Industry at the heart of resource efficiency

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GREEN WEEK
Brussels, 24-27 May 2011
Message

1. Industry and manufacturing is at the heart of resource and energy efficiency

2. Optimizing innovation and achieving earlier results requires new efforts for cooperation in resource and energy efficiency
   - Right down to practical levels of processes, materials, waste
   - including cross-sectoral approach to exploit know-how, technologies and solutions

3. Fortify and improve what we do know:
   a. Access to finance for existing & new technologies
   b. Demonstration projects
   c. Skills and Training - know-how in maintenance, purchasing..

4. Work with pioneers, understand incentives and barriers cooperate with all actors
EUnited member companies are technology and equipment suppliers.

Five sectors:
- Cleaning
- Metallurgy
- Municipal
- Robotics
- Valves

Total est. 10bn Euros

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EUnited and the Resource & Energy Partnership

• Anyone for “resource inefficiency”? (Commissioner Potocnik)
  – Yet challenges are legion - from food waste, insulation in homes and other buildings, mobility, fish resources, etc.
  – Caricatures: “poor and clean” - to “rich and dirty” – “to rich and clean”
  – Social unrest, poverty and wealth

• 140,000 new humans daily... 9bn of us
  – WBCSD report February 2010 concludes:
  – “Swift, radical and coordinated actions are required at many levels, by multiple partners”
  – an understatement

• Divided about means, strategies, and about barriers
  – Polarised views and “unawareness”
Elusive definitions....

Resource efficiency:

• ...optimising the environmental and financial benefits from using a material or product that requires the least energy and materials over its life cycle.

• ...means using the Earth's limited resources in a sustainable manner. It means producing more with fewer inputs, lessening our impact on the environment, and consuming in a more intelligent fashion.
Resource & Energy efficiency Partnership

“REP” is a group of European associations, ETPs, and organizations motivated to promote resource and energy efficiency in process industries.

In October 2010, “REP” set up a position paper which was distributed to Commissioners De Gucht, Geoghegan-Quinn, Oettinger, Potocnik and Tajani.
Resource & Energy Efficiency Partnership

A platform dedicated to resource & energy efficiency for these process industries.

• Because production industries are the roots of the economy
• Because ultimately most finished products (infrastructure to consumables) are made from natural materials and undergo complex transformation
• Industrial performance and efficiencies depend on the whole supply chain or many intricate aspects of it
• Partnership covers the domain of the process industries, producing materials, with a view on the whole supply chain of value creation.
Profile of resource and energy efficiency partnership

Manufacturing is the principal economic activity
- Enterprises: ~ 2 323, 000 (in the EU-27)
- Turnover: ~ EUR 7 274 000 million.
- Value added: ~ EUR 1 813 000 million
- Employment ~ 34 541 000 persons (~ 70 Million via related services).

Process industry partnership estimations
- 20% of Manufacturing Turnover (~ EUR 1 600 000 million)
- 20% employees

Manufacturing largest of the eight main sectors that make up the non-financial business economy in Europe

http://epp.eurostat.ec.europa.eu

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Topics identified for Partnership

- Deployment of key (existing) processes & technologies
  - Benchmarking / Best practices exchanges
  - Trans-sectoral dissemination of existing efficient technologies, BATs, BREFs.
    - Cogeneration: Combined Heat and Power (CHP)
    - Heat recovery, Pressure recovery
  - Intra-sector deployment of proven efficient technologies
  - Energy management tools: energy balance, diagnosis, optimization...
  - Cross-sectoral approach of Resource and Energy efficiency
  - Standards in industrial equipment
  - Integration of renewables within the process industries
    - Renewable heat production (biomass, geothermal, solar thermal...)
    - Renewable integrated electricity production (wind, photovoltaic...)
    - Biofuels... and bio based feedstocks
Research and Innovation areas (1/3)

1- Improving industrial synergies between various sectors located in the same area:

- Materials and energetic flows
- Waste materials & waste heat recovery
- Temporary energy storage

2 - Cross-sectoral approach for Energy efficiency:

- Energy management programmes.
  - Global energy and exergy balance
  - Intelligent integrated approach
  - Off-line and on-line optimization
  - Modular and process intensification concepts for production tools

- Energy efficient technologies
  - Combined Heat and Power.
  - Low and medium T° heat recovery (ie Organic Rankin Cycle; Water cooling)
  - Efficient combustion (ie oxy-burners, recuperative and regenerative burners...)

- Integration of renewables and new energy sources in industrial processes....
3 - Cross-sectoral approach for Resource efficiency:

- Industrial water management
  - Overall water management
  - Water treatment and water reuse
  - Water and energy optimization
- Waste and by-products valorization
  - Pilot and demonstrators for cross-sectors waste valorization
  - Use of waste/ by-products from one industry as raw material for another one
- Bio and CO2 based feedstock.
- Societal value of materials on the whole supply-chain.
  - Societal approach of materials
  - Life cycle assessment (LCA),
  - Cradle to cradle approach and second life value chain
Research and Innovation areas (3/3)

4 - Sectoral approach for Resource & Energy efficiency (within each sector producing materials):

- Identification of key R&D areas for energy efficiency
  - New concepts (intra sector) for energy management
  - Incremental improvement of existing technologies
  - Development of new heat recovery technologies (low, medium, high T°)
  - Advanced and breakthrough energy efficient technologies

- Identification of key R&D areas for resource efficiency
  - Pilot and demonstrators for intra-sectors waste valorization (Recycle, Re-use..)
  - Raw materials improvement (selection, preparation, value-in-use concept..)
  - Yield improvement in the production flow
  - Lean production: shorter lead time, coupling of steps of production, inventory reduction, supply chain simplification..
  - Whole supply-chain integration (process industries + manufacturing)
  - Eco-products, eco design
Examples of demonstration projects

• Using new and alternative energy sources e.g. Biomass as fuel or biogas, solar energy or geothermal energy.
• Minimising the use of natural water resources by utilising cleaned waste water as process water
• New and innovative ways to utilise by-products and waste materials as raw materials.
Europe 2020

**Flagship Initiatives**
- Youth on the move
- A digital agenda for Europe
- Resource efficient Europe
- Innovation Union
- An industrial policy for the globalisation era
- An agenda for new skills and jobs
- European platform against poverty

**Eur. Innovation Partnerships (EIPs)**
- Healthy ageing
- Raw Materials
- Water efficiency
- Smart Cities
- Smart Mobility
- Agricultural sustainability

**Policy documents** – EC Communication (political strategies and specific practical and funded actions)

**PPP**
- EIT
- FP7
- FP8
- CIP
- Life+
- EIB

**Financial instrument**
- Structural Funds
- Risk Capital
- National Funding

**EU and national funding programmes, risk capital & structural funds**
Benefits of this PPP

• Collective expertise and engagement of major industrial sectors
  – Stakeholders include research, academia, as well as industry, at European & national level
• Industry commitment
• Interface to cooperate with other actors – finance, governments, etc
• Cross sectoral synergies
• Multiple annual strategic roadmap
• Close to market, leveraging industry and working towards real solutions
Conclusions

1. Industry is at the heart of resource and energy efficiency

2. Optimizing innovation and achieving earlier results requires new efforts to cooperate on resource and energy efficiency
   - Down to practical levels of processes, materials, waste
   - including cross-sectoral approach

3. Fortify and improve:
   a. Access to finance for existing & new technologies (new instruments, leasing etc)
   b. Demonstration projects
   c. Skills and Training – know-how in maintenance, purchasing..

4. Work with pioneers, understand incentives and barriers, cooperate with all actors
Thanks for your time

http://www.eunited.net