

# Photovoltaic and wind power generation of Lusatia Coal Industry

How will Lusatia's future energy system work?

Onshore wind energy will play a vital part in Lusatia's future energy system, as wind turbines can offset wintertime reductions in solar power. Alongside photovoltaics, onshore wind energy will enable the export of electricity to the neighbouring metropolitan areas of Berlin and Dresden (especially in winter).

Does Lusatia have a high expansion potential for wind energy systems?

The main result of this study is that Lusatia, as an energy transition and structural change region, still has high expansion potential for photovoltaic and wind energy systems. In 2040, electricity production from wind turbines could reach four times the current level.

Are solar panels the biggest energy transition driver for Lusatia?

Hirschl et al. (2022) find that Lusatia has enormous photovoltaics (PV) potential and solar panels are the biggest energy transition driver for the region.

Why do we use wind and PV power in the coal industry?

The coal chemical industry provides power by wind and PV power, so precious and clean renewable energy is used. Otherwise, wind and PV power are used to produce hydrogen, thereby effectively reducing unfavorable effects to the grid because of their stochastic, intermittent, and volatile characteristics.

How important is coal-fired power generation in Lusatia?

Today, coal-fired power generation corresponds to roughly five percent of value added and creates jobs for only three percent of the working population in Lusatia (Fronzel et al. 2018; Berger et al. 2019).

How do wind and solar energy systems work in Hami?

Based on the wind and solar energy resources in Hami, the optimization model of the wind and solar power system is established. The hydrogen energy storage system model is obtained using energetic macroscopic representation. Finally, the economic performance of the system is studied.

The estimated electricity generation of coal-fired power plants located in CRiT, and the modelled technical potential of solar systems are visualised in Figure 3. It is shown that even a partial utilisation of the ...

To achieve the goals of carbon peak and carbon neutrality, Xinjiang, as an autonomous region in China with large energy reserves, should adjust its energy development and vigorously develop new energy sources, ...

In this paper, a topology of a multi-input renewable energy system, including a PV system, a wind turbine generator, and a battery for supplying a grid-connected load, is ...



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Results also indicate that coal-fired power generation has the greatest influence on global warming in a whole life cycle with a standard equivalent of  $3.63 \times 10^4$ , while ...

Concerns over climate change and the negative effects of burning fossil fuels have been driving the development of renewable energy globally. China has also set a series ...

Web: <https://solar-system.co.za>

