

5. Conclusions

Moving from 33 kV to 66 kV in offshore wind farms collector systems has been assessed. This movement seems to be reasonable and technically feasible in terms of reducing LCoE. Different design options have been made focused on cost-effective solution, besides risk assumed based on redundancy level.

Nowadays state-of-the-art is showing that offshore wind industry manufacturers launch electrical equipment enough for developers of new projects, offering all supply chain products for 66 kV. In general, it is clear that it has positive impact on wind energy generation costs, moreover, making any project profitable.

The best optimized solution can be shown if feeders' number is reduced and made larger, although a turbine with bigger nameplate capacity offers really lower LCoE values. More powerful turbines means reducing the number of them, less naval logistic and less cables. Finally, as a result of development of 66 kV power cables less transformer stations need to be built in each wind farm.

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