



EII SMART CITIES

Member States Initiative

Delegates Meeting

21 May 2012, Vienna, Austria

Hans-Günther Schwarz,
Austrian Ministry of Transport, Innovation and Technology



Agenda

- **11:00** Status and recent developments in Smart Cities (HG Schwarz, BMVIT)
- **11:30** Smart Cities concept (Jessen Page, AIT)
- **11:50** SC Stakeholder Platform + new EC communication on Smart Cities (Georg Houben, European Commission)
- **12:20** *Lunch break*
- **12:50** Status of programme and project screening (Catrin Haider, BMVIT)
- **13:05** Introduction to break-out sessions (Hans-Günther Schwarz, BMVIT)
- **13:15** *Coffee break*
- **13:30** Parallel break- out sessions
- **15:00** Presentation of working group results
- **15:20** Open discussion
- **15:45** Summary and next steps (Hans-Günther Schwarz, BMVIT)
- **16:00** End of workshop

Overview of Presentation

- The Vision of Smart Cities
- MSI Process
- FP7 Energy Work Programme 2013
- SET Plan Conference, Berlin

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The Vision

- Transformation of the energy systems based on the climate goals
 - Energy efficiency
 - Integration of renewable energy
 - Intelligent [smart] infrastructure
- Secure, sustainable and affordable energy provision
 - Production and distribution
- Livable cities
 - High living standard
 - Social and environmental quality
- Economic sustainability
 - Efficient and sustainable use of resources
 - New business models
 - New innovation processes

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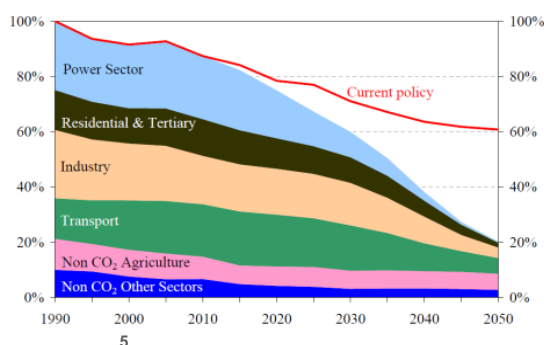
Europe 2020 Strategy and 2050 Roadmap



- Climate change and energy – the “20-20-20 targets”
 - Reduce GHG-emissions by 20%
 - Increase share of renewables in EU energy consumption to 20%
 - Achieve an energy-efficiency target of 20%

■ Roadmap 2050

-80% GHG reduction



Smart, Sustainable and Resilient Energy Systems



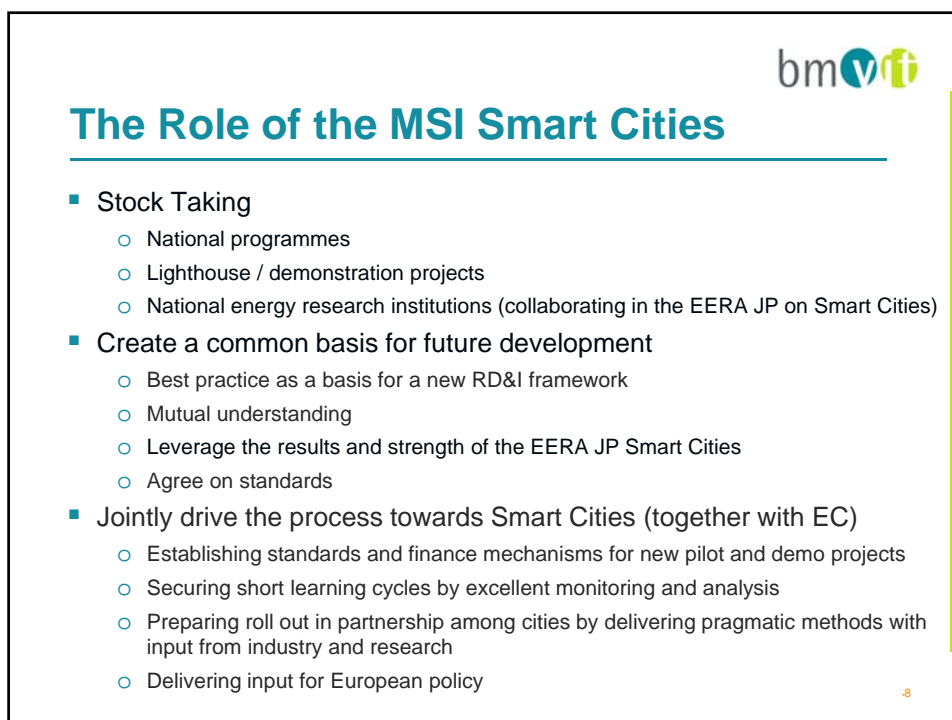
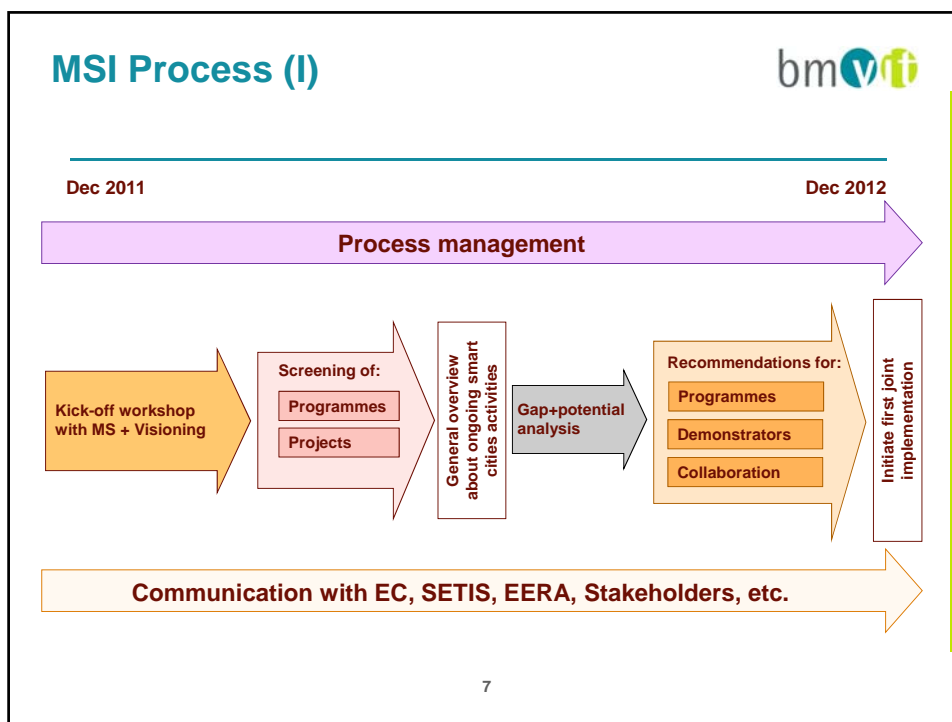
ICT & energy technologies are merging
Intelligent energy management on regional & city level

New integrated planning approach

- Energy Planning
 - Smart Grids
 - Active Buildings
 - Supply Technologies
 - Mobility
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- New Business Models
 - New innovation processes (test beds, living labs, stakeholder dialogues, etc.)

Source: AIT, B. Bach





Stock Taking – National RDI Programmes

- Response from 13 European countries:
AT, BE, CH, CZ, DE, DK, ES, FI, FR, NO, SK, SE, TK,
- Collection of 36 programmes relevant for Smart Cities
- Total budget of all 36 programmes: ~ **3,15 Bn €**
- Average budget per year: ~ **158 Mio €/ year**

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Stock Taking – Lighthouse Cities

- Current responses from 11 European countries
- Collection of 49 demonstration projects in 24 cities
- Identification of 10 „project bundles“
- Nr of projects / cities reported per country:

| | |
|-------------------------|----------------------|
| • Austria: 11 / 3 | • Norway: 1 / 1 |
| • Belgium: 2 / 3 | • Portugal: 11 / 2 |
| • Czech Republic: 1 / 1 | • Spain: 1 / 1 |
| • Denmark: 1 / 1 | • Sweden: 15 / 4 |
| • France: 1 / 1 | • Switzerland: 1 / 1 |
| • Germany: 4 / 4 | |

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Stock Taking – EERA JP Smart Cities

- Research on integrated urban energy systems
 - City-wide planning, design and operation
 - New scientific methods and concepts for technology integration
- More than 60 European partners from 14 countries on board
- Human resources pledged: 192 py/y
- 4 Sub-Programmes:
 - SP 1: Energy in Cities
 - SP 2: Urban energy networks
 - SP 3: Energy-efficient interactive buildings
 - SP 4: Urban city-related supply technologies

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The Role of Joint Calls (I)

First Phase: 2013 - 2014

- Creating a common basis for future development
 - Through the **documentation, pooling, and further development of existing best practice** concepts and methods
 - Working in partnership with relevant national and EU institutions (EERA, European Commission, etc.)
 - Fostering the standardisation of smart urban transformation
 - Supporting the sharing of results among demonstration projects
- The topics
 - Scientific tools and methods
 - Governance and planning processes
 - Monitoring and KPIs

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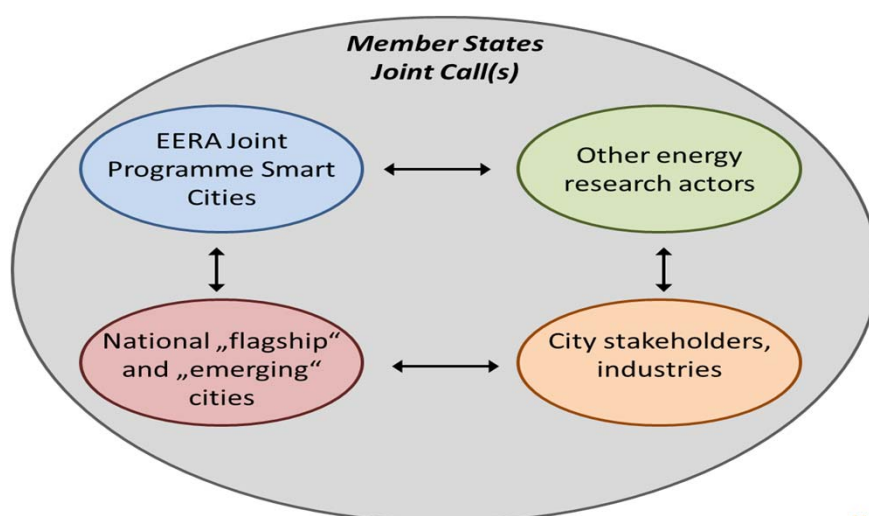
The Role of Joint Calls (II)

Second Phase: 2015 - 2018

- Jointly driving the process towards Smart Cities
 - Setting up and financing RDI on Smart Cities in partnership with the European Commission (ERA-NET Plus, or other innovative instruments)
 - Standards and finance mechanisms for new pilot and demo projects
 - Blueprint for a Europe wide roll out in transnational partnership among cities and with input from industry and research
 - Methods for excellent real time monitoring and analysis
- Potential topics (towards implementation)
 - Developing flagship cities
 - Engaging newcomer cities
 - Preparing tools and methods for roll-out

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Stakeholder Groups to be included



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FP7 Energy WP 2013

- General challenge of harmonised communication between national Smart Cities delegates and FP7 energy programme committee delegates
- The question of a Smart Cities related ERA-NET was introduced at the last PC meeting
- Support among MS was not strong enough to push this additional topic at such a late stage
- The EC in the meantime came forward with an „orientation paper“ on the 2013 WP dated 5 May 2012
 - Few topics oriented at Smart Cities integrated energy planning & management needs
 - High demand on integration and demonstration, related to E2B PPP and ICT
 - see: <http://tinyurl.com/d4xnd3u>
- Role of programme delegates will change in HORIZON 2020 !!!

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Topics from „Orientation Paper“

SMART CITIES AND COMMUNITIES

- Topic ENERGY.2011.2.3.2: Small to medium size wind turbines
- Topic ENERGY.2013.4.1.1: Innovative solar thermal façade systems
- Topic ENERGY.2013.7.1.1: Development and validation of methods and tools for network integration of distributed renewable resources
- Topic ENERGY.2013.7.3.1: Planning rules for linking electric vehicles (EV) to distributed energy resources
- Topic ENERGY.2013.7.3.2: Enhanced interoperability and conformance testing methods and tools for interaction between grid infrastructure and electric vehicles
- Topic ENERGY.2013.8.8.1: Demonstration of optimised energy systems for high performance energy districts

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SET Plan Conference, 19 March 2012

- Presentation of the Smart Cities MSI by HG Schwarz
 - Director Marie Donnelly expresses her interest in the work of the SCMSI
 - At a subsequent meeting on 30 March 2012 in Brussels, Ms. Donnelly agrees to the principle of a direct dialogue between the SCMSI and the EC
 - Further meetings will be conducted, as needed; the Smart Cities Stakeholder Platform may be used to convene such meetings.
- Presentation and discussion of the „Berlin Model“:
 1. Identification of a joint research project by partners from different Member States.
 2. Following a national proposal, a positive evaluation and approval of national funding agencies and based on the alignment of different national evaluation procedures a more detailed proposal can ...
 3. be submitted to EC for further financing where the proposed project has a European dimension and an EU added value.

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Thank you for your attention!



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Joint Call Themes in Detail

- **Scientific tools and methods:**

Development of an integrated simulation/modelling platform

- **Governance and planning processes:**

Standardisation of City Transformation Processes

- **Monitoring and KPIs:**

Integrated urban monitoring concepts

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Scientific Tools and Methods

- Development of an integrated simulation/modelling platform

- Two different types of tools will be needed:
 - Decision support tool for city roadmaps and action plans (incl. appropriate structures for energy data systems)
 - Dynamical tool for city-wide simulation of energy flows (for design and operation of entire energy system)
- Tools will have to be based on commonly agreed standards (methodology, protocols, data structure, procedures for co-simulation etc.)

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Governance and Planning Processes

■ Standardisation of City Transformation Processes

- Based on project screening activity
- Involvement of “flagship” and “emerging” cities
- Initiate European wide “roll-out” of Smart Cities concept
- Screening of existing city visions, roadmaps and action plans
- Development of standard methodologies for city transformation processes
- Establishment of common framework for stakeholder processes
- Identification of common drivers and barriers

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Monitoring and KPIs

■ Integrated urban monitoring concepts

- Monitoring as an essential instrument during city transformation process
- At different urban scales (components, buildings, districts, city)
- Set-up of appropriate KPIs
- Data collection and management
- Two different levels of monitoring:
 - Strategic level: in terms of funding schemes, local policy making, sets of energy measures,
 - Operational level: characterise actual energy performance of city and optimise entire system behaviour

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