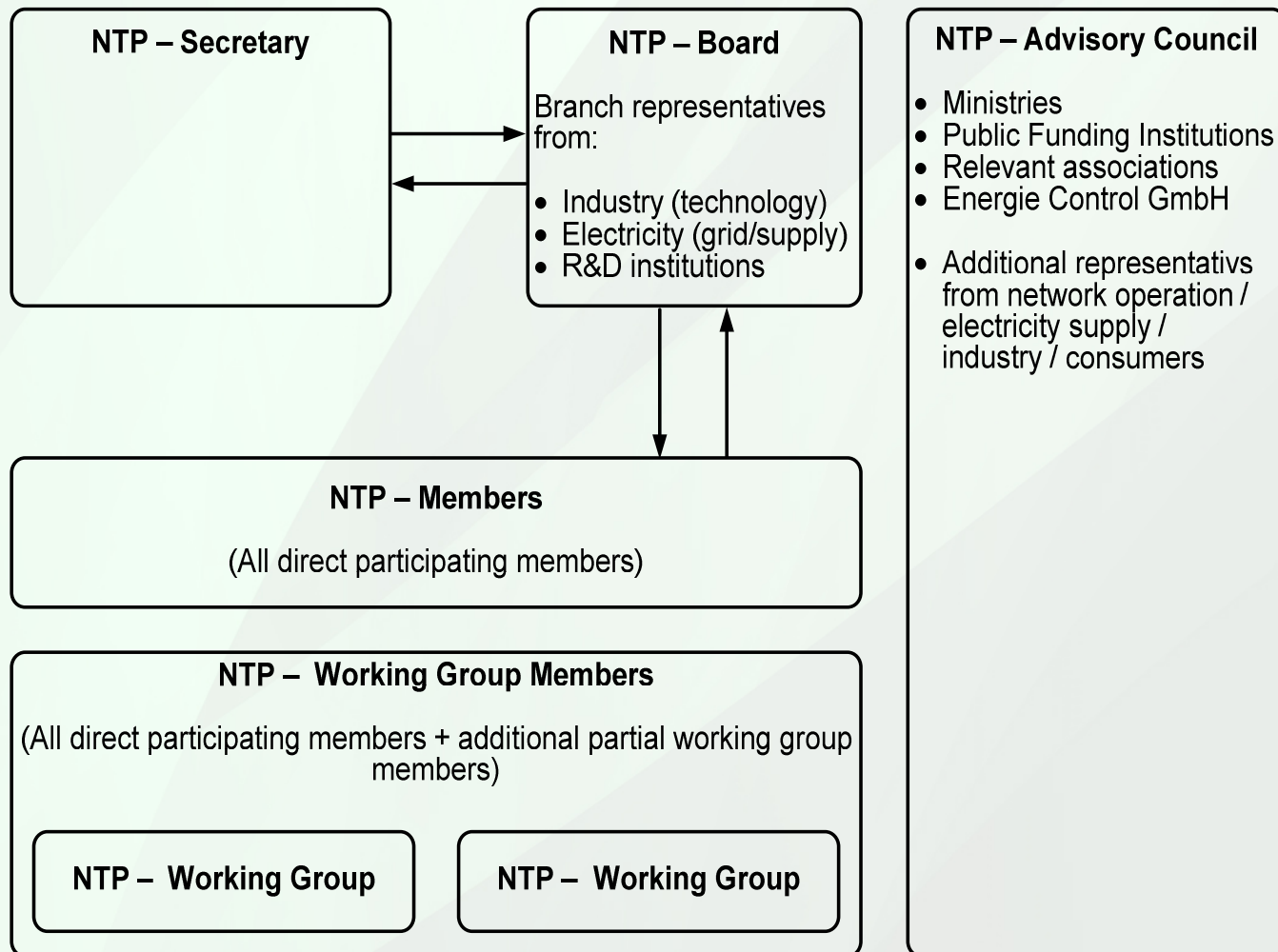
- To bundle the strength of different stakeholders
- To efficiently use synergies of the different Stakeholders
- To show competence through international visible light-house projects
- To indicate, how to overcome existing barriers



**SMARTGRIDS**  
AUSTRIA



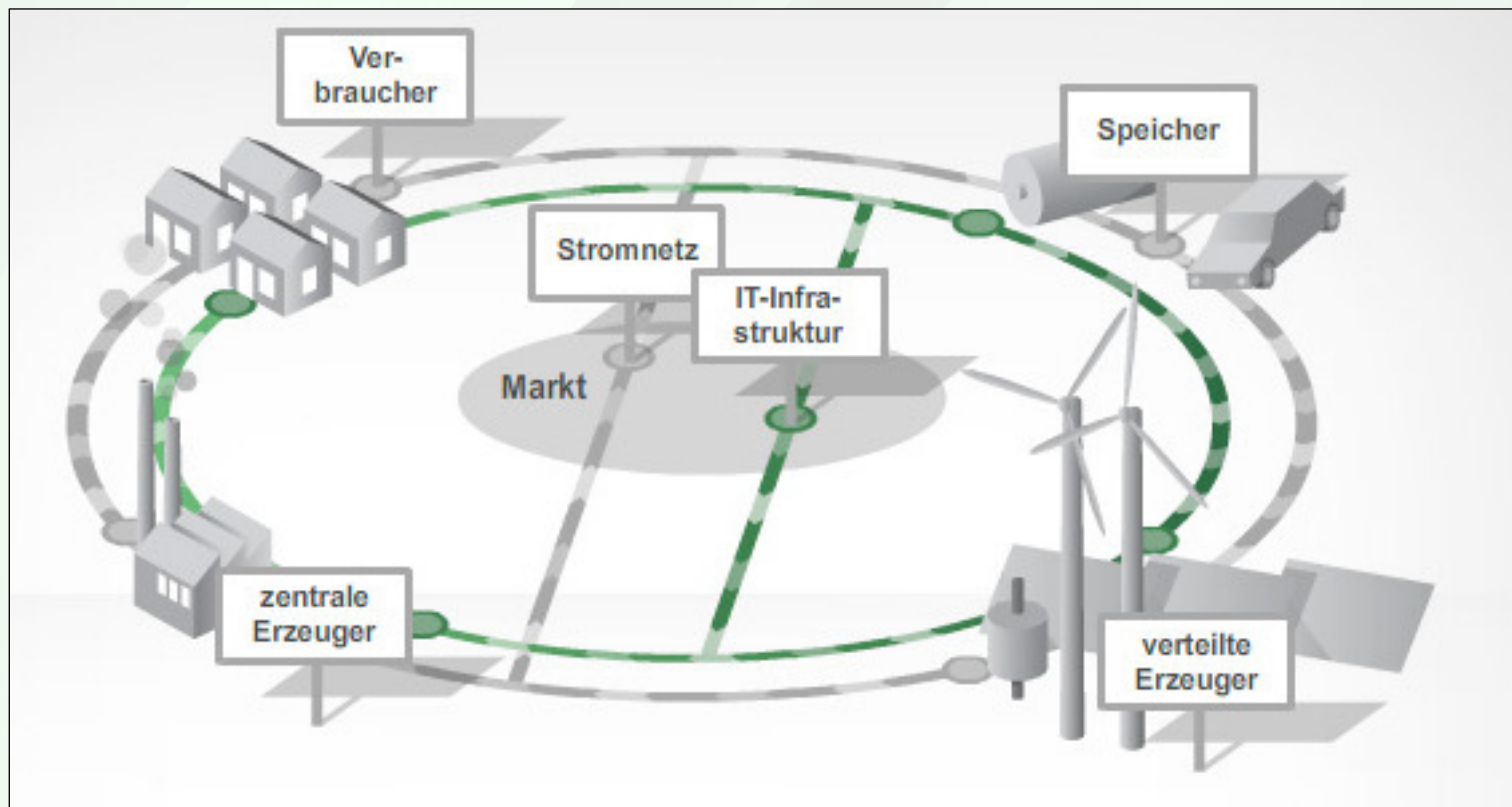
# Structure NTP Smart Grids Austria





# Results - Vision

**Smart Grids -  
Key for the secure and sustainable energy supply of tomorrow!!**



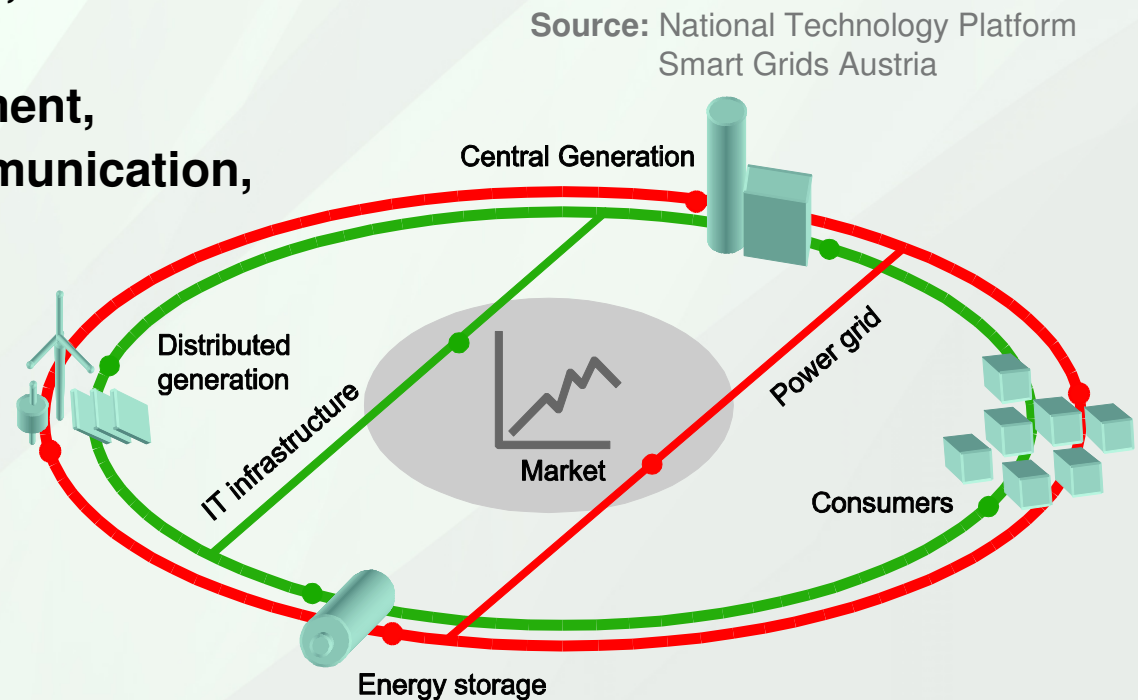


# Results - Smart Grids Definition

→ **Smart Grids are power grids,**  
with a **coordinated management,**  
based on **bi-directional communication,**  
between

- grid components
- generators
- energy storages and
- consumers

to **enable** an **energy-efficient** and **cost-efficient system operation**  
that is **ready for future challenges** of the energy system.





# Results - aspects and thematic areas

## Technical aspects:

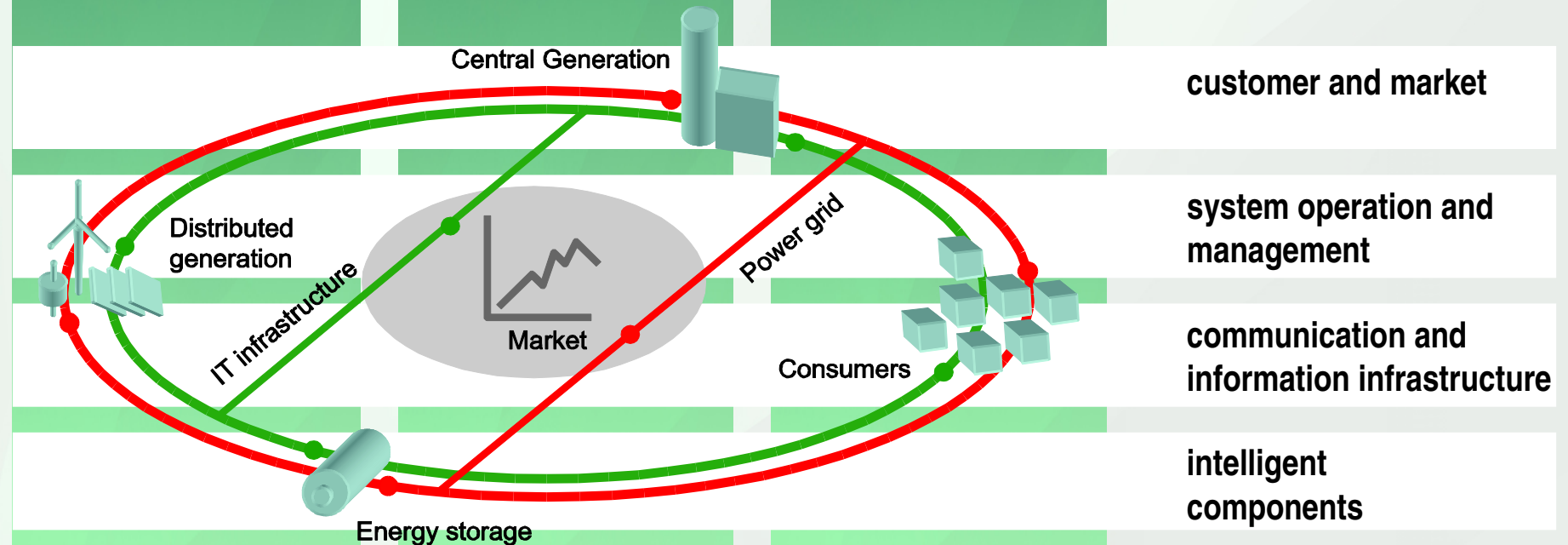
intelligent management systems with communication from producer to consumer

## Economical aspects:

new market models & reward systems

## Legal aspects:

adjusting of framework conditions

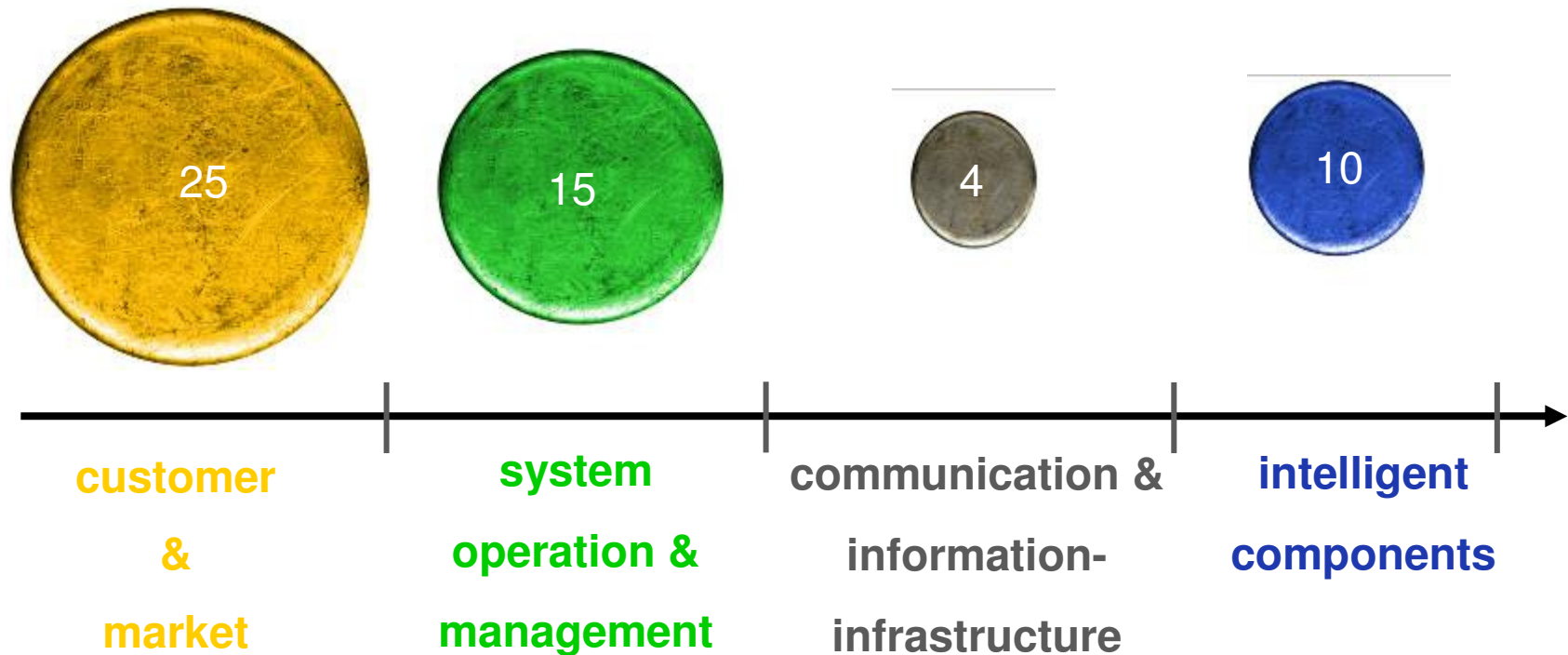


Source: National Technology Platform Smart Grids Austria



# Results - Austrian R&D Focus

Number of finished and ongoing Austrian & European R&D projects  
in the area of Smart Electricity Grids



Source: National Technology Platform Smart Grids Austria



# Results - Roadmap Smart Grids Austria - Draft

---

Current draft - in German

Download:

[www.smartgrids.at](http://www.smartgrids.at)





# Objectives Roadmap Smart Grids Austria

---

- **addresses relevant Smart Grid related trends**
- **describes important key aspects for the future modernisation of electricity grids.**
- **supports national decision makers with the supply of a profound decision basis.**
- **specifies the chances, challenges and implications resulting from possible R&D in the Smart Grids technology sector.**
- **Identification of a pathway for Austria which enables a future ready intelligent electricity supply by**
  - **being prepared for dealing with the rising challenges and**
  - **able to utilize the existing chances**



# Results - Examples for Smart Grid Challenges

---

- **Higher transmission capacities** (mainly transmission network)
- **Transition** from **passive to active distribution** network operation
- **Integrated and standardized communication interfaces**
- **Adaptation or implementation of standards and market rules** for the interaction / integration of generation, consumption and grid components
- **New contract and business models**
- **Willingness for participation** of DG/ DSM / DR
- **Adaptation of legal and regulatory framework conditions**
- **Enabling innovation incentives and framework conditions** (legal, regulatory) which enable and support possibilities for smart grid system technology development and testing within demonstration projects



# Results - Overview Innovation Incentives

---

## European examples for innovation incentives of network operators on Smart Grids ...

### → Denmark:

- Transmission Network operator has the possibility to perform smart grid system development and demonstration tests.
  - ForskEL programm, funded by additional network fee (0,052 €cent /kWh)
  - Example: Development and Implementation of demonstration projects, where full automated Smart Distribution Grids shall be operated in parallel and island operation

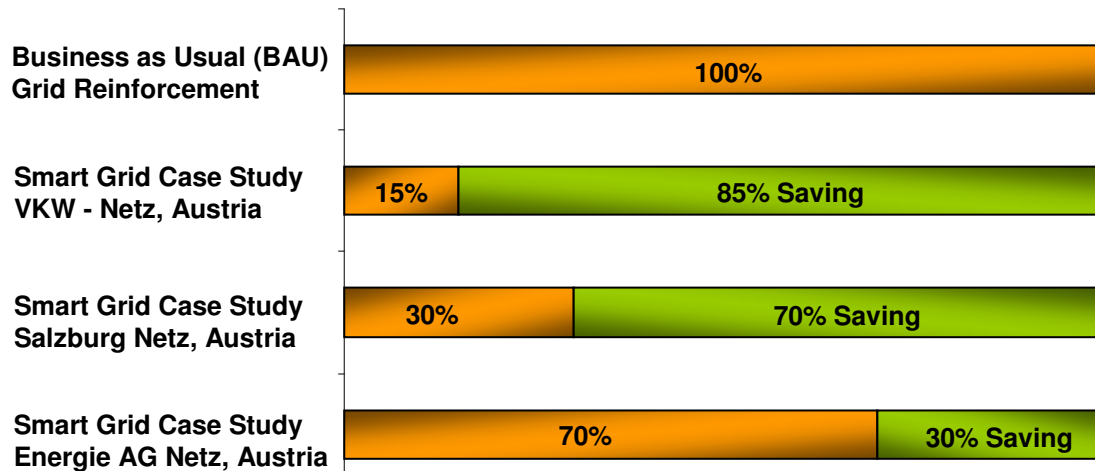
### → Great Britain:

- Regulator supports Smart Grid System R&D and Demonstration by
  - Innovation Funding Incentive (exempt amount for R&D Costs)
  - Registered Power Zones (rules for approval of Demoproject Costs)



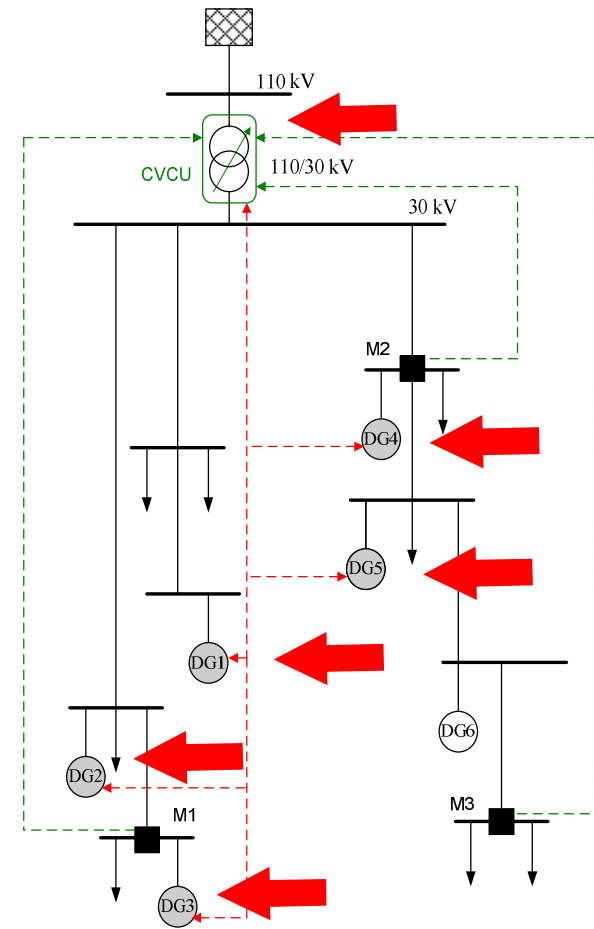
# Results - Example for one Smart Grid solution...

Existing studies show that new medium voltage control solutions have the potential to reduce additional connection costs of new DER Units significantly



Additional costs and savings of selected Austrian Smart Grid solution compared to BAU

Study Results have to be proven by real field test implementation experience.



Source: Projekt DG Demonetz



# Summary

---

- NTP Smart Grids Austria is a consortium of significant stakeholders in the area of electricity supply which
  - acts as strategic cooperation partner and
  - national/ international coordination platform for smart grids in Austria
- NTP Smart Grids Austria creates a clear national strategy paper for Smart Grids (Roadmap Smart Grids Austria), based on a broad discussion forum
- Best conditions for Austria to support a European leading position within Smart Grids
- Global objective is to strengthen competitiveness and system competence of the Austrian / European energy and communication industry