Energy CoP

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Welcome to the Energy Community of Practice Portal

Objectives of the CP

The objective of the Energy Community of practice (ECP) is to support GEOSS outcomes related to the application of Earth Observation data for energies. Relevant areas are:

- Siting of power plants and facilities including environmental and sociological issues
- Optimized design of power systems and facilities
- Yield estimation and resource monitoring based on historic information
- Yield forecast based on near real time weather and forecasting
- Integration into existing energy supply, e.g. grid & utility system integration
- Operation and management of power plants incl. automatic failure detection
- Trading and monitoring of power and environmental credits
- Environmental monitoring of impacts
- Life cycle considerations
- Economic analyses

Read more...
Tasks within the GEOSS Work Plan

• **EN-07-01: Management of Energy Sources**
  - Support the development of Earth observation products and services for the resource assessment, monitoring and forecasting of fluctuating energy sources (e.g. hydro, solar, wind, ocean).
  - Consider end-to-end systems including generation, transmission, distribution, and integrated operations (e.g. efficient integration of energy sources into the electricity grid, and electricity grid management).

Related activities will include:
  - Promote collaboration between users and providers of Earth observation applications to foster the development of innovative Earth observation services in support of energy management.
  - Expand the use of Earth observations in the development, operation and management of energy production systems.
  - Assess the utility of Earth system models to inform energy sector decision-making on the future availability of resources in a changing climate.
Solar energy technologies put the sun's energy to work for us. These technologies comprise Photovoltaics (PV), Solar Heating and Cooling (SHC), Concentrating Power and produce energy in the forms of electricity, heat, light or cool. They are being developed because they are reliable, they have very few environmental impacts, and they make use of an abundant domestic energy resource: sunlight.

GEO-ECP Videos
11/12/2007. Videos for the GEO ministerial summit in Cape Town (South Africa)

IEA-SHC-Task36 Survey on data needs (Vers. 5)
11/28/2007. Evaluation of the user questionnaire on data needs in the field of solar energy
• **TASK-EN-07-01: Management of Energy Sources**
  - MACC, EnerGEO are funded by EC as a dedicated GEOSS contribution
  - EC project MACC (Monitoring Atmospheric Composition and Climate) includes a radiation activity to prepare existing solar irradiance services Solemi and SoDa as a GMES (Global Monitoring for Environment and Security) service component.
  - EC project EnerGEO dealing with the quantification of environmental impacts of energy use (see EN-07-02)
Marion Schroedter-Homscheidt: DLR

- http://www.desertec-australia.org
  - DESERTEC’s plans would enhance energy security, reduce regional greenhouse gas emissions and create a sturdy flexible, regional common-carrier energy infrastructure. Best of all, it would create jobs and economic growth in the sunrise industries of tomorrow. The vision is outlined in "AustraliA 2050: Clean Energy Superpower."

  - A pan-Asian energy superhighway could eventually stretch from Beijing to the Great Australian Bight
Tasks within the GEOSS Work Plan

• EN-07-02: Energy Environmental Impact Monitoring
  – Promote the development of Earth observation systems for the monitoring and prediction of environmental impact from energy resource exploration, extraction, transportation and/or exploitation.
  – Build upon the contribution of the European project EnerGEO (Earth observation for monitoring and assessment of the environmental impact of energy use).

Related activities will include:
  – Promote and develop the use of Earth observation data for impact monitoring.
  – Support the development of modelling systems helping to quantify and anticipate changes e.g. to freshwater, biodiversity, ecosystems, atmospheric and oceanic composition, and ground elevation.
  – Make relevant synergies with Task CL-09-03 (Global Carbon Observation and Analysis System) and carbon sequestration & greenhouse gas monitoring activities.
Tasks within the GEOSS Work Plan

• EN-07-03: Energy Policy Planning
  
  – Encourage the use of Earth observations for informed energy-policy planning in developing and developed countries.

Related activities will include:
  
  – Enhance availability of data and products required to better assess countries' potential for energy production.
  
  – Encourage training of decision-makers at all relevant levels for interpreting relevant data and products.
  
  – Encourage the use of Earth science models to support energy scenario assessments.
MINES – ParisTech Leading the Pilot. Goal is providing environmental impact assessment of the production, transportation, and use of energy (for PV system).

Participating members of two FP7 projects are:
- **ENERGEO** main objective is to develop a strategy for a global assessment of the current and future impact of the exploitation of energy resources on the environment and ecosystems and to demonstrate this strategy for a variety of energy resources worldwide. *(Presentation at 15:30 Dr. Emile Elewaut at EU stand)*
- The **GENESIS** project has the objective of providing those involved in environment management and health services in Europe with an **efficient, web-based solution**
View Energy CoP work in Beijing

- UIC Booth
  - Poster of activities
  - Energy related Videos

- EC booth (Booth 5)
  - ENERGeO Poster
  - ENERGeO Presentation (Emile Elewaut Nov 3, 15:30 – 16:00)

- ADC Booth
  - AIP3 Video Demonstration

- On the Web: http://www.geoss-ecp.org