



## Site Suitability for Renewable Energy Plant

A leading renewable energy solution provider decided for adopting GIS analytical tools to make the process more proficient and robust. The area of interest was located in Maharashtra, India spread across 73,427 ha.

A number of factors such as environmental sustainability, social acceptability and economic viability apart from technical feasibility, have to be considered for the site selection of any renewable energy plant. Geography plays a major role in decision making for such complex requirement. Geospatial analytics helps in the elimination of all such areas that are unsuitable.

Enterprise GIS expert, Genesys created a comprehensive Remote Sensing and GIS-based database using satellite data for multiple factors like slope, climate, soil type, land use, vegetation cover and more. For better data acquisition, a merged product of Cartosat-1 and Resourcesat-2 LMX was used as the source. The ready-to-use maps provided qualitative and quantitative information by allowing terrain analysis, vertical roughness calculation for decision makers in site identification and selection to ensure sustainable development.

The project also included mapping the existing wind farms to represent EHV, sub-station and wind turbine location on a digital platform through DGPS survey.

### Key benefits:

- Ability to combine different spatial layers of varying information reduced the manual effort involved in analysis
- Ability of scaling up the project analysis by adding more variables
- Enabled running of multiple scenarios and easy alteration of the criteria used in the analysis
- Detailed land use / land cover data enabled in-depth study of ecological sustainability of the area