

About the map

The zone of theoretical visibility (ZTV) shows how many of the black markers would be visible, if there is no screening from hedgerows, trees or buildings. The black markers are used to represent the 3 metre high solar panels in the 3D model. For example, the green area suggests that one of the markers would be visible where there is a clear and uninterrupted view of the site. In reality, screening from natural and built form would limit views of the site and the appearance of the site would readily decrease with increasing distance.

Solar Photovoltaics and Battery Storage

How does solar energy work?

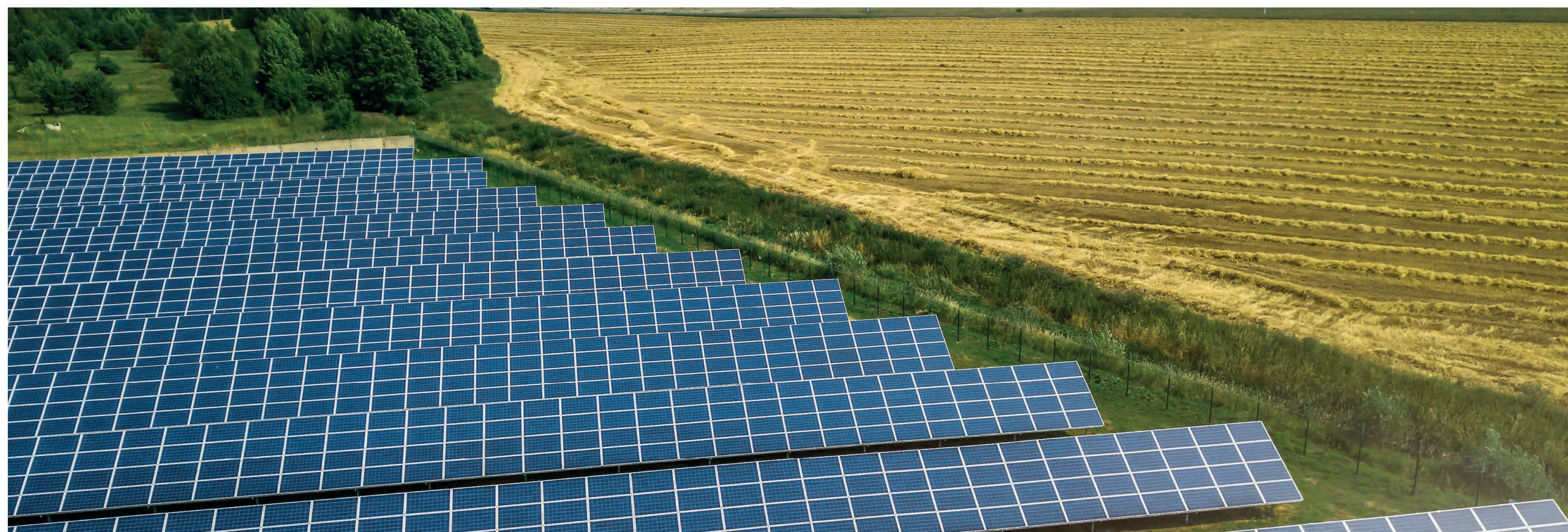
A solar PV panel consists of many cells made from layers of semi-conducting material, most commonly silicon. When light shines on this material, a flow of electricity is created.

The cells don't need direct sunlight to work and can even work on cloudy days. However, the stronger the sunshine, the more electricity generated.

Solar PV systems are made up of several panels, with each panel generating around 200-350W of energy in strong sunlight. (courtesy of Energy Saving Trust)

What are the benefits of solar panels?

- Generation of electricity without emissions of carbon dioxide, thereby supporting the path to Net Zero.
- Over a Solar PV system's lifetime, the ground becomes fallow land. This fallow land has the effect of becoming a soil improver and capturing carbon rather than releasing it into the atmosphere.
- With good environmental management measures in place, the renewable energy park would have a positive impact on local biodiversity, increasing the diversity and abundance of grasses, wildflowers, butterflies, bumblebees and birds.



Rows of solar panels

How does battery storage work?

A battery is a device which stores electricity as chemical energy and then converts it into electrical energy. Many modern solar projects are balanced with battery energy storage systems (BESS for short).

What are the benefits of battery storage?

The BESS can provide a number of services that are useful for the grid distribution and transmission system:

- Batteries can be charged during low demand periods, and then discharged into the system during peak time when demand is high. As more battery storage enters the market, this should result in reduced costs of electricity.
- Energy from the solar panels could also charge up the batteries to help balance the flow of energy.
- Provision of enhanced frequency response to maintain grid frequency.
- Fast acting reserve to quickly inject power into the system.
- Provision of voltage service to keep voltage within limits.



Representation of battery storage and solar panels

The battery storage system would be monitored 24/7, therefore allowing preventative maintenance to be carried out. In the unlikely event of a fire, the fire suppression system within the container housing would be activated to extinguish the fire.