

Data for the expansion of wind power and photovoltaic plants in Germany

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Geodata can help in the expansion of renewable energies and thus in the acceleration of the energy transition. The Reiner Lemoine Institute (RLI) is now publishing a comprehensive data package with potential areas for Germany. This helps to find suitable areas for photovoltaic

(PV) and wind power plants. For the first time, the data is available for free use under an open license on the online storage service Zenodo. RLI scientists compiled and prepared the geoinformation for the digital application PV and Wind Area Calculator of the think tank Agora Energiewende. The tool was published in October 2021.

"The expansion of PV and [wind power plants](#) is restricted in Germany. Therefore, we have evaluated numerous geodata and identified areas that could be considered for this. This data can help implement the two-percent target of the German government's planned Wind-an-Land law. Their publication and free use is in line with our principle of Open Science. This is how we want to enable participation in the energy transition," says Mascha Richter, head of the research unit Transformation of Energy Systems at RLI. Until now, the data could only be used in the Agora application and could not be downloaded for own purposes.

Open data for planning, research and participation

The collection of potential areas helps, for example, planning offices, project developers and scientists in their work or in political decision-making processes. It contains potential areas for wind turbines with different settlement distances (400, 600, 800, 1000 meters). Another example is open spaces for photovoltaics along highways and railroads. A total of around 700 megabytes of data will be published. This allows conditions such as distances of [wind turbines](#) to settlements to be varied or the use of forest areas and landscape conservation areas to be included. The information is available as high-resolution vector data for the entire Federal Republic of Germany.

Data for the identification of potential areas

For the data package, RLI researchers evaluated the whole of Germany. They determined the potential areas by excluding unsuitable areas such as settlement areas or nature, bird and drinking water protection areas. Only free or publicly available geodata were used.

More information: (In German) The data package is available here: doi.org/10.5281/zenodo.6728381

(In German) Documentation on the data and methodology is available here: doi.org/10.5281/zenodo.4731920

Provided by Reiner Lemoine Institut gGmbH

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