



r.green.solar



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r green solar

Short description

The model is developed in GRASS GIS software by EURAC (ESP group) and it is a multi-disciplinary tool that, starting from the elevation data, provides information on the solar potential. The module takes into account the technology used and the main economic costs for the solar plant itself and to connect the plant with the electrical grids. Outputs of the software are maps of solar potential that depend from different technology and economics scenarios.

Mandatory data input:

- Raster file with the elevation (Digital Terrain Model),

Optional data input:

- The efficiency value of different technologies,
- Lakes, streets, electricity grid, parks, area of particular interest, urban areas, etc...
- Economics values and costs,

Output data:

- Theoretical, technical, legal and economic potential,
- Estimation of the cost for new plants.
- CO₂ emission map

Link(s) to further information

Link to the software <https://svn.osgeo.org/grass/grass-addons/grass7/raster/r.green/>

Renewable energy type(s)

Solar PV power

Main objective(s)

In the last decades, the importance of renewable energy is increasing in order to offset carbon dioxide emissions and to reduce the fossil fuel dependence of European Member States (Directive 2009/28/EC). The Solar energy can help to cover the main peaks of energy consumption during the day. The software r.green.solar considers legal, technical, economic and recommended principles of both the directives in order to evaluate the solar potential of alpine regions under different scenarios.

Target group(s)

Administrators, planners, designers

Operating site(s)

Leiblachtal

Experiences / best practise examples (

The model is mainly used in pilot area of Vorarlberg / Leiblachtal. The Leiblachtal has approximately 15,000 residents distributed across five villages. The region borders Germany in the North, Lake Constance in the West, and in the East and in the South the mountain Pfänder (1064 meters) forms a natural border.

Data source

Data were provided by local or regional administrators in the pilot areas.

Responsible Partner(s)

EURAC

Stakeholders involved

Administrators, local associations, citizens

Contact person(s)

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