

The Development of Photovoltaics as Part of Climate-Neutral Policy. Could the Polish Experience be Useful for Post-War Ukraine?

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Abstract:

The transition towards climate neutrality has become one of the key objectives of European energy policy, with the development of photovoltaics playing a crucial role in the decarbonization of energy systems. The dynamic growth of solar energy in Poland in recent years provides an interesting example of how appropriate legal regulations, market mechanisms, and social support and engagement can accelerate the implementation of modern renewable energy technologies in an economy traditionally dependent on coal. The share of photovoltaics in national energy production increased from just 1.3% in 2020 to 10% in 2025, and forecasts indicate further growth – up to around 25% by 2030. The article analyses the evolution of the Polish photovoltaic sector in the context of the European Green Deal, focusing on legal instruments, financial incentives, and grassroots initiatives that have contributed to such rapid development. Based on these experiences, the potential applicability of Polish solutions for the development of photovoltaics in post-war Ukraine is examined, as the country faces the enormous challenge of rebuilding its energy infrastructure while simultaneously aligning with the European Union's climate objectives. The article argues that a decentralized, citizen-oriented approach to solar energy development – implemented through international cooperation and a coherent, innovation-supportive policy – could serve as the foundation for rebuilding a sustainable energy economy