

# IDENTIFYING SUCCESS FACTORS FOR WIND POWER

Analysis of policies and capacities in major European markets:  
Denmark, Germany, The Netherlands, Spain and United Kingdom



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KWEIA and WWEA teamed up in summer 2017 in order to identify the key success factors which are important to support the uptake of wind power deployment. For this purpose, the two organisations decided to analyse several European key markets and the policies which have been underlying the wind power deployment in each of the respective countries.

Germany, Denmark, the Netherlands as well as Spain and the United Kingdom were chosen to be analysed regarding policies and capacities in the following areas:

- Remuneration systems
- Permission procedures
- Social aspects
- Available wind data
- Domestic industrial capacities
- Institutions in the area of R&D, training and education
- Export promotion policies

WWEA got in contact with leading experts from each of the countries to write the chapters along these areas.

A lot can indeed be learned from the concrete experience in these five countries, in the positive as well as in the negative sense. Some of these countries, after all Denmark, have now more than 40 years of experience with modern wind power installations, which represents a great opportunity to learn and draw conclusions for new markets such as the Republic of Korea.

### Regulatory reliability as the basis

In general, it can be stated that regulatory reliability and support is the key to the long-term deployment of wind power. Governments giving priority to wind power can actively support the technology and make their countries benefit from it.

Of course naturally the best indicator for a successful wind power deployment is the installation rate. Germany, Spain and – as number one in terms of wind power share – Denmark are amongst the global wind power leaders. Obviously these countries took the right decisions at least during part of the past decades.

### Deployment rates and remuneration schemes

There is a very clear correlation between the deployment rates and the remuneration schemes. Notwithstanding the current trend towards auctions, the by far largest proportion of the installed wind turbines were installed under feed-in tariff legislation. Reports from all countries

indicate that this instrument has been in particular useful as it has opened the market for all type of investors and that in particular SMEs and community based investors took the chance and invested heavily in a new market. Changes to the remuneration schemes away from feed-in tariffs, and in particular the trend towards auctions, is, however, seriously spoiling the participation of a broad diversity of actors, especially the cases of Denmark and Germany are demonstrating this clearly. Too strong pressure regarding the prices of wind power may also take away flexibility from enterprises to invest in innovative products and services.

## Social support and the role of local investment

Remuneration systems are closely related to social aspects as they do decide about how broadly benefits from wind power investments are distributed amongst a country's citizens. Denmark and Germany used to be frontrunners in allowing millions of citizens to become investors and get direct profits from the shift towards renewables. In the negative sense, experience in the United Kingdom, the Netherlands and more recently in Denmark do also show that a lack of local investors has a deep impact on the social acceptance of wind farms. Every country that seriously wants to deploy wind power on a large scale should encourage local and community based investors in order to maximise socioeconomic benefits and social support for this great technology. The authors of the Danish report write very clearly about the change that happened when smaller investors were squeezed out of the market: "Together with the local cooperatives, the local advocates for wind power also disappeared, leading to local opposition problems."

## Permission processes

It is obvious that every wind farm should be installed in accordance with and based on sound technical and environmental standards. Smooth permission processes are hence also a key element of a successful wind power strategy. However, the lesson from the five analysed countries is that this can be achieved in a quite diverse way: Some countries take major decisions on the national level, others allow their local governments to play a key role. Probably in the sense of local acceptance and identity, a strong role for local governments is useful.

## Industrial aspects and export activities

It is very obvious that three of the analysed markets, Denmark, Germany and Spain, do have a strong wind industry which is also a global player, exporting products and services to countries around the globe. It is also very clear that companies were able to grow and to invest in innovation as they were based in a strong domestic market. Again here it has to be stated that the feed-in tariff has been the basis for such industrial development. The Dutch wind industry used to be good in technology innovation, but due to the lack of a home market, very promising companies failed to expand internationally and eventually had to give up. The United Kingdom never developed a strong domestic sector but both the equipment as well as the developer market are dominated by large international investors.

## Science and education

As highlighted in all individual cases, science is also a major pillar of the wind sector. Government, entrepreneurs and scientists are natural partners in bringing the sector on a new level of innovation. Even in one case like in the Netherlands there is a world class scientific basis although the Dutch wind industry is not a very strong international player. It certainly depends on public R&D funds which are available. Of course it should be taken into account that all countries are members of the European Union and that EU funds are a major component in such activities.

Naturally, many universities are playing an important role in educating the engineers and other experts who are needed in the wind industry. However, the countries with strong wind industries do also have strong vocational training capacities, often based on private sector resources.

## Conclusion

All in all, the overall conclusion of the analysis is clear: Strong, reliable, sufficient inclusive remuneration schemes together with comprehensive permission procedures do allow the wind sector to grow. And it is also of crucial important to have a broad understanding of “wind sector” – it should include citizens, communities, farmers, all those, who can play an active and supportive role in wind power deployment.

Given such frameworks are in place, the domestic wind industry has the basis to grow domestically and become also an international actor. National export promotion policies can help here as well, but without a strong domestic sector, such efforts may become obsolete.

## Thanks

We would like to say thank you to all partners involved in this research project, after all our authors who have presented us very informative and comprehensive insights into five of the key wind markets.



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