



## **Barriers for Large Integration of PV and Onshore Wind Energy in the Distribution Network on the Selected European Union Electricity Markets.**

**Abstract:** The European Union (EU) has adopted ambitious and wide-ranging binding targets for the reduction of greenhouse gas emissions, energy systems' transformation, and becoming climate neutral. The transformation of the energy sector towards more sustainable electricity production increases the importance of distributed generation from renewable sources, such as solar photovoltaics (PV) and wind energy. Large integration of PV and onshore wind energy in the EU distribution network is key to success in the energy transition. Despite significant progress in the field of renewable energies' regulations, in particular, due to the implementation of the RES Directive, several barriers remain, and still, the development of photovoltaics and wind energy are being slowed by various types of market, regulatory barriers, as well as technological and social obstacles. The aim of this article is to investigate the main barriers to the development of distributed generation from renewable sources, such as solar photovoltaics and wind energy, in order to increase their share in the EU electricity market. This paper is focused on the most common regulatory, technological, administrative, financial, social, and environmental barriers, which slow down the large-scale deployment of PV and wind energy into the distribution networks in 5 European Union countries: Austria, Greece, France, Poland, and Spain, as well as in Norway.

**Keywords:** photovoltaic, wind energy, energy market, barriers of PV and wind energy.

The presentation is available on:

<https://czasopisma.uksw.edu.pl/index.php/seb/article/view/9721>