



Energy transition: integration of renewables?

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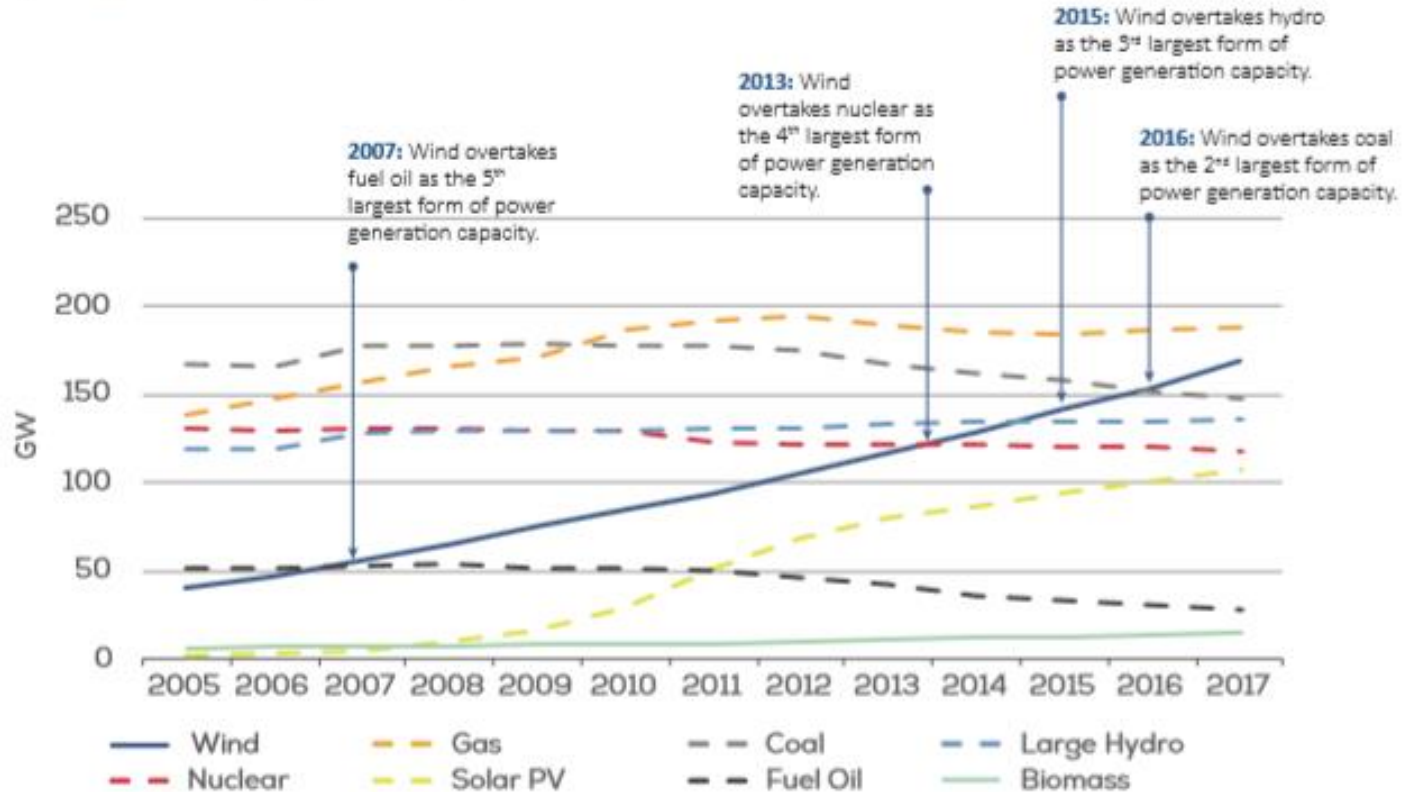
ProRail

Renewable energy in Europe

Wind and solar are growing rapidly.

What are the opportunities for the rail sector?

FIGURE 1
Total power generation capacity in the European Union 2005-2017



Source: WindEurope

Energy transition: several dimension

Integration in the energy grid



Integration in rail assets



Integration in the area



Using VR for integration of larger solar installations

ProRail and Rijkswaterstaat have started a project at a junction of two highways and two railways (A2 / A15 and Utrecht – Den Bosch / Betuweroute).

- First step was consultation of major stakeholders (municipals, province, ministry of transport, Staatsbosbeheer, DSO).
- Second step will be creating an project that realizes this solar park.
- Virtual Reality can play a role in visualizing the impact at an early stage, thus creating consensus and optimizing solutions.

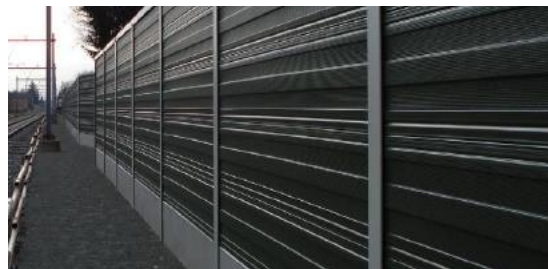


Solar park Knooppunt Deil VR impression



Combination of integration on assets and in the area

Example: noise barriers



Can we combine our assets to develop a standard solution for noise barriers? Both on integration into grid, on our assets and with a high and flexible solution for the area where they are placed in?

Discussion

Our assets can add value in regard to the energy transition, so we have to consider a new position.

- Is this a common idea?
- And can we join forces and share idea's?

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