



Towards
a low carbon
future

SET Plan , Smart Cities

European Union Energy Policy And The Global Challenges

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● European Energy Strategy

● Key priorities are working in tandem:

» EU 2020 Strategy

» EU Energy Strategy 2011-2020

- Strategic Energy Technology Plan
- Resource efficiency – Renewables 20%;
- Competitive single market
- European infrastructure
- Energy Efficiency Plan, March 2011

- **Conclusions European Council 4.2.11:
SET Plan**

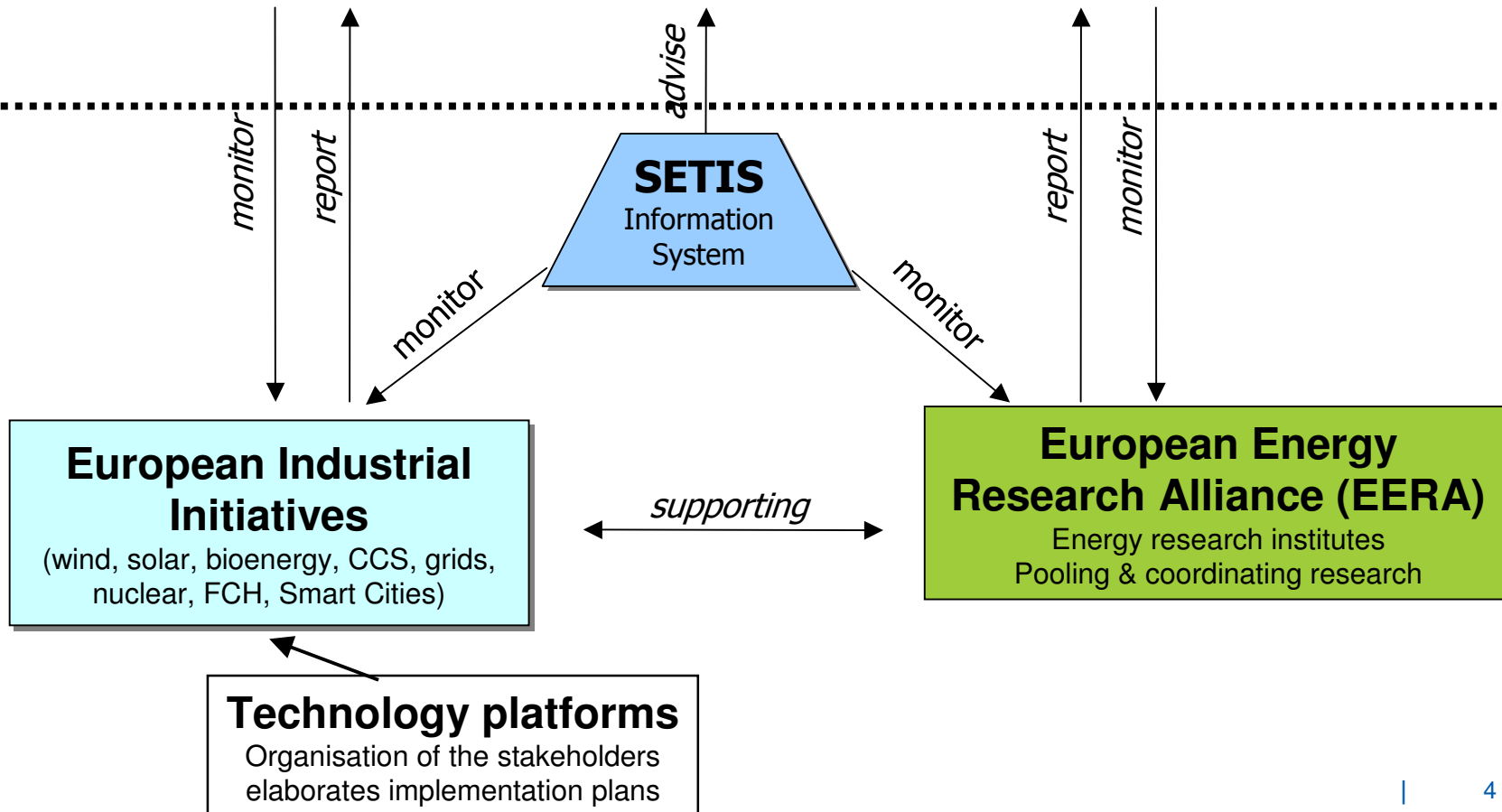
*“The EU and its Member States will promote investment in renewables and safe and sustainable low carbon technologies and **focus on implementing the technology priorities established in the European Strategic Energy Technology plan.**”*

SET-Plan Governance & Industrial Initiatives

Political level



Operational level

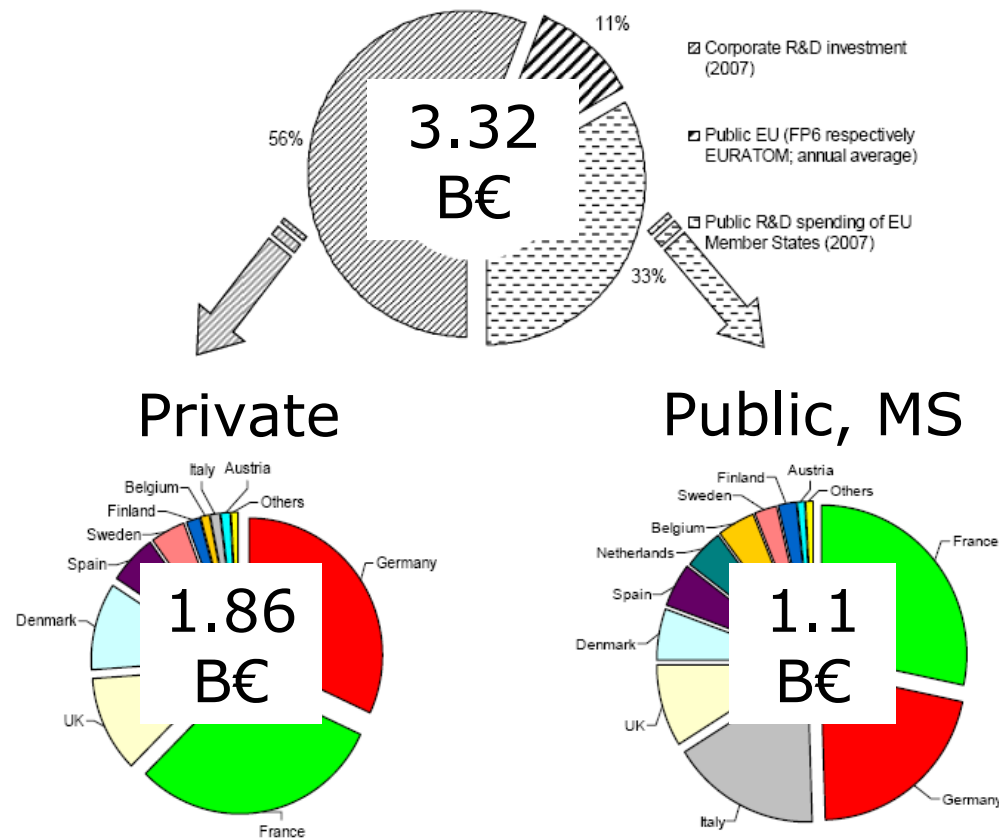


● European Industrial Initiatives

- **Core idea:** make low-carbon technologies affordable and competitive
- **Approach**
 - >> strengthen industrial participation in energy research and demonstration
 - >> accelerate deployment of low-carbon energy technologies
- **European Industrial Initiatives:**
 - >> **Wind**
 - >> **Solar**
 - >> **Electricity grids**
 - >> **Carbon sequestration (CCS)**
 - >> **Biomass**
 - >> **Nuclear**
 - >> **Smart Cities**



● RTD investment in low-carbon technologies in the EU (2007)



Approximate R&D investment in SET-Plan priority technologies (nuclear and non-nuclear) by Member State

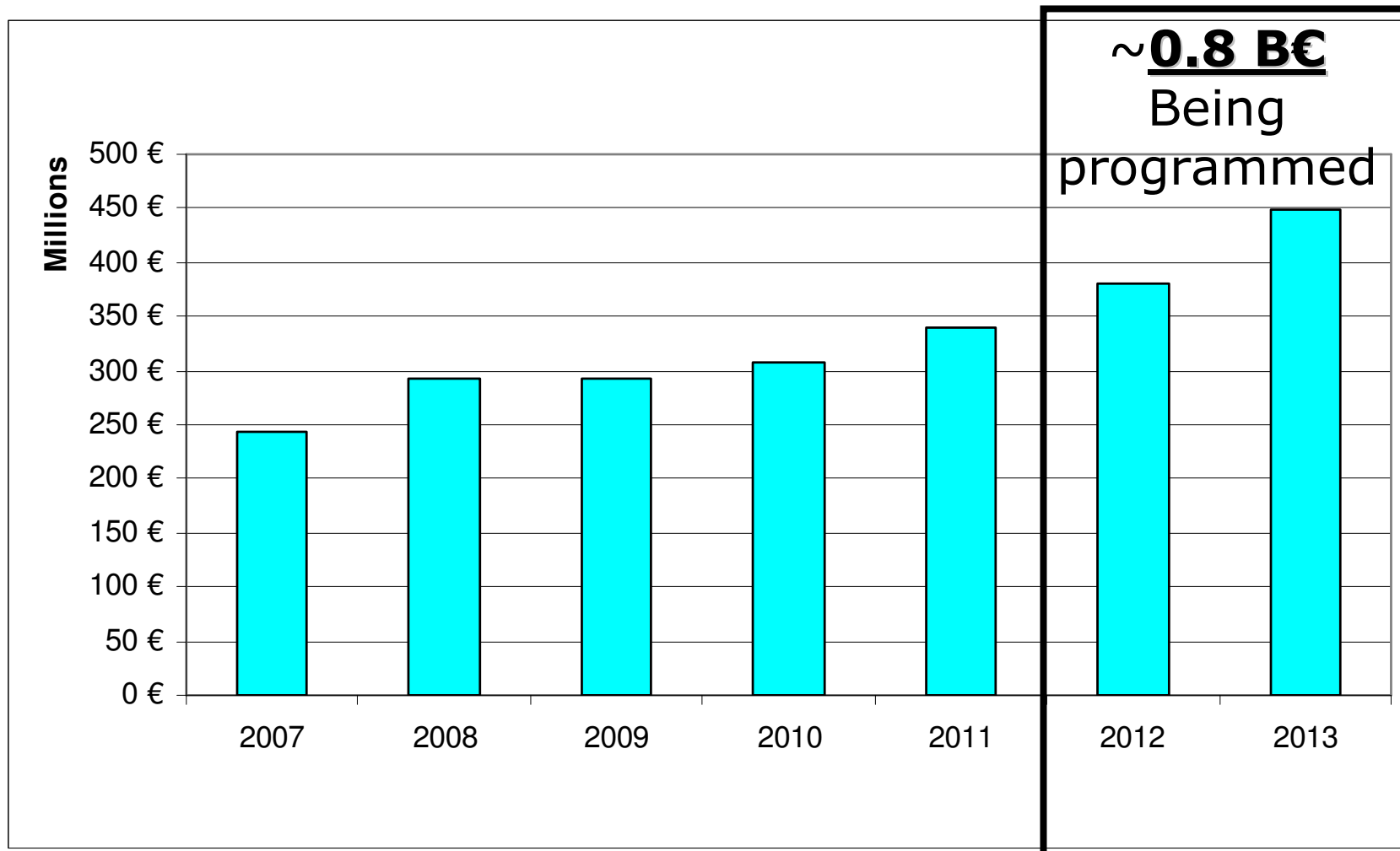
Source: JRC-IPTS, rounded numbers



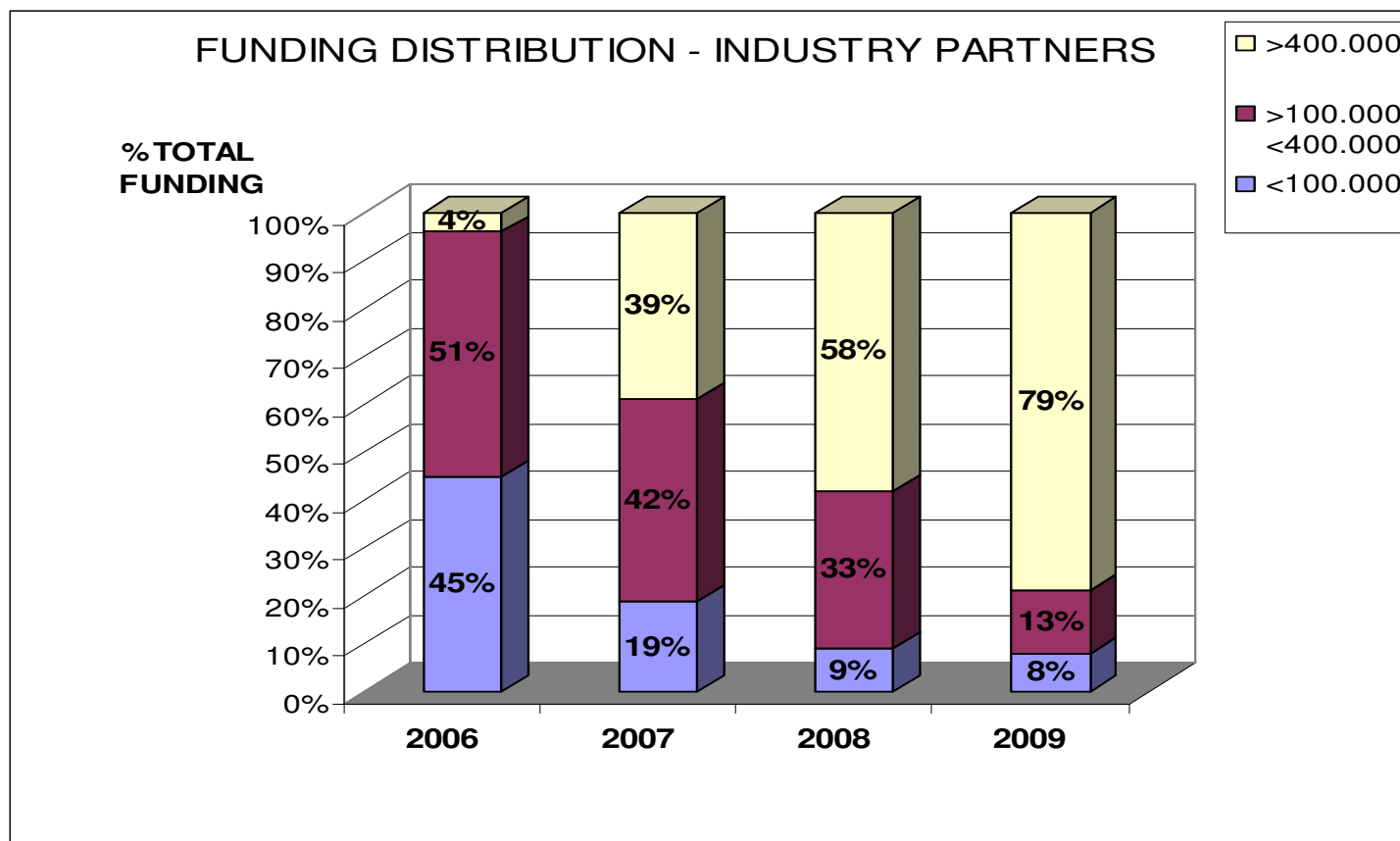
EU Programmes and Initiatives for SET Plan

- **Seventh Framework Programme ~ € 400 m / year (2011-2013)**
- **European Energy Programme for Recovery ~ € 1600 m (2010 for Wind and CCS)**
- **ETS – NER300 ~ € 4 bn (award decisions 2012)**

● FP7 ENERGY budget



Leverage industrial investment



● Success stories

Downwind project
Off-shore wind park
with 5 MW turbines

*Scotland, North Sea,
2009*





**Ongoing EU
Project :
Solar Power
Plant** - first
commercial tower
in the world

Sevilla, Spain, 2009



**Ongoing EU
Project:
2nd Generation
bio-fuels plant**

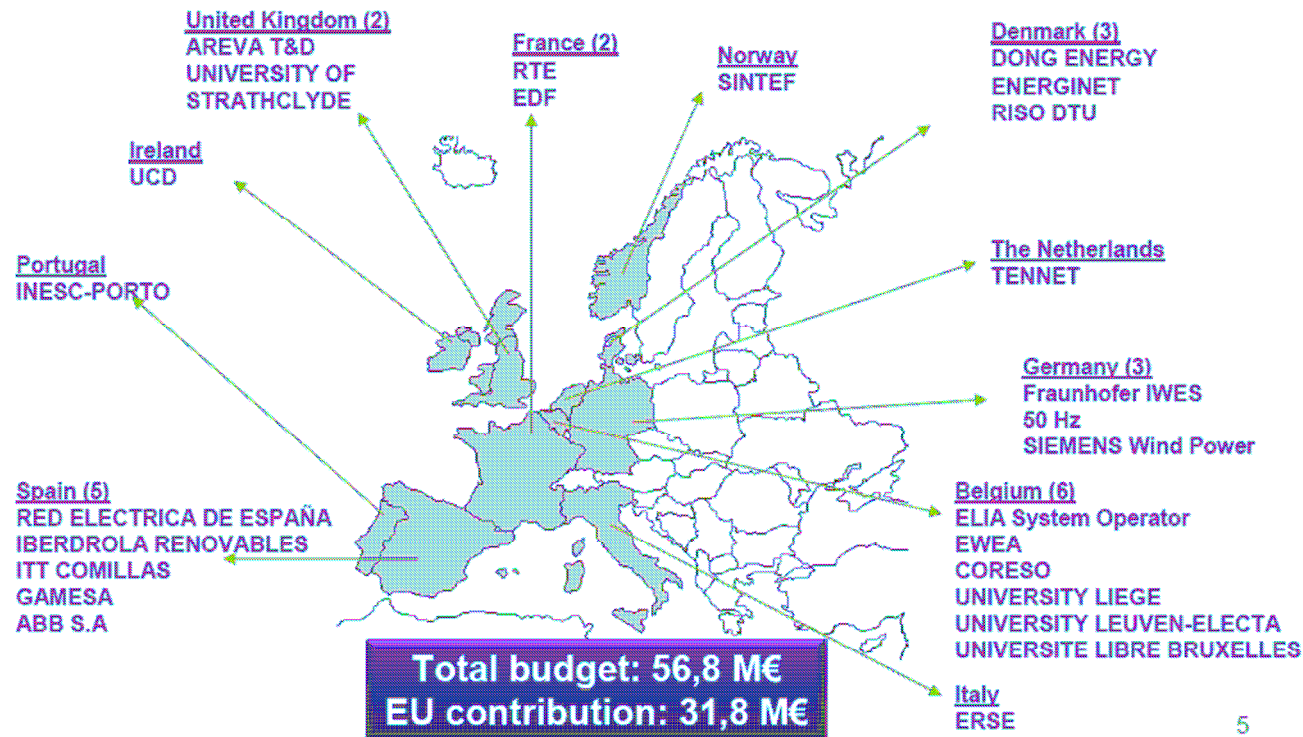
*Choren Plant in
Germany, 2009*



'Twenties (FP7)

Consortium and budget

- ✓ 10 European Member States
- ✓ 1 Associated Country



5

Single call (FP)- single project - transnational activities

● **Smart Cities ‘philosophy’**

- **Identify common challenges**
- **Develop innovative, replicable solutions**
- **Bundle demand from cities**
- **Attract and involve business and banks**
- **Create markets!**

● Building blocks

● Energy

- » Energy in cities
 - planning and modelling of flows;
- » Energy networks
 - electricity and heating & cooling; improved components, systems and data flows;
- » Buildings
 - insulation, holistic approach;
- » Supply technologies
 - electricity and heating & cooling, local production

● **Building blocks (continued)**

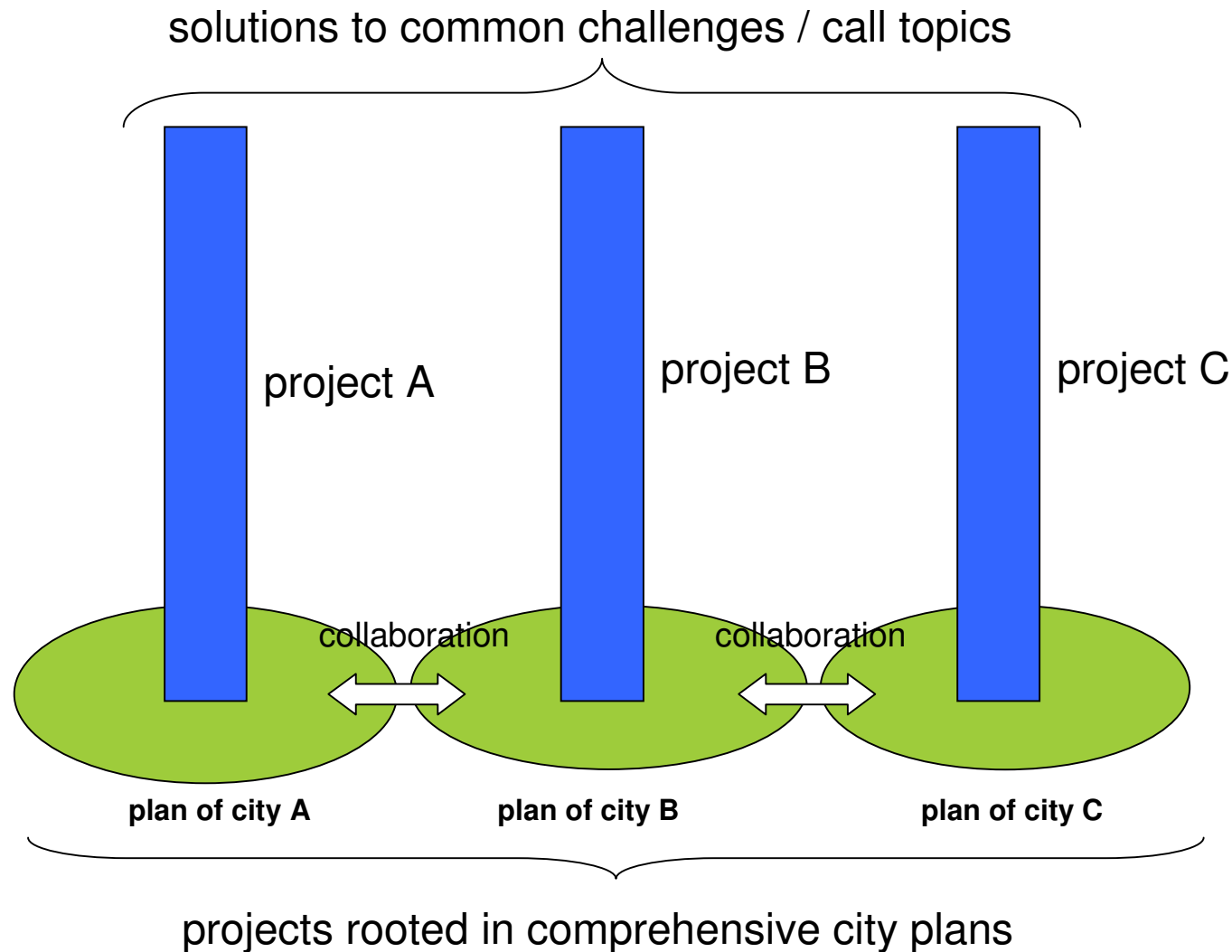
● **Transport**

- » improve interconnections, inter-modal and co-modal transport;
- » improve public transport, non-motorised transport, passenger and freight logistics;
- » low carbon vehicles

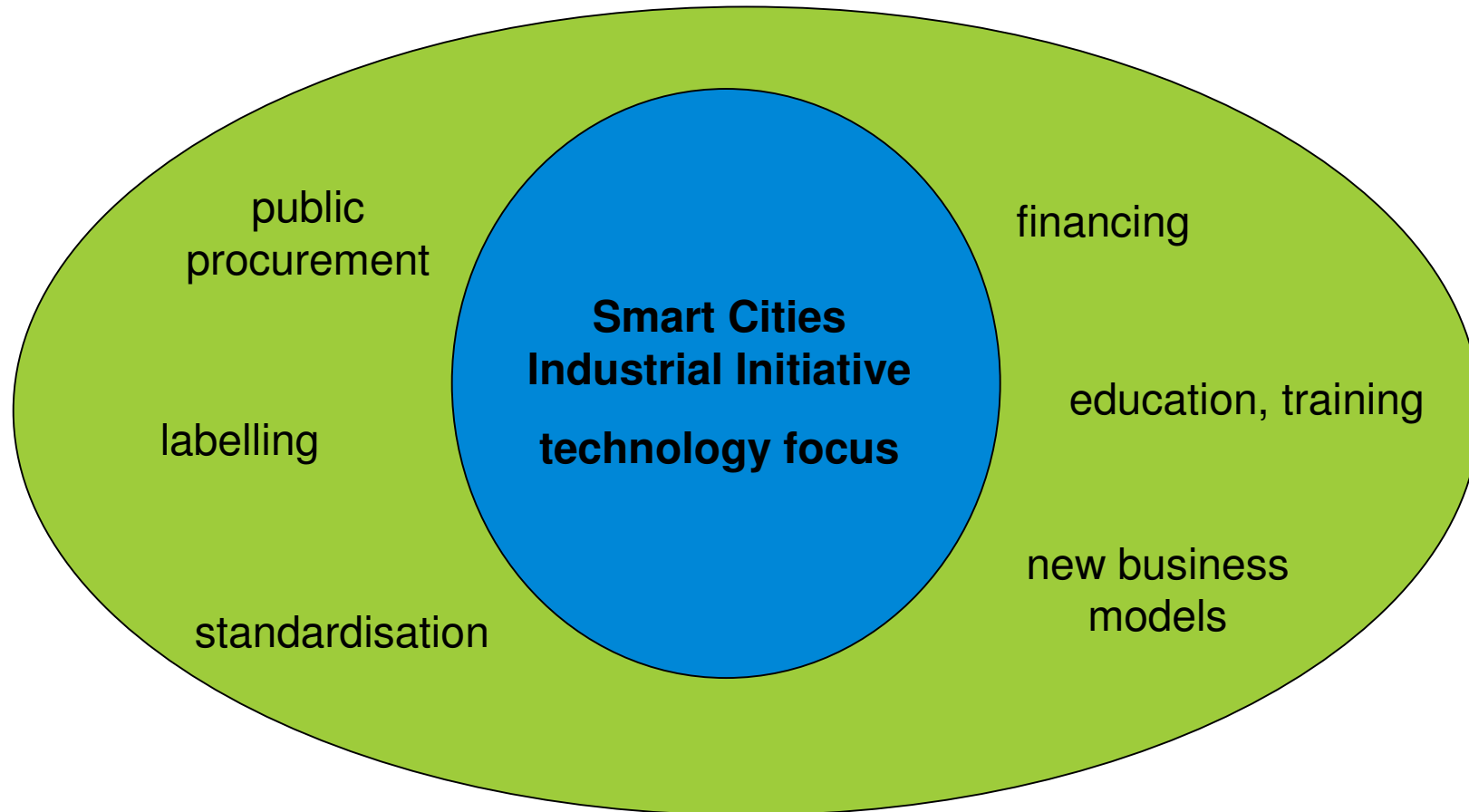
● **ICT**

- » Cross-cutting applications related to energy or transport (e.g. ITS)
- » Modelling of energy flows

Smart Cities approach: top down & bottom up



● Possible future of Smart Cities



● Way forward for SET Plan financing

● *An additional investment of 50b€ - next 10 years*

● Research and Innovation Programme (CSF) 2014 – 2020

» from research and demonstration

- grants for R&D

» to innovation and market

- Loans Platform (RSFF)
- Equity Platform (EGIF)

● Regional policy



Thank you for your attention!

http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm



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