



# Sustainable Energy Systems



**Gunther HANREICH**  
Director

**New Energies and Demand Management**  
**Directorate General for Energy and Transport**

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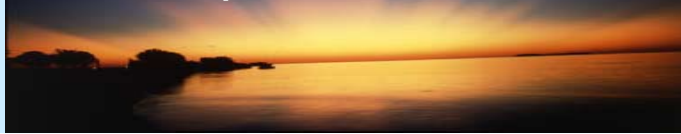
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# Sustainable energy in EU policies

## *Environment*

Reducing emissions of CO<sub>2</sub>  
and other pollutants (acid  
rain, etc.)



## *Local and regional development*

Economic and social cohesion



## *Local job creation*



## *Security of supply*

Reducing imports





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# EU Energy Policy Papers

- **COM on Green Paper on Security of Energy Supply (Jun 2002)**
- **White Paper on Common Transport Policy (Oct. 2001)**
- **White Paper on Renewable Energy Sources (Nov. 1997)**
- **Action plan to improve Energy Efficiency in the EU (April 2000)**
  
- **Renewable Electricity Directive 2001/77/EC (Sept 2001)**
- **Directive on Buildings Energy Performance (Dec 2002)**
- **COM on Alternative Fuels - 2 Biofuel Directives (Nov 2001)**
- **Proposed CHP (“Co-generation”) Directive (July 2002)**





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# EU Targets

- **RES-e DIRECTIVE 2001** : to establish a framework to increase the share of green electricity from 14% to 22% of gross electricity consumption **by 2010**
- **White paper 1997** (Green paper 2001): increase share of RES from 6% to 12% of gross consumption **by 2010**
- **Liquid biofuels** targets: 2% by 2005; 5.75% by 2010
- **Energy efficiency** target to reduce energy intensity by 18% for the year 2010
- Comply with EU commitments under the 1997 Kyoto Protocol on **reducing greenhouse gas emissions**
- Johannesburg “**coalition of the willing**” to work to increase the use of RES using targets and timetables





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# **Coherent Energy Actions RES, RUE and clean transport**

**EU Policies and Targets**

**Directives and Legislation**

**Market development, Certification,  
Planning, Financing, Promotion**

**Research, Development, and  
Demonstration of Technology**

**Integrated projects, Specific Targeted Research Projects,  
Co-ordination Actions, Specific Support Actions**





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# **Priority 6.1 : Sustainable Energy Systems 810 M€ (2002 - 2006)**

- *Short and medium term impact (DG TREN) - 405 M€*
- *Medium and long term impact (DG RTD) - 405 M€*

**A part of Priority 6:  
Sustainable Development, Global Change and Ecosystems**





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# Short and medium-term (SMT) research actions

**Focus** ————— **Integrated demonstration actions**

**Impact** ————— **Accelerate market penetration with emphasis on 2010 energy policy objectives**

**Risks** ————— **Technological but also market / financial**

**Policy aims** ————— **Energy policy**





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# DG TREN

## 1st and 2nd Calls (2003)

### **First Call for Sustainable Energy Systems :**

**Identifier: ' FP6-2002-TREN-1 '**

**Publication date: 17 December 2002    Budget: € 82Mio**

**Closing Date(s):**

**Sustainable energy systems: 18 March 2003, 17.00pm**

*(Sustainable surface transport: 15 April 2003, 17.00pm)*

**Reference: Official Journal n° C315 of 17.12.2002**

### **Second Call for Sustainable Energy Systems:**

**Publication :    planned in June 2003    Budget: € 107 Mio**

**Closing Date :    planned in December 2003**





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# Short and medium-term research areas / topics (405 M€)

- **CLEAN ENERGY, IN PARTICULAR RENEWABLES**
  - Cost effective supply
  - Large scale integration
- **ENERGY SAVINGS AND ENERGY EFFICIENCY**
  - Eco-buildings
  - Polygeneration
- **ALTERNATIVE MOTOR FUELS**
  - Biofuels, natural gas and H<sub>2</sub>
  - CIVITAS 2





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# Clean energy work programme

## Cost effective supply of renewable energy

- **Electricity, in particular from biomass and / or waste derived fuels, wind, photovoltaics and geothermal**
- **Heating and Cooling from renewable energy sources**
- **Production and processing of liquid and gaseous biofuels**





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# Energy savings and energy efficiency

## x ECO-BUILDINGS

- ✓ design, construction and operation of new buildings
- ✓ energy performance of the refurbished buildings

## x POLYGENERATION

- ✓ energy technologies for providing electricity, heating, cooling and/or other energy products and services, including CHP
- ✓ fuel cells, hydrogen, renewables in the energy system





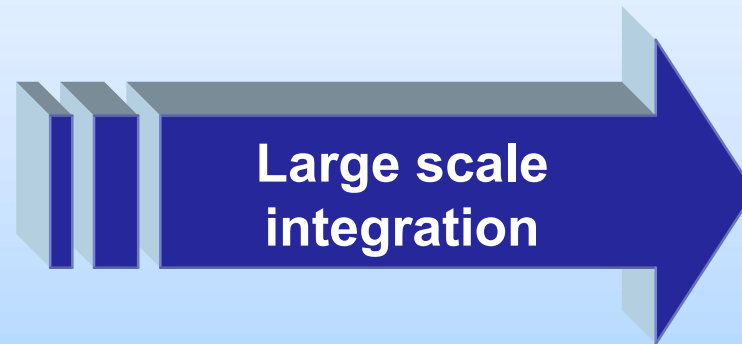
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# Large scale integration of Renewable Energy with demand management **“CONCERTO”**

Innovative  
Energy  
Technologies



Communities

- × Renewable energy sources
- × Eco-buildings
- × Polygeneration





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# Alternative motor fuels

## FOCUS ON BIOFUELS, NATURAL GAS and H<sub>2</sub>

- “Well to wheel” approach for the Integration of alternative fuels into the transport system
- The “Well to wheel” approach should address innovative integrated approaches to: feedstock, production, storage, distribution and use
- Strategies for market penetration as well as monitoring and assessment of on-going initiative
- Testing implementation and transition strategies for Clean Urban Transport (CIVITAS II)





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# CONCLUSIONS

- **Limited number of integrated projects with a real European dimension**
- **Serious efforts on cost reductions for RES**
- **Innovative integration in Eco-buildings**
- **Preparatory actions for Concerto in first call**
- **Move from individual technology projects to initiatives in local communities**
- **Enlargement dimension**





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# Staying informed

- **EUROPA:**  
[http://www.europa.eu.int/comm/dgs/research/index\\_en.html](http://www.europa.eu.int/comm/dgs/research/index_en.html)
  - **6th Framework Programme (general):**  
[http://europa.eu.int/comm/research/fp6/index\\_en.html](http://europa.eu.int/comm/research/fp6/index_en.html)
  - **Energy research web site:**  
[http://europa.eu.int/comm/research/energy/index\\_en.html](http://europa.eu.int/comm/research/energy/index_en.html)
  - **DG Energy and Transport web site:**  
[http://europa.eu.int/comm/energy/index\\_en.html](http://europa.eu.int/comm/energy/index_en.html)
- **CORDIS:**  
<http://www.cordis.lu/rtd2002/>
- **ManagEnergy** site (local/regional agencies, projects, partner search...) : <http://www.managenergy.net>
- enquiries: [tren-fp6@cec.eu.int](mailto:tren-fp6@cec.eu.int)     [rtd-sustainable@cec.eu.int](mailto:rtd-sustainable@cec.eu.int)

