

Innovative GIS Mapping to Assess Visual Impact of Welsh Solar Farm



CartoConsult, a specialist in geospatial services including surveying, data capture, mapping and 3D modelling, has applied the latest digital GIS mapping services to assess the visual impact of a major solar farm in Wales. CartoConsult provided visibility analysis and mapping to help assess design options for a solar PV installation at the Port of Barry for Associated British Ports (ABP). The work was undertaken for landscape architects ACLA as part of a wider Landscape Visual Impact Assessment (LVIA) project.

The Port of Barry area is a sensitive area, not only in landscape and heritage terms, but also because people are already living close to the solar farm site. ACLA needed the high-level visibility mapping and analysis to support its report on the preferred design option.

Visual impact

CartoConsult provided Zone of Visual Influence (ZVI) – a graphical output of where an existing or proposed structure is visible based on a Digital Terrain Model (DTM), to reveal the lie of the land. The architects had proposed two design options: one with a tall tower and one without the tower. By determining the visual impact of the two options on the surrounding area, the visual impact assessment was vital to informing stakeholders on the project during consultation.

Anthony Clarkson of ACLA commented that without CartoConsult's innovative digital GIS mapping services, they would not have been able to report reliably on the impact of the design options in the LVIA report. CartoConsult provided high quality graphics that very clearly showed the impact of the two designs, and that had a big impact on stakeholder confidence and engagement.

Carbon emissions

The 4.5MWp PV solar farm project was developed by ABP to generate green energy and reduce the carbon emissions of its activities. The solar farm will contribute an annual reduction in the amount of carbon dioxide emissions produced by the port by around 2,000 tonnes – the weight of a small ship. The energy generated will be used to power ABP's operations at the Port of Barry, which includes tenants and customers. Any surplus energy will be exported to the National Grid.

CartoConsult provides geospatial services that include surveying, data capture, mapping and 3D modelling. The company employs progressive GIS and 3D technology to create reliable, cost effective and visually stunning products that significantly enhance the planning, consultation and delivery of projects.