Bluesky Maps Solar Potential of 100,000 Properties



Working with resource efficiency company Sustain, Bluesky has mapped around 100,000 Housing Association properties across the United Kingdom, measuring their potential for energy generation from solar panels. Using a combination of high-resolution aerial photography and detailed 3D models, Bluesky can accurately predict the potential for solar-energy generation for individual houses based on a number of factors, including roof size and aspect as well as possible interference from neighbouring properties or trees. Sustain uses this information to prepare detailed reports for its Housing Association clients containing cost-benefit analysis and, more recently, highlighting the potential impact on fuel-poverty avoidance.

By using Bluesky's solar potential maps, it is possible to assess more properties across

wider areas than would otherwise be possible, commented Matthew Landick, associate at Sustain. He explained they can then use this information to identify potential PV installation programmes based on geography, cost and benefit to the Housing Association or even the resident. In recent projects they have also used this data to assess the impact of a solar installation on fuel-poverty avoidance.

The geographical outputs from Bluesky allows them to create far more interactive and user friendly deliverables for the clients than simply providing figures and spreadsheets, and enable them to analyse and aggregate the results in a more useful way, supporting decision making when taking works forward.

Photogrammetry

Bluesky has an advanced method of generating solar potential maps, using photogrammetric techniques to accurately measure and record factors that may contribute to the suitability of a property for photovoltaic (a method of generating electrical power by converting solar radiation) systems. Bluesky calculates the energy potential using high resolution aerial photography combined with 3D models of the earth's surface to determine the size, aspect and gradient of each roof in the study area. The suitability of each roof is also considered, taking into account sharp angles and other impediments, such as sky lights or dormer windows. Potential obstructions, such as nearby buildings or trees, can also be identified and mapped. This data is combined with a given panel size to determine the number of potential panels and an estimate of solar irradiation.

Using the Bluesky-generated measurements, Sustain calculates the potential yield of each property based on the number of panels, provided by Bluesky, and the recorded roof aspect and slope. The algorithms used by Sustain also take into account the location of the property to normalise the calculation from optimum or maximum to a realistic 'expected' or average yield.

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