

Multi criteria WebGIS tool to bring Offshore wind power to the people

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Enormous increase in offshore wind energy installations – who gets to know?

Offshore wind power in the North Sea Region (NSR) was expanding enormous over the last few years and will even grow faster in the next decade. Since most of the offshore wind parks will be situated far away from the coastline, neither the progress of the construction work nor the installations themselves will be visible to the majority of the citizens of the NSR.

The transnational POWER cluster project is targeting social acceptance of offshore wind power as a crucial barrier for the further expansion of offshore wind energy in the NSR. Social acceptance can only be achieved, if people feel well informed about both, the benefits and risks of offshore wind power like clean energy and jobs as well as the ecologic impact and potential visual pollution.

OffshoreWebGIS – Information to the people

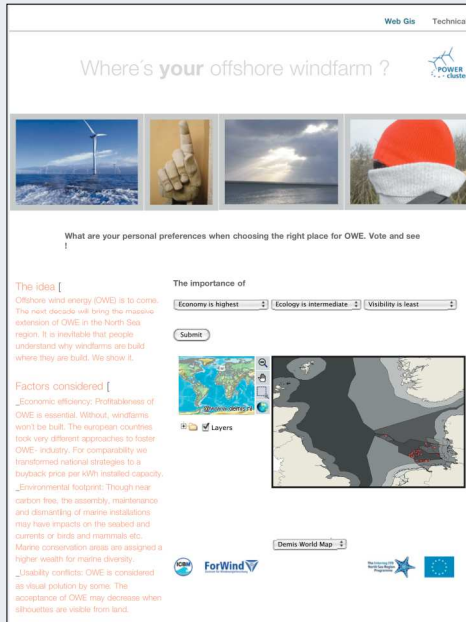


Fig. 1: Screenshot of the prototype of the OffshoreWebGIS:
<http://power.icbm.uni-oldenburg.de/iaatool>

We are designing a visualized database of offshore wind energy related information. For the first time the general public can include expert knowledge into their own framework of preferences. The OffshoreWebGIS integrates the output of economic, ecologic and usability conflict models using a multicriterial calculus to generate individualized maps of favourable places for offshore wind farms. So users get an idea, why offshore wind farms are built where they are built.

Assimilated data will include wind speed, water depth, distance from port, marine habitats and diversity, shipping routes and visual pollution as well as national instruments for pushing offshore wind energy, which we transformed to a feed-in tariff per installed MW capacity for comparability. The OffshoreWebGIS will visualize complex issues, making them easier to understand.

Create your own map

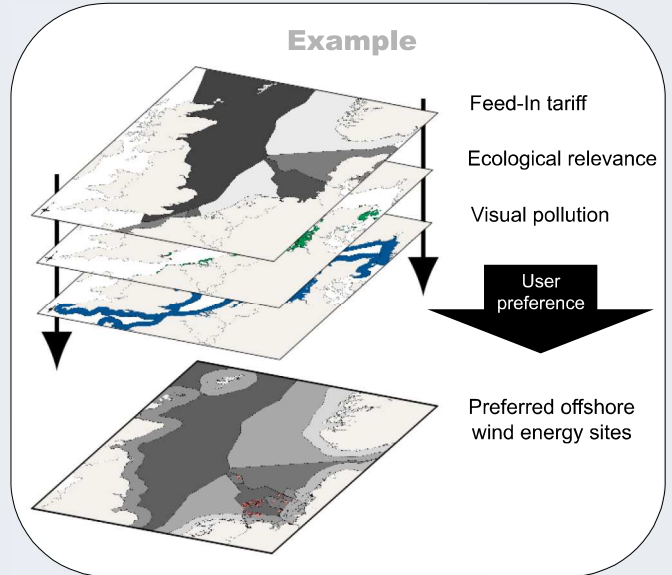


Fig. 2: Creating individual maps by considering the preferences of the user

OffshoreWebGIS as a web 2.0 application

As a web 2.0 application the OffshoreWebGIS employs distributed services (WMS, WFS) instead of a central database. These services advertise georeferenced maps over the Internet that are generated using data from a GIS database. Users of the OffshoreWebGIS can also import new wms-files and create individual maps based on their priorities, so OffshoreWebGIS allows user-specific products.

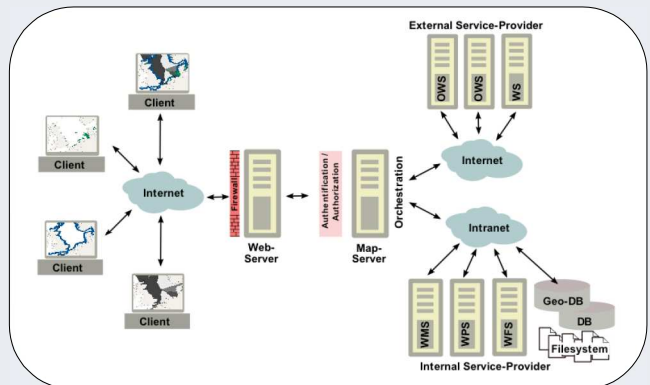


Fig. 3: Architecture of the web 2.0 application OffshoreWebGIS

