



1st EnerGEO Summer School

Energy Resources

Demand & supply and the impact on biodiversity and ecosystems

September 7 – 15 2011

Salzburg Austria

the project

The main objective of **EnerGEO** is to develop a strategy for a global assessment of the current and future impact on the environment and ecosystems caused by the exploitation of energy resources and to validate this strategy for a variety of energy resources worldwide. The global observation strategy is developed to appropriately assess the impacts of the current and future transitions in energy-use on the environment by a combination of:

- Existing energy system models and methodologies to assess and forecast environmental impacts and costs of energy exploitation
- Existing global datasets from which environmental indicators will be derived to quantify changes to freshwater systems, biosphere, ecosystems, atmosphere and oceans

Results and outputs

- Link energy use and environmental impact by applying state-of-the-art environmental and energy models under different socio-economic scenarios
- Compile the required datasets and indicators by exploring the current contributions to GEOSS and global in-situ networks
- Validate the **EnerGEO** concept through dedicated pilot cases to proof the approach viable and supportive
- Facilitate the access to **EnerGEO** data by providing a portal within the context of GEOSS based on GEO-ADC recommendations
- from pilot- to global scale, enable users to run global scenarios on energy use and environmental impact

Pilots

Within **EnerGEO** 4 pilot tests will be prepared and performed. These pilots will focus on:

fossil fuels

Evaluate energy transition scenarios in terms of air quality and CO₂ concentration, model the mercury deposition across Europe as an indicator for coal combustion and assess land degradation due to coal mining.



biomass

Evaluate environmental impact of biomass as replacement to fossil fuels in the fields of burning biomass, cooling water, land use, erosion and desertification.



solar energy

Define the best sites for solar energy production and use solar power prediction schemes for decision support.



wind energy

Assess the wind energy potential in a given area and provide the wind energy balance over a project life cycle (construction, operation, maintenance and decommissioning).



the summer school

The Global Earth Observation System of Systems (GEOSS) is a coordinating and integrating network of Earth observing and information systems, contributed on a voluntary basis by Members and Participating Organizations of the intergovernmental Group on Earth Observations (GEO). The vision for GEOSS is to realize a future wherein decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained Earth observations and information. The purpose of GEOSS is to achieve comprehensive, coordinated and sustained observations of the Earth system, in order to improve monitoring of the state of the Earth, increase understanding of Earth processes, and enhance prediction of the behaviour of the Earth system. EnerGEO supports the implementation of the GEO Workplan, in particular for the Energy Societal Benefit Area.

By developing a distributed system based on the recommendations of the GEO-Architecture and Data Committee (ADC), global collection and dissemination of data relating to the effect of energy use on the environment are supported. By including active members of the Energy-Community of Practice of GEO, sustained contribution for the GEO-tasks DS-07 Energy and Geo-Resources Management (societal benefit area) and tasks related to Institutions and Development (ID-03 Developing Institutions and Individual Capacity, ID-04 Building Communities and Increasing Awareness) are provided.

In this context, the 1st EnerGEO Summer School is been organized in Salzburg, Austria, to coincide with the annual co-located meeting of the GEO Committees (September 12 – 14 2011) with the objective to explore synergies with committees and experts attending the Meeting.

the program

The policy framework on regional and national levels will set the scene (day 1) for an overview of earth observation based methodologies to assess energy resources potentials and models to estimate demand & supply (day 2 and 3). With the focus on biomass energy, a fieldtrip (day 4) is been organized which provides insight into the EnerGEO biomass pilot area in Austria. Day 5 & 6 are dedicated to establish the indicators for impact assessment (on biodiversity and ecosystems), to explore the potential of the GEO-Portal for access to relevant data, and to confer with experts on energy and biodiversity/ecosystems monitoring. On the final day of the Summer School, the participants will present a set of recommendations for future research needs and policy actions for debate by a panel of GEO experts.

The methodology of the Summer School consists of lectures and practical lab sessions (day 1 – 3), fieldtrip (day 4), group work and discussion sessions (day 5 – 7).

duration

Participants will arrive during Wednesday Sep 7 and depart on Thursday Sep 15 2011.

requirements

Participants are expected to carry out research in the fields of energy and remote sensing, and are familiar with issues related to landcover/landuse assessment, biodiversity and ecosystems monitoring, geoinformation and spatial planning. Working knowledge of software for geospatial analysis and image processing is required.

registration

The Summer School is limited to 15 participants. Please indicate your interest to participate by sending an e-mail to lisa.meingassner@sbg.ac.at and peter.zeil@sbg.ac.at **not later than July 1 2011**. Your mail should contain the following information:

Full name, institution, present position, current research activities

In general it is expected that participants will cover the costs for travel, accommodation and subsistence from their own funds. A limited amount of funding may be provided through the EnerGEO project.

A website for the Summer School will be available soon. Please check the EnerGEO website (www.energeo-project.eu) for regular updates.



The Summer School is organized by the Center for Geoinformatics Z_GIS, University of Salzburg, and Research Studio iSPACE, Austria Forschungsgesellschaft mbH with the support of the EnerGEO consortium.



www.zgis.at/research

ispace.researchstudio.at

www.energeo-project.eu