



RWE Renewables

A global player from Germany

An overview of the company

Innovation and sustainability champion in the field of renewables

Our generation of electricity from renewable energy sources is pooled within RWE Renewables, where RWE has risen to become the key player in this field. In the future-proof offshore wind sector and in the solar business, we are one of the largest electricity generators worldwide.

And we have one goal – to be carbon-neutral by 2040. So we are reducing our carbon emissions as quickly and substantially as possible, by systematically cutting back or converting our conventional power plants. From 2012 to the end of 2020, we already reduced our CO₂ emissions by over 60%. No other company in Germany has achieved more in recent years, and we fully intend to maintain this momentum.

Our employees work together to advance new, innovative technologies, delivering a range of exciting projects. With the extensive investment and growth strategy “Growing Green” the company will expand its powerful, green generation capacity to 50 gigawatts internationally by 2030. RWE is investing €50 billion gross for this purpose in this decade.

The Americas, our European core markets and new markets in the Asia Pacific region are the main focus. The project pipeline is full across all technologies, including offshore and onshore wind as well as photovoltaic

systems. In Sweden we are currently building the largest onshore wind farm in Europe and in Australia we are working on the nation’s largest solar power plant.



Business areas

Electricity generation from renewable energy sources, in particular wind and photovoltaics



Facts about the company

As the Group’s youngest subsidiary, RWE Renewables has first-class resources, experience and expertise covering the entire offshore and onshore wind energy value chain from development to construction and operation. Furthermore, RWE Renewables invests in large-scale solar projects and supports power producers, plant operators and other stakeholders in the development, construction and operation of photovoltaic and solar energy plants – with a focus on large-scale industrial projects.

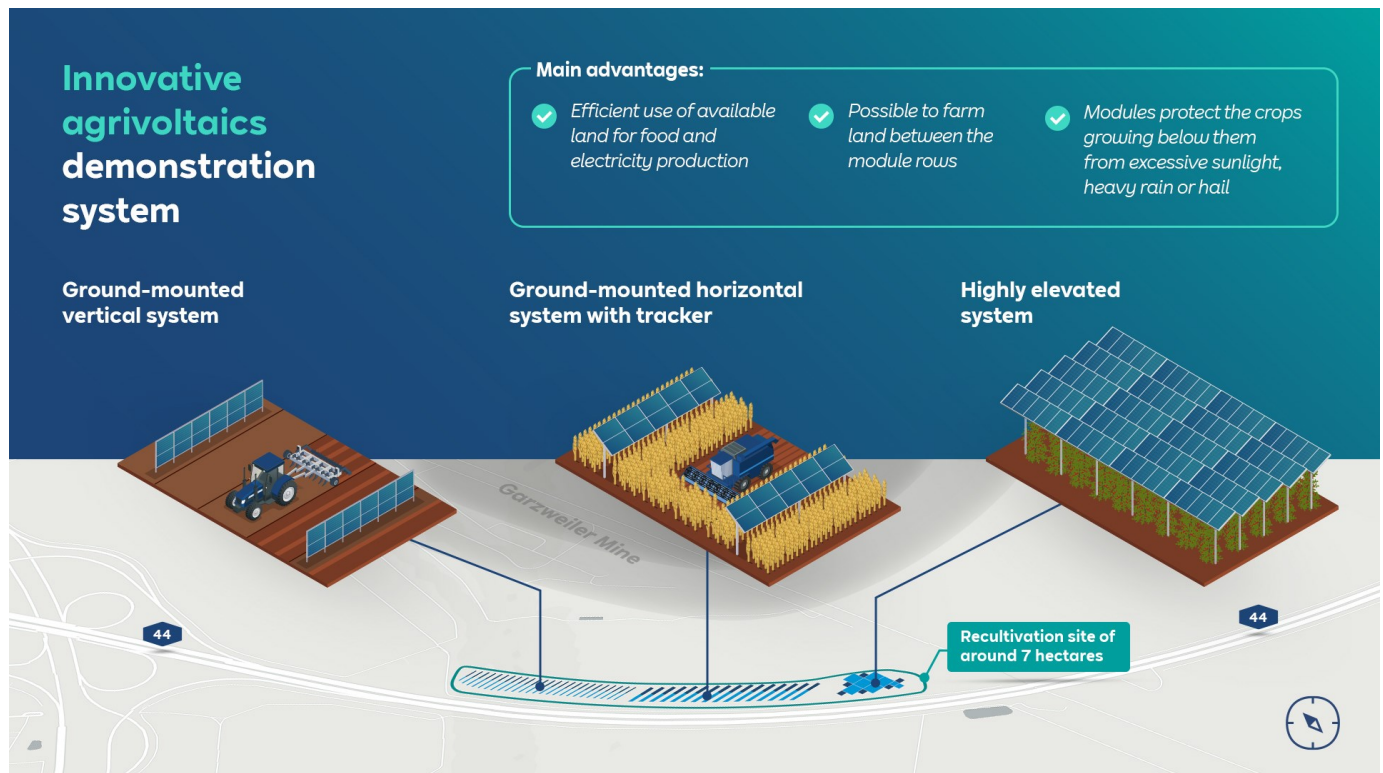


Sites

Germany, Europe, North America, Asia, Oceania

Press release

New opportunity for the energy transition and agriculture: RWE plans innovative demonstration plant for agrivoltaics



- **Forschungszentrum Jülich contributes expertise in plant growth and microclimate; State of North Rhine-Westphalia provides funding**
- **Three technical solutions integrate electricity generation and agriculture**
- **Plant to be built on recultivated land at Garzweiler Mine; start of construction planned for mid-2023**

Essen, 22 December 2022



“In addition to a faster expansion of wind power, the energy transition in Germany also needs utility-scale solar plants. RWE is also playing its part here – during this decade we will be investing up to €15 billion gross throughout Germany in our green core business and implementing every renewables project that is possible. As land is a scarce resource, we want to use this innovative demonstration project to show how agriculture and solar power go hand in hand.”

Katja Wünschel, CEO Onshore Wind and Solar Europe & Australia, RWE Renewables

Can power be generated and land be farmed on the same site? RWE and Forschungszentrum Jülich want to demonstrate how that can work in the Rhenish lignite mining district. The plan is to generate solar power in tandem with agricultural and horticultural activities on about seven hectares of recultivated land at the edge of Garzweiler Mine in Titz-Jackerath in the district of Düren in North Rhine-Westphalia. The research project is funded by the state of North Rhine-Westphalia through the progres.nrw programme.

Agrivoltaics offers major potential for the energy transition in Germany

For Germany to be able to achieve its climate targets, land must be made available for the expansion of solar power and innovative plans must be developed. In addition to Floating-PV plants on lakes, agrivoltaics (“Agri-PV”) offers major potential for expansion. Fraunhofer ISE assumes a technical potential of up to 2,900 gigawatts (GWp) in Germany. Agri-PV is the simultaneous use of land for electricity generation and food production or animal husbandry with potential synergies between these different uses. That applies in particular when solar modules protect crops from excessive sunlight or hail, possibly even allowing for crop yields to be increased. At some plants it is also possible to collect rainwater from the PV modules and use it for irrigation.

“To leverage the full potential offered by Agri-PV, we first need to clarify some fundamental questions, especially regarding suitable crops, the optimal PV system design, and best concepts for cooperation with farmers. These are the relevant areas we want to look at in our demonstration project,” says Katja Wünschel, CEO Onshore Wind and Solar Europe & Australia at RWE Renewables. “We also need to make sure that the right regulatory framework is in place. For example, a dedicated tender segment within the German Renewable Energy Sources Act would be helpful in taking innovative technologies such as Agri-PV to full market maturity so that this technology can make its full contribution to the energy transition in Germany.”

Professor Ulrich Schurr, Head of Plant Sciences at Forschungszentrum Jülich, is certain that the Rhenish lignite mining district, with its high-quality farmland, can benefit from Agri-PV: “The combined use of land for PV plants and agriculture is a genuine option for the future in our region. Dual use of land could enable farmers to reduce the consequences of climate change, improve crop yields through higher-value crops, and generate electricity at the same time.” A first, smaller Agri-PV plant in Morschenich-Alt shows that this is possible in principle. This plant is being operated by Forschungszentrum Jülich and other partners as part of the BioökonomieREVIER initiative. “The larger demonstration project with RWE in Jackerath now gives us the opportunity to compare further technical solutions and investigate the growth behaviours of various crops under real conditions. That will enable us to take the insights we have already gained to a deeper level.”

The aim is to develop suitable cultivation methods and value-adding strategies for operators of Agri-PV plants. Forschungszentrum Jülich is contributing its scientific expertise to the demonstration project. RWE has recultivated land and long-standing connections with regional farmers and is providing the extensive technical expertise it has gained from the development, construction and operation of solar plants worldwide.

One location, three technical solutions

Three different technical Agri-PV solutions are planned for the demonstration project in Jackerath, all allowing the simultaneous use of the land for electricity generation and agricultural production. The first system uses a vertical design leaving enough space for harvesting machinery between the module rows. In the second system the modules are installed in rows as well, but they are mounted horizontally and are automatically tracked to follow the sun over the day. This should optimise energy yields and make additional land available to the farmer. In the third system, the PV modules are elevated on a high pergola-like substructure, with crops such as raspberries or blueberries cultivated below them. The demonstration plant will have a peak capacity of about 3 megawatts (more than 2 MWac). Once the permit has been received, construction is expected to begin in summer 2023.

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