

Energy Community of Practice

Description

We have developed an international network of GEOSS Energy participants through an Energy Community of Practice (<http://www.geoss-ecp.org/>). This group has developed a Charter and an administrative structure that represent the wind, solar, biomass, geothermal, ocean, hydro, coal, gas/oil and nuclear energy communities. An energy expert group met in Geneva in August of 2006, and representatives of that group have developed a 'Management of Energy Strategic Plan' to be tabled at the 2007 GEO Plenary in Cape Town. The Energy Community of Practice has also developed the user survey for solar and wind energy (cf. Early Achievement, Solar User Questionnaire), and has assisted in the ENVISOLAR development (cf. Early Achievement, ENVISOLAR). This group has sponsored a „GEOSS and Wind Energy“ workshop in Milan in May of 2008 (cp.org/sections/wind/geoss-wind-energy), an invited session on Renewable Wind Energy at IGARSS'07 in Barcelona and called for papers for a thematic issue of the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) on Renewable Wind Energy in 2008. The Energy CoP has sponsored a two day workshop in Yellowknife, Canada in August 2007 on "The User and GEOSS Architecture - The Impact of Climate Change and Variability on Biodiversity and Energy in the Arctic" as part of its outreach and collaboration with the GEO Architecture and Data Committee.

Added Value

The Energy Community of Practice has provided the structure for an international network of Energy specialists in developed and developing countries. This group has contributed to the GEOSS Energy Societal Benefit Area (SBA) Strategic Plan. The Energy CoP represents an end-to-end linkage from data provider to decision maker to user in all areas of renewable and non-renewable energy. This provides a clear illustration of the value of the GEO concept to the person 'on-the-street' and a direction for future energy management in a sustainable environment. Plans for 'Demonstration' projects in a range of energy applications are in progress.

Relevance to GEO

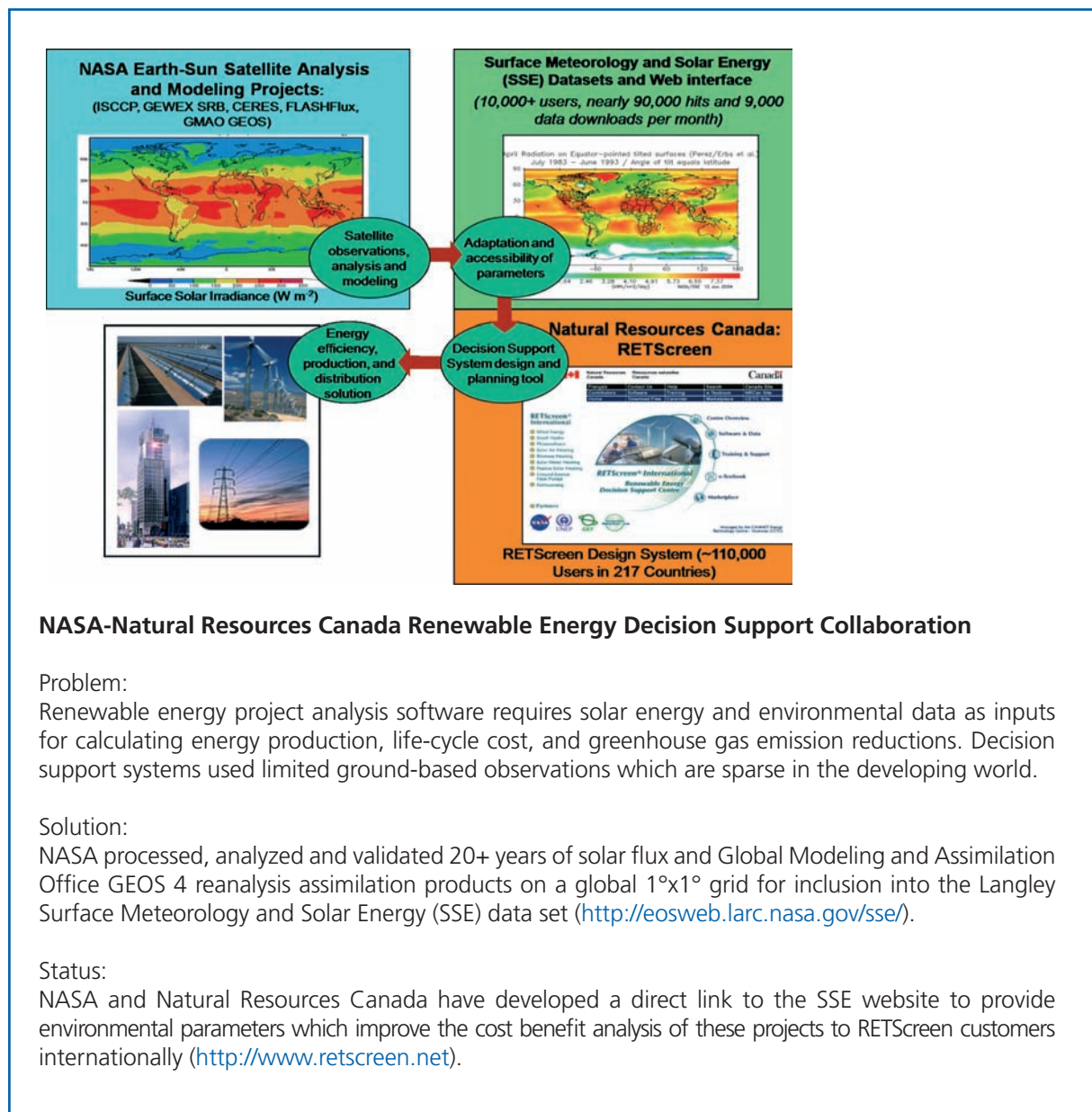
This activity contributes to the Energy Work Plan Tasks (EN-06-04, EN-07-01, EN-07-02 and EN-07-03) and provides a strategic direction for GEO activities over the next decade that has been endorsed by the international GEO Energy Community.

Participants

- China Energy Institute of State Committee
- Department of Science and Technology, South Africa
- Ecole des Mines de Paris, France
- Electricité de France (EDF)
- ENEA -Italian National Agency for New Technology
- ESA
- European Centre for Medium-range Weather Forecasts
- European Commission, Directorate General Research
- German Aerospace Center (DLR)
- IEEE
- IGOOS
- NASA
- OGP -International Association of Oil & Gas Producers
- STATKRAFT, Norway
- The Boeing Company
- University of Stellenbosch, South Africa
- Windlogics Inc., USA

Current Status and Next Steps

The Strategic Plan outlines steps for 'Requirement Assessments', 'Demonstration Projects' and 'Outreach' for the various sectors of the Energy Community of Practice. It also provides an assessment of accomplishments to date in terms of the 2- 6- and 10-year targets in the GEO Implementation Plan Reference Document (2005) for the energy SBA.



NASA-Natural Resources Canada Renewable Energy Decision Support Collaboration

Problem:

Renewable energy project analysis software requires solar energy and environmental data as inputs for calculating energy production, life-cycle cost, and greenhouse gas emission reductions. Decision support systems used limited ground-based observations which are sparse in the developing world.

Solution:

NASA processed, analyzed and validated 20+ years of solar flux and Global Modeling and Assimilation Office GEOS 4 reanalysis assimilation products on a global 1°x1° grid for inclusion into the Langley Surface Meteorology and Solar Energy (SSE) data set (<http://eosweb.larc.nasa.gov/sse/>).

Status:

NASA and Natural Resources Canada have developed a direct link to the SSE website to provide environmental parameters which improve the cost benefit analysis of these projects to RETScreen customers internationally (<http://www.etscreen.net>).