



COGENERATION OBSERVATORY  
AND DISSEMINATION EUROPE



## *The role of EU's Smart Cities in the development of cogeneration across Europe or ..... vice versa*

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*CODE Final Dissemination Workshop*

*25 March 2011, Brussels*





Federazione delle associazioni  
scientifiche e tecniche

RY  
PE

fondata nel 1897

# About FAST

## The Italian Federation of Scientific and Technical Associations

- Founded in Milan 1897
- 34 National Scientific and Technical Member Associations
- Representing 50,000 members
- Manages the offices of the Italian Hydrogen and Fuel cell Association, H2IT in Milan and the European Hydrogen Association, EHA in Brussels
- FAST/EHA manage secretariat of HyRaMP

## FAST activities

- High-level vocational training and courses
- Technical assistance to SME's and associations to facilitate participation in European research programmes
- Research and study activities
- Technical-scientific information dissemination





H2IT Associazione italiana  
idrogeno e celle a  
combustibile

Registered April 24 2004 in Milan

Over a 100 members:

10 companies, ENEL, ENI, Edison, Pirelli, Air Liquide, Linde, Saati, Sol,

Electrolux

24 SME

4 universities, Rome, Florence, Perugia, Sannio, Geneva

2 regions, Lombardy, Abruzzo

Member of COGEN Europe since 2004



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# FC Development EU till 2015

Application Area	Targets 2010	Targets 2015	
		Volume	Cost and Technology
<b>Stationary Power Generation &amp; CHP</b>	3 - 7 MW installed electrical capacity in the EU for pre-commercial demonstration	~ 100MW installed electric capacity	Cost of € 4,000 - 5,000/kW for micro CHP Cost of € 1,500 - 2,500/kW for industrial/commercial units
<b>Early Markets</b>	500 new units in the EU-Market: <ul style="list-style-type: none"> <li>◆ 50 UPS/back-up power</li> <li>◆ 20 industrial and off highway vehicles</li> <li>◆ ~ 400 portable &amp; micro FCs</li> </ul>	14,000 new units in the EU market: <ul style="list-style-type: none"> <li>◆ 1000 UPS/back-up power</li> <li>◆ 500 industrial and off-highway vehicles</li> <li>◆ 12,000 - 13,000 portable and micro FC's</li> </ul>	

# EU Smart Cities Initiative Introduction

Urban areas in the EU consume 70% - 80% of all energy and emit same amount of CO<sub>2</sub> in EU.

EU Smart Cities and Communities Initiative seeks to support measures which increase the availability of products and services and realise economies of scale in their production and deployment.

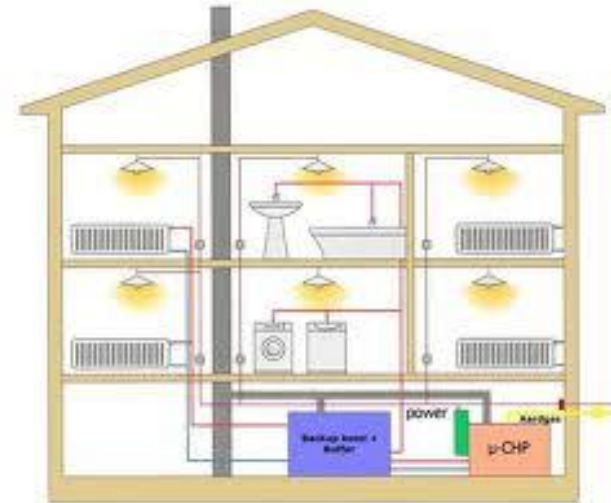
**Smart Cities Initiative** will initially be part organisational framework of the Strategic Energy Technology (SET)-Plan. In a next step, the Commission plans to create a **stakeholder forum** gathering the various stakeholders.

At a later stage, may evolve into a **European Innovation Partnership** as envisaged by the EC Communication on the Innovation Union of 6 October 2010.

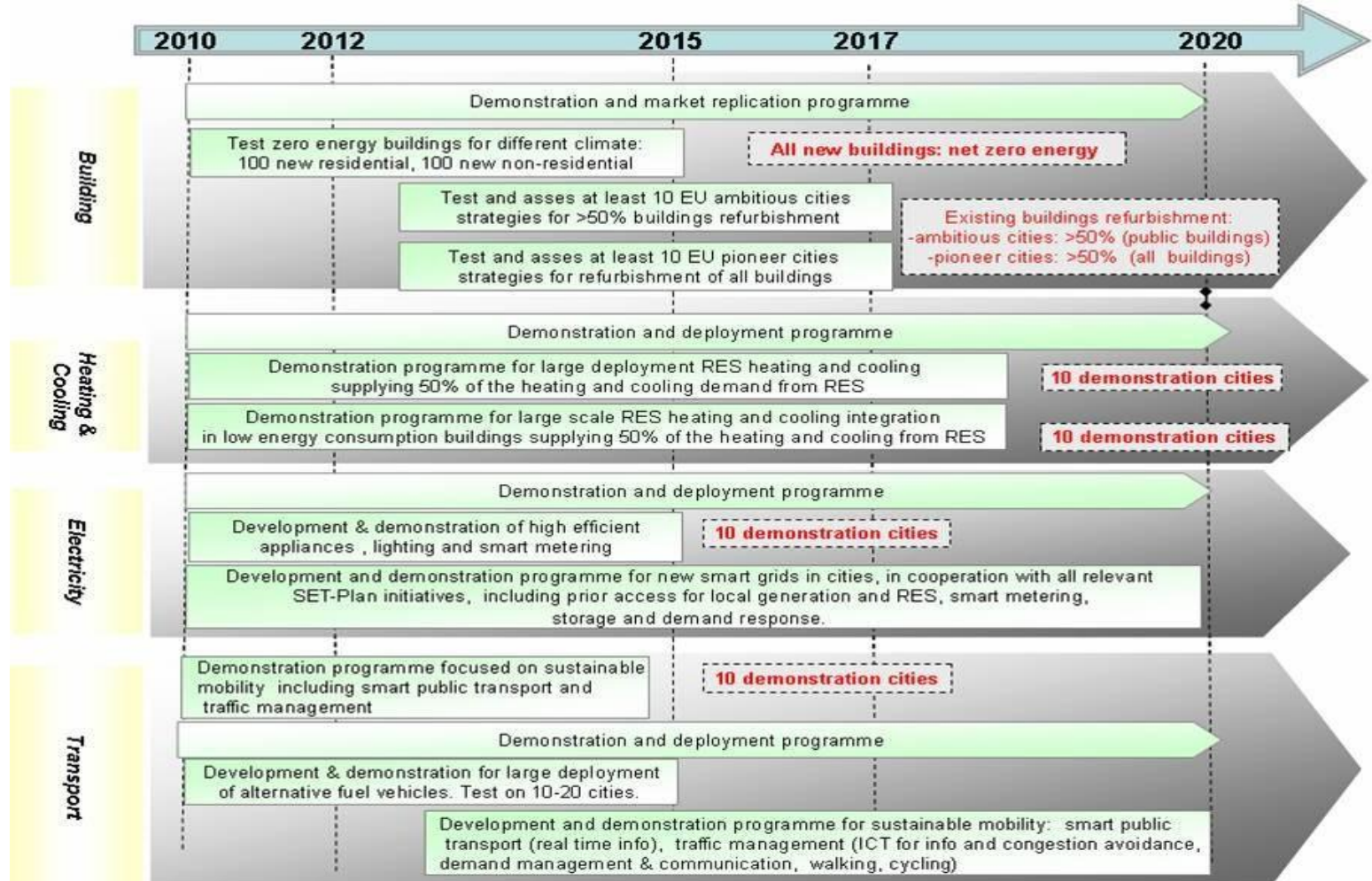


# Smart Cities Objectives

- To trigger a sufficient take-up (reaching 5% of the EU population) of **energy efficient and low carbon technologies** to unlock the market;
- To reduce by 40% the greenhouse gas reference year 1990 emissions **by 2020**;
- To effectively spread across Europe **best practices** of sustainable energy concepts at local level, for instance through the Covenant of Majors.



# EU Smart Cities Roll out



# *EU Smart Cities and Buildings*

- 1. 2010 -2015:** Test **100 new residential and 100 new non-residential buildings** for different design options for zero energy buildings in different climatic zones (no more than 5% of traditional construction costs), and monitoring of the performance under real use (the monitoring being part of the R&D);
- 2. 2012- 2017 :** Test and assess through **5-10 programmes, strategies for the refurbishment of at least 50% of existing public buildings** (including social housing, non-residential buildings, etc.). Besides technologies, innovative financing schemes, and refurbishment techniques will be developed and tested;
- 3. 2012- 2017:** Test and assess through **5-10 programmes, strategies for the complete refurbishment of 50% of all existing buildings** (e.g. residential buildings, public buildings, non-residential buildings, etc.). Besides technologies, innovative financing schemes, and refurbishment techniques have to be developed and tested.

## *Heating and Cooling*

- 1. 2010 – 2017: 5-10 demonstration programmes** for large deployment of RES heating and cooling in cities supplying 50 % of the heat and cooling demand from RES:
- 2. 2010 – 2017: 5-10 demonstration programmes** for large scale RES heating and cooling integration in energy efficient buildings in pioneer cities supplying about 50% of the heat and cooling demand from RES



## *Electricity*

**1. 2010 -2015: development and deployment programme** focused on high efficient appliances, lighting and smart metering;

**2. 2010- 2017: 5-10 development and deployment programmes** for smart grids in cities, in cooperation with all relevant SET-Plan Initiatives, including priority access for local generation and renewable electricity, smart metering, storage, and demand response. European cities piloting the smart grid concept in collaboration with local distribution companies will be given priority.



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# EU Smart Cities Next Steps

## 1. EU Smart Cities Consultation is out:

- Deadline May 13, 2011

[http://ec.europa.eu/energy/technology/consultations/20110513\\_smart\\_cities\\_en.htm](http://ec.europa.eu/energy/technology/consultations/20110513_smart_cities_en.htm)

- Includes specific request to submit one innovative concrete proposal: COGEN Europe to coordinate

## 2. Selection of Smart Cities in on!

COGEN National Associations to identify candidate cities in their countries.

**3. Selection is based on Sustainable Energy Action Plans (SEAP) of the cities of the Covenant of the Mayors.**

**4. Covenant of Mayors is defining Benchmark projects**



# CODE Project and EU Smart Cities

1. CODE established first European Observatory for Cogeneration with support of COGEN Europe's national associations: close-up look into national mechanisms for CHP demonstrated that more intensive local monitoring is needed to force "change".
2. CODE Observatory experience can be put to use to support CHP integration in EU's Smart Cities:
  - CODE Handbook suggest CHP Benchmark projects;
  - CODE submits effective incentive schemes;
  - COGEN Europe facilitates use of funds in European Energy Efficiency Facility (EEE-F) of the European Energy Programme for Recovery (EPR)
  - CODE/COGEN Europe sets up network of CHP national experts to support local deployment.



## Smart Action Points

CODE Handbook on best practice to suggest CHP Benchmarks for Smart Cities.

**COGEN national associations to identify projects close to Smart Cities**

CODE submits effective incentive schemes;

**CODE identifies most effective incentive schemes**

COGEN Europe facilitates use of funds in European Energy Efficiency Facility (EEE-F) of the European Energy Programme for Recovery (EPR)

**COGEN Europe gets in touch with EIB/EEE-F**

CODE/COGEN Europe sets up network of CHP national experts to support local deployment.

**COGEN Europe national associations facilitate appointment of national CHP experts with good political contacts.**

## *Smart suggestions?*

FAST /H2IT

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