



Italian best practices towards a Low Carbon Society

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Berlin 2010, Sept. 20th-21st

Outline

- General context and main actual mitigation policies
- Local Government and Society
- International cooperation
- Research
- Technology



European obligations are driving the Italian transition

Being member of the European Union and therefore part of the Kyoto Protocol and of the European Climate Action and Renewable Energy Package, Italy is and will be strongly and positively impacted in its efforts towards developing into a *low carbon society* .

Emissions profile

- Population over 60,4 million
- emissions including LULUCF 500,361 Mt CO₂-eq in 2007,
- 454,187 Mt CO₂-eq in 2008
- 83% of total greenhouse gas emissions attributable to the energy related sector (including transport)

| tCO ₂ eq/ per capita | Italy | EU-27 | EU-15 |
|---------------------------------------|-------|-------|-------|
| 1990 | 9.1 | 11.8 | 11.6 |
| 2007 | 9.3 | 10.2 | 10.3 |

Main mitigation policies

Italy targets under EU Package:

- reduce emissions from sectors outside of EU-ETS by 13% below 2005 levels by 2020.
- 17% of the Italy's energy consumption to be from renewable sources by 2020
- 10% target for renewable energy in transport

Main Italian initiatives promoting renewable energy and energy efficiency:

Green certificate market (since 1999)

White certificate (2005)

Incentives for photovoltaic plant

Local Government and Society

Although the Central Government has the overall responsibility, regional and municipal authorities play a major role in the promotion and definition of the low-carbon Italian pathway

Milan: Climate and Sustainable Energy Action Plan(2009), Ecopass (2009)

- Rome: Roma for Kyoto (2004)
 - Trento province: implementation of the EU Directive on Energy Performance of Buildings
 - Florence: RACES - Raising Awareness on Climate and Energy Saving financed by EC Programme LIFE+ (2009, ongoing)
 - Bike sharing in 92 Municipalities all around Italy
 - Bolzano province: “School-Climate” Environmental Education Project
-and more





International Cooperation

Italy's commitment to international cooperation (multilateral or bilateral with developing countries) involves a wide range of activities from the supply of financial resources, to the design and implementation of programmes and projects, the promotion of transfer of environmentally-sound technologies and support to adaptation measures.

→ International cooperation and local commitment: a new cooperation model and a success case in the Small Pacific Islands States

Successful cooperation model

- On May 10th 2007, in NY, the Government of Italy and the Governments of the Pacific Small Island States launched a cooperation program to address the key global challenges of climate change,
- **A successful model:**
 - it relies upon a process of project identification and approval to which both donors and recipients participate;
 - it establishes clear funding priorities;
 - it operates out of a base in New York, where 11 of the participating Pacific countries are represented.
- The **collective result** is that
 - multiple layers of review are avoided,
 - project planners in the field have clear guidance as to priorities,
 - and communications among parties do not suffer from the geographical remoteness



In less than 3 years about \$12 Mln in projects and activities – 22 projects in all–have been committed

- **Cook Islands:** National Programme of Action for Adaptation to Climate Change
- **Fiji:** Implementation of a comprehensive Policy Act, Biofuel standards, National Biogas Programme
- **Nauru:** House water storage, Community Demonstration Project on Renewable Energy for Biogas Cooking and Lighting
- **Papua New Guinea** Renewable energy pilot systems
- **Solonom Islands** Renewable energy electrification project for rural boarding school
- **Micronesia** Grid-Tied photovoltaic power systems for Chuuk State
- **Samoa** Energy Efficiency + Biofuels
- **Tonga** Solar
- **Vanuatu** Solar + Wind + Hydro
- **Palau** Energy Efficiency
- **Tuvalu** Photovoltaic
- **Marshall Islands** Biofuels + Photovoltaic
- **Kiribati:**
 - Renewable energy systems for water pumping in rural communities
 - Wind resource assessment for Kiritimati Island
 - Biofuel production and refining development at Kiribati
 - PV-hybrid minigrid for Chevalier College Abemama Atoll



Research

The Italian research community is deeply involved in the international climate change debate and research networks

Euro-Mediterranean Center on Climate Change (CMCC)

Fondazione Eni Enrico Mattei (FEEM)

Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)

Institute for Environmental Protection and Research (ISPRA)

Research is mainly focusing on climate observations and modelling; vulnerability assessment; socio-economic impacts on energy, industry, insurance, transport and tourism; soil degradation, water ecosystem, biodiversity, human health, human settlements, marine biology, forestry, agriculture special geographic focus on coastal zones, oceanic zones and the Mediterranean Area.



Technology

ENEA Solar Thermodynamic Research Programme developed a new solar technology for improving production from concentrated solar energy www.enea.it

On July 2010 Enel inaugurated the "Archimede" 5 MW solar thermal power plant at Priolo Gargallo (Syracuse, Sicily). The Archimede plant is the first in the world to use molten salts as heat transfer fluid and to integrate a combined-cycle gas facility and a solar thermal power plant for electricity generation.

Archimede with a field of 30,000 square meters of mirrors leads to an annual savings of 2,100 toe, reducing CO2 emissions by about 3,250 tonnes.

Conclusions

- **European obligations are driving the Italian transition to LCS;**
- **Successful initiatives have been undertaken to promote energy efficiency and renewable energy;**
- **Italian commitment to low carbon society is intertwined with international cooperation;**
- **Local proactivity suffers from a lack of national coordinated action;**
- **Research institution could play a decisive role;**
- **Public awareness needs to be consolidated .**

Italian best practices towards a low carbon society

Research

The Italian research community is deeply involved in the international climate change debate and research network. Funded by the Italian Ministries of the Environment and Land Protection, of Education, University and Research, and of Economy and Finance, the Euro-Mediterranean Center on Climate Change (CMCC) represents the most ambitious initiative undertaken in Italy, within the framework of the National Research Plan on climate. CMCC carries out integrated, multi-disciplinary and frontier research for understanding, controlling and adapting to Climate Change www.cmcc.it, www.policy simulator.org



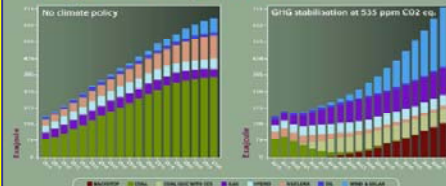
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Archimede with a field of 30,000 square meters of mirrors leads to an annual savings of 2,100 toe, reducing CO₂ emissions by about 4,750 tonnes.

Energy demand from power sector



Local government and society

Several initiatives developed by cities and provinces

The EU Life+ project RACES (Raising Awareness on Climate and Energy Saving) involves 5 cities around Italy in order to promote bottom-up participation bringing together families, teachers and local administrators in the definition of mitigation and adaptation strategies. A successful model to be replicated all over Europe www.liferaces.eu/

Cambia il clima in città

Cambiamenti climatici e risparmio energetico: gli indicatori delle nostre città.



International cooperation

International cooperation and local commitment: a new cooperation model and a success case in the Small Pacific Islands States

On May 10th 2007, the Government of Italy and the Governments of the Pacific Small Island States launched in New York a cooperation program to address the key global challenges of climate change. In less than 3 years about \$11 Mln in projects and activities – 18 projects in all – have been committed.

Second Annual Researchers Meeting, Berlin 2010, Sept. 20th-21st
International Research Network for Low-Carbon Societies (LCS-RNet)

Thanks for your attention!

