

Over-equipping in wind farms while maintaining grid connection power

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Abstract:

Over-equipping in wind farms while maintaining grid connection power is a new sustainable procedure that allowed the increasing of energy producing in wind farms.

In Portugal, one of the fundamental lines for the structural modernization of the country is the pursuit of an energy strategy focused on increasing electricity production through renewable energy.

In a wind farm the likelihood of all wind turbines running at full power and at the same time is very low. However, it is necessary to respect the maximum power of connection to the grid, which is established in the Production License issued by the General Directorate of Energy and Geology. In this way a wind farm can be upgraded to 20% of its installed capacity, considering that not all wind turbines will be running at full power and at the same time. In this way, an additional power of 20% of the installed capacity can be used, increasing the profitability of the wind farm and the production of renewable energy. This energy produced by over-equipment is paid at 60 € / MWh. There is a measurement system do determine that energy. The percentage of 20% has implicit statistical studies, which have been developed by the Portuguese Association of Renewable Energies.

The Portuguese legal regime applicable to the exercise of the activities of production, transportation, distribution and commercialization of electricity, namely with respect to the concepts of production in ordinary regime and production in special regime, is established in Decree-Law number 215-B/2012, of October the 8th, which can be consulted through the internet. This decree-law reinforced the legal regime applicable to the production of electricity under a special regime, namely through renewable energy sources.

Under these circumstances the power emitted by wind farms is monitored through dispatch centers and compared with the maximum power connected to the grid. If the power exceeds the connection power, the power emitted by the wind farms will be reduced to that limit.

In this way, the production of renewable energy became more profitable, because there is a surplus of energy that can be produced without exceeding the limit of maximum connection power to the network.

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Biography:

António Brito is an electrical engineer with postgraduations in European Law and another in European Economics. He attended a Business Management Program (AESE/IESE). He has a degree in Public Regulation and Competition from the Faculty of Law of Coimbra University. He submitted 20 publications in Conferences.

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