

## recharge.green: balancing Alpine energy and nature

The Alps offer great potential for renewable energy production. This reduces carbon emissions, but also increases the pressure on nature. The partners in the international recharge.green project have found ways to ensure this balancing act succeeds. They discussed their findings with about 100 persons at the final conference on 20-21 May 2015 in Sonthofen, Germany. The project results are now available [online](#) and summarised in this final newsletter.

> [Documentation of the final conference](#)

*„The recharge.green project has shown how participation can be organised at a local level and how it can help to achieve more balanced decisions on renewable energy production and other ecosystem services.“  
Matteo Cesca, Mountain Union of Municipalities “Val Belluna” (Italy)*



### Summary for decision makers – the perpetual calendar

The perpetual calendar “[Energy & nature in the Alps: a balancing act](#)” takes readers through the decision-making process that the fictional town of “Alpine Vale” goes through when discussing the potential use of renewable energy. It explains the main project findings in simple terms in English, German, French,

Italian and Slovenian languages. The calendar is of particular interest to decision-makers from local to Alps-wide level and anybody interested in the topic.

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## Handbook on sustainable renewable energy planning

A detailed overview on the project results is available with the handbook for experts and decision makers “**Sustainable Renewable Energy Planning in the Alps**”. The book describes and discusses trade-offs between economic and ecological objectives. It further presents several decision support systems developed in the project and provides implementation solutions for sustainable renewable energy.

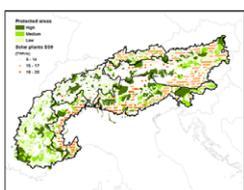
## Renewable energy and ecosystem services

Developing renewable energy in the Alps can interfere with the surrounding environment and ecosystem services. Many conflicts may rise between natural resources conservation and energy use. The project’s work on ecosystem services is presented in detail in the report “[Renewable energy and ecosystem services in the Alps](#)” and two scientific papers: [Renewable Energies and Ecosystem Service impacts](#), [Experts’](#)



## Where to produce renewable energy in the Alps

The recharge.green experts determined the optimal location of renewable energy systems for bioenergy, wind power, hydropower and solar energy at the least costs. In different scenarios they considered for example the energy demand of the region, specific policies and regulations, environmental constraints i.e. protected areas and the competition to the fossil fuel price and CO2 emissions. First results indicate that wind and solar technologies seem to be most competitive in the Alps while at the same time causing the least environmental impact (see figure on solar power optimisation in the Alps). The results are described in the [report](#) and included in the [decision support system](#).



## Supporting decisions from local to Alpine level

Deciding on renewable energy development is a complex task. To support this, recharge.green offers to local authorities, other decision makers, technical enterprises and the interested public a multi-layer and multi-objective [decision support system](#). With the help of the online platform “JECAMI”, users can visualise different renewable energy scenarios at both the Alpine and pilot study levels. They can adjust the parameters e.g. the desired technology, the protection level or the fossil fuel price. The system calculates the maximum energy production at the lowest costs and displays the optimal locations for renewable energy production at the desired scale.

## Towards a renewable energy strategy for the Alps

The question what renewable energy technology fits best to a certain region or community depends very much on the local objectives. Multiple objectives require special assessment methodologies and tools such as those developed by the recharge.green project. The recharge.green partners recommend that renewable energy strategies for the Alps be carefully developed and based on high-resolution geographical information such as the one provided by the project.

[> Report](#)

[> Decision support system](#)

*“We must not play off the protection of climate and nature against each other. The recharge.green project shows what a holistic approach can look like.” Eike Christiansen, German Ministry for Environment, Nature Protection, Construction and Nuclear Safety*

## A participatory approach towards balanced renewable energy production

The recharge.green pilot areas employed a step by step approach for balancing renewable energy production and nature conservation. First experts and local stakeholders identified local needs, possibilities and limitations for renewable energy production. Experts then calculated capacities and prepared different scenarios. In round tables and



workshops stakeholders further discussed these results. The recharge.green partners found that by applying such a step by step and participatory approach a good management plan for renewable energy production can be developed.

[> Report round tables Veneto Region](#)