Skills and training needs in RE and EE sectors.

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What **is** / **will be** the future?
Non-finance companies in the business

Working towards 100% renewable energy.
Non-energy companies in the business

The Nest Learning Thermostat
Now with Google+
Demand response
All-Electric plug-in is Car of the Year 2013
Smart system of TOMORROW

Source: Eurelectric.
Energy efficiency and Renewable Energies market size 2011

Comparable to supply side investment markets!

Source: OECD-IEA.
The multiple benefits of energy efficiency

Objectives

Assess **lack of skills, qualifications, training** or **re-training** opportunities.

The role of companies into green economy.

**Actions**

- Assessment of existing skills and qualifications;
- Identification of training opportunities (anticipation) for professionals;
- Identification of good practices on how education & training is responding to greening occupations.
Methodology

- Scientific publications
- Technology assessment
- Missions
- Interviews
- Focus Groups
“Main job losses are related to the rise of automation, restructuring, and outsourcing.”

“New employment opportunities will appear but it is necessary an advance training of workers to respond to the demand.”

“Women represent less than 30% of the renewable energy sector.”

“Renewable energy generates more jobs per unit of energy delivered than fossil fuel based.”

“EVs associate employment gains in battery developments & conversion of job skills”

“Wind demands high & low qualified workers“

“Smart grid requires encompass jobs with high qualifications”
Main Results

Wind Power

Fast Development
Public Policies to new industry;
Reliance on manpower but Automation will soon take over;
Economic crisis – companies stabilize and export.

Education
Education system was responsive in graduation and post graduation;
Joint programmes with industry.

Skills
Lack of medium level and operational skills;
Systematic and continuous training in project design, instrumentation, control and ITC and in close relationship with the industry.
Main Results

Electric Vehicles

R&D
New prototypes.

Specific training
Mechanics,
Body work repairers,
Breakdown assistance staff
Firemen, etc.

Training contents
Structure of vehicles;
Risks;
Protective equipment;
Safe operating mode.
Main Results

Smart Grids

Energy Efficiency
Investment in processes, systems and devices;
Regulation, economic incentive and training and education;
Accommodating all technologies and energy sources.

Information & Communication Technologies
Convergence of information technologies and green technologies;
R&D Centres to provide technical solutions.

New Skills & Jobs
Production of equipment;
Operation of smart meters;
ITC Skills;
Retraining;
Electricity Storage.
Recommendations

1. National programmes to wind industry at medium level + IT + foreign languages;
2. State financial assistance to training in wind out looking for export;
3. Energy efficiency in the University curricula + behaviour;
4. More supportive public policies towards EV + lead by example;
5. Industry partnerships in all sectors;
6. Public information campaigns to professionals dealing with auto repairs, emergency responders (firemen) on EV hazards.
7. Develop a broad European Green Training Strategy – EE and RE value chain.
For more information...

Upcoming publication in 2015:

“Green skills and innovation for inclusive growth”
Thank you.