## recharge.green – balancing Alpine energy and nature

The Alps have great potential for the use of renewable energy. Thereby they can make a valuable contribution to mitigating climate change. This, however, means increasing pressures on nature. What could be the impact of such changes on the habitats of animals and plants? How do they affect land use and soil quality? How much renewable energy can reasonably be used? The project recharge.green brings together 16 partners to develop strategies and tools for decision-making on such issues. The analysis and comparison of the costs and benefits of renewable energy, ecosystem services, and potential trade-offs is a key component in this process. The project will last from October 2012 to June 2015 and is co-financed by the European Regional Development Fund in the Alpine Space Programme.

www.recharge-green.eu

## Choose the maximum length of exploited river (m):

Deciding the maximum plant length (100m, 400m, 800m or the longest possible length), the user can visualize the power that can be produced. As the power depends on the product *discharge * head*, all possible arrangements considering lengths until the chosen maximum value is examined in order to maximize the power.

The considered head is the net head subtracting head losses from the gross head and take into account the efficiencies of the turbine, shaft, alternator and transformer.

The MFD considered is previously chosen and can be the current one, 25% or 50% of the natural discharge.