







STITUTO SUPERIORE MARIO BOELLA







Roelle Istituto Superiore Mario Boella

GREENCOM AND PIEVERDE: SMART GRID PROJECTS IN PIEDMONT



September 2014

Paolo Brizzi

THE GREENCOM PROJECT

September 2014

Energy Efficient and Interoperable Smart Energy Systems for Local Communities



Call: European Commission FP7 ICT-2011.6.1 Smart **Energy Grids Duration: 36 Months** Start Date: 1/11/2012 **Consortium: 5 Countries / 7 partners**



VISION

To create a **technical & socio-economic foundation** for introducing radically new business models for smart energy systems and their acceptance by consumers in well defined **communities**





Develop a Smart Energy Management System Develop new and disruptive Business Models for Energy suppliers and Consumers/Prosumers

AIM

To balance needs of

• Energy suppliers: flexibility, reliability and profitability



• Society and consumers



September 2014

SMART ENERGY MANAGEMENT SYSTEM - 2



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SUSTAINABLE BUSINESS MODELS: CONSUMERS

Actively engage consumers in their energy supply and demand at personal and at community level

- Enhance **awareness** about sustainable behaviors
- Produce tangible value propositions for prosumers, promoting use of local, renewable energy sources and innovative energy storage concepts
- Create market demand for GreenCom solutions





SUSTAINABLE BUSINESS MODELS: ENERGY SUPPLIERS

Allow direct demand control based on short-term demand and supply forecasts

 Investigation of technical and business aspects related to community programs for virtual peer-to-peer energy exchange models (net zero-energy communities)



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GreenCom PILOTS

"Innovation Fur" Site

A development project and test bed formed by the island of Fur, the municipality of Skive and GreenCom Partner E-MIDT

> Innovation Fur is running for the period 2011 to 2015.



 The overall objective is to demonstrate how modern technology and innovative energy solutions can contribute to the digital, sustainable society of the future.



 GreenCom pilot site will be possibly integrated into Innovation Fur

THE PIE VERDE PROJECT

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PIE VERDE

Piattaforma Ibridi Elettrici - Veicoli E Reti di Distribuzione Ecosostenibile Hybrid Electric Vehicles Platform And Ecosustainable Distribution Networks

PIEVERDE



<u>Call:</u> Regional Project - Public Tender POR FESR 2007/2013 Activity Line I.1.1 "Innovating Platforms"

Duration: 34M

Start Date: 08 Feb. 2012

Consortium: 31 partners between enterprises and Universities (6 large enterprises, 5 micro enterprises, 14 small enterprises, 3 medium enterprises, 2 Universities and 1 private Research center):

Iveco (coordinator), FPT Industrial, Magneti Marelli, Centro Ricerche Fiat, ENERGRID, AMET ITALY, BLUE Engineerig, Bluethink, Capetti Elettronica, Cold Car, EICAS Automazione, EMA, Enerconv, Get Italia, MECAPROM TCO Italia, MEC, MECT, MONET, NOVA PROGETTI, OPAC POWER, SynArea Consultants, STC, T&T Elettronica, TEORESI, VE&D-Vehicle Engineering & Design, 4S-Sistemi sicuri e sostenibili, Politecnico di Torino, Università Degli Studi di Torino, TNT Global express

PIE VERDE

GOALS

PIE VERDE aims to foster the adoption of low-environmentalimpact electric lightweight commercial vehicles, make travel more comfortable, environmentally friendly and safe "smart-logistics in smart-cities"

SMART GRID VISION

PIE VERDE aims to study and evaluate the impact of electric vehicles on the energy distribution grid

How many vehicles Where vehicles will be distributed How humans use vehicles Which technology will be adopted



How to distribute charging station Which recharging pattern to use How to evaluate demand-response algorithms to optimize the grid usage Which business profiles adopt



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PIE VERDE





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