Support schemes and market design in international offshore grids

International offshore grids can combine the grid connection of offshore wind parks with the possibility for international power trading in the future. This paper investigates the choice of support scheme and power market design in international offshore grids and derives resulting incentives. For example, day-ahead market design could be chosen such that an offshore wind park is affiliated to a national country or placed in a neutral offshore hub. With regard to balancing, an offshore wind park's access to a specific country may be blocked due to interconnector congestion from power trading. Hence, a country's offshore wind park included in an international offshore grid faces a different economic situation than one which is only connected to its home country. It is argued that there is a redistributive effect between offshore wind park income, congestion rents of the interconnectors and necessary support. For a stable investment framework in the near future, a tendering/feed-in tariff may be the best choice. It avoids exposing wind farms to balancing with multiple countries. In the long run, also other support scheme options may be of interest.

General information
Publication status: Published
Organisations: Department of Management Engineering, Systems Analysis, Energy Systems Analysis
Contributors: Schröder, S. T.
Number of pages: 8
Publication date: 2013

Host publication information
Title of host publication: 10th International Conference on the European Energy Market (EEM), 2013
Publisher: IEEE
Article number: 6607410
ISBN (Print): 9781479920082
Keywords: Power, Energy and Industry Applications
DOI: 10.1109/EEM.2013.6607410
Source: dtu
Source-ID: n::oai:DTIC-ART:iel/409076732::32601
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review