Eolien en mer, les raisons (techniques et réglementaires) de la baisse des prix

Jérôme Guillet
Green Giraffe – The renewable energy finance specialist

We get deals done

Deep roots in renewable energy finance

- Launched in 2010 by experienced finance specialists with a strong and proven track record in renewable energy
- 70+ professionals with offices in Paris (France), Utrecht (the Netherlands), London (UK), Hamburg (Germany), and Cape Town (South Africa)
- Multi-disciplinary skillset including project & structured finance, contract management, M&A, and legal expertise

High-quality, specialised advisory services

- Focus on projects where we can actually add value
- We can provide a holistic approach and are able to include sector-specific tasks in addition to traditional debt or equity advisory (such as contracting, strategic advisory and development services)
- Widening geographical reach with a burgeoning presence in the Americas and Africa in addition to Europe
- Priority given to getting the deal done!

Close to EUR 20 billion funding raised for renewable energy projects in 8 years

70+ professionals in 5 countries

Involved in over 100 renewable energy projects with a total capacity of ca. 25 GW
# Le coût de l’éolien en mer

## Une industrie encore essentiellement européenne

### Country

<table>
<thead>
<tr>
<th>Country</th>
<th>Installed capacity</th>
<th>Under construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>6,712</td>
<td>1,685</td>
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<tr>
<td>Germany</td>
<td>5,349</td>
<td>1,231</td>
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<td>China</td>
<td>1,989</td>
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<td>Denmark</td>
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<td>Belgium</td>
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<td>Netherlands</td>
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<tr>
<td>Other</td>
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<td>Sweden</td>
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<tr>
<td>Japan</td>
<td>80</td>
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<tr>
<td>Taiwan</td>
<td>8</td>
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</tr>
</tbody>
</table>

### Region

- EMEA
- APAC

### Status

- Installed capacity
- Under construction

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**18 GW installés, dont 16 GW en Europe**

Source: 4COffshore, Market Review Report, October 2017
Le coût de l’éolien en mer

La baisse des prix dans les appels d’offres récents a été spectaculaire
Le coût de l’éolien en mer

De quoi parle-t-on quand on parle de “coût »? 

Note: Costs include a carbon value of $30 per tonne of CO2 in the European Union. In 2015, coal refers to supercritical steam. In 2030, coal refers to IGCC for the United States, ultrasupercritical steam for Europe and China, and supercritical steam for India. Gas refers to CCGT. 

Source: International Energy Agency analysis 

Source: UBS

2 hypotheses sous-jacentes essentielles – le co^put du carburant et le coût de l’argent
Le coût de l’éolien en mer

L’effet de cannibalisation

Source: The effect of wind power on spot market prices, Rune Moesgaard, Poul Erik Morthorst, EWEC 2008

Le coût et le prix ne sont pas la même chose
Le coût de l’éolien en mer

La réglementation n’est jamais neutre, il n’y a pas de marché “objectif”

Sur le marché spot, les générateurs capitalistiques doivent se comparer au prix LT le plus bas
Le coût de l’éolien en mer

L’impact du mode de financement

Large projects are typically developed through a stand alone project company
  - Owned by the project investors
  - With its own revenues & balance sheet and thus the ability to raise debt on its own merits

There are only two discrete sources of funding
  - By the owners (directly via equity or shareholder loans, or indirectly via guarantees)
  - By banks without recourse to the equity investors – this is “project finance”

The way a project is funded will have a material impact on how it deals with contractors
  - In a project finance deal, you need to deal with the senior lenders’ requirements!
  - Tax, accounting, consolidation and rating issues

Les projets utilisant de la dette sont structures différemment
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La réglementation a un impact direct sur le coût

UK – target IRR of 14% - LCOE = 151 GBP/MWh

DE – target IRR of 10% - LCOE = 136 EUR/MWh
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