The added value of the Wind Energy Roadmap

European Wind Energy Technology Platform

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The Wind Energy Roadmap – introduction

- The Wind Energy Roadmap, rooted in the 2007 Strategic Energy Technology Plan (SET-Plan), was published by the European Commission in 2009 in its Communication on Investing in the Development of Low Carbon Technologies (COM(2009) 519) and will provide the sector with € 6 bn of public and private resources over the next 10 years
- The Roadmap is expected to be launched at the Madrid SET-Plan workshop on June 3rd and 4th
- The launch of the Roadmap will coincide with the establishment of its managing structure that will put it into action
- Before the end of 2010, EU and national authorities will therefore be in the position to coordinate their efforts and concentrate their financial support on the priorities of the Roadmap, hence providing a unique opportunity to the wind energy sector
- This presentation will focus on the opportunities provided to the sector by the Roadmap and to its impact on the current level of public support

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The Wind Energy Roadmap – strengths

- The Wind Energy Roadmap was developed by the European Wind Energy Technology Platform (TPWind) in cooperation with the European Commission and Member States
- TPWind is a network of wind energy experts representing the EU wind energy industry and R&D community. It was launched in 2006 and is composed of approximately 150 members. It is managed by the European Wind Energy Association (EWEA)
- The Wind Energy Roadmap published by the European Commission is therefore the result of a transparent and shared process, in which all relevant stakeholders have been involved
- The launch of the Wind Energy Roadmap will speed up the development of wind power and help Europe to maintain its global technological leadership
- The implementation of the Wind Energy Roadmap will therefore contribute to the achievement of the EU 20% binding target for renewable energy production by 2020, set by the new RES Directive (approved in December 2008)
- Further to that, the Roadmap will contribute to de-carbonize the EU economy and increase its security of supply

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The Wind Energy Roadmap – opportunities for wind energy operators

- The Wind Energy Roadmap will increase the level of public support to wind power R&D at both EU and national level, as outlined in the next slides
- The Wind Energy Roadmap will ensure coordination in terms of public support (EU and national) to wind power R&D, hence providing transparency on which activities will be financed in the 2010 – 2020 period
- The Wind Energy Roadmap will facilitate private investments in wind energy R&D by clarifying how the sector will develop over the next 10 years
- Further to that, the Roadmap will facilitate the implementation of international R&D projects, the mobility of researchers and the exchange of know-how
- Finally, the Roadmap will encourage the development of other relevant sectors, in particular the EU grid (which the wind energy sector will contribute to shape), hence creating a virtuous circle that will further accelerate the deployment of wind power

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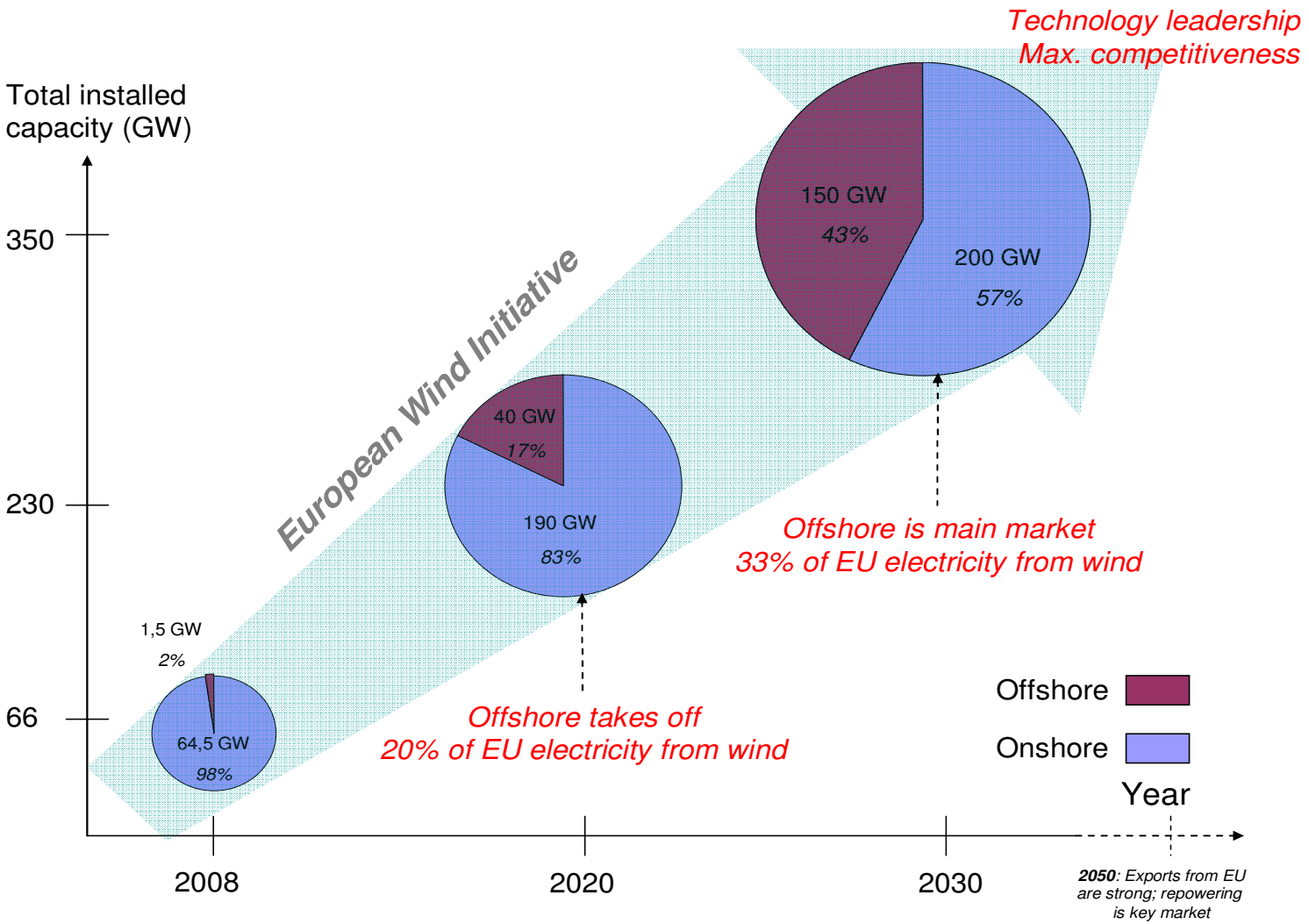
The Wind Energy Roadmap – expected impact on the sector



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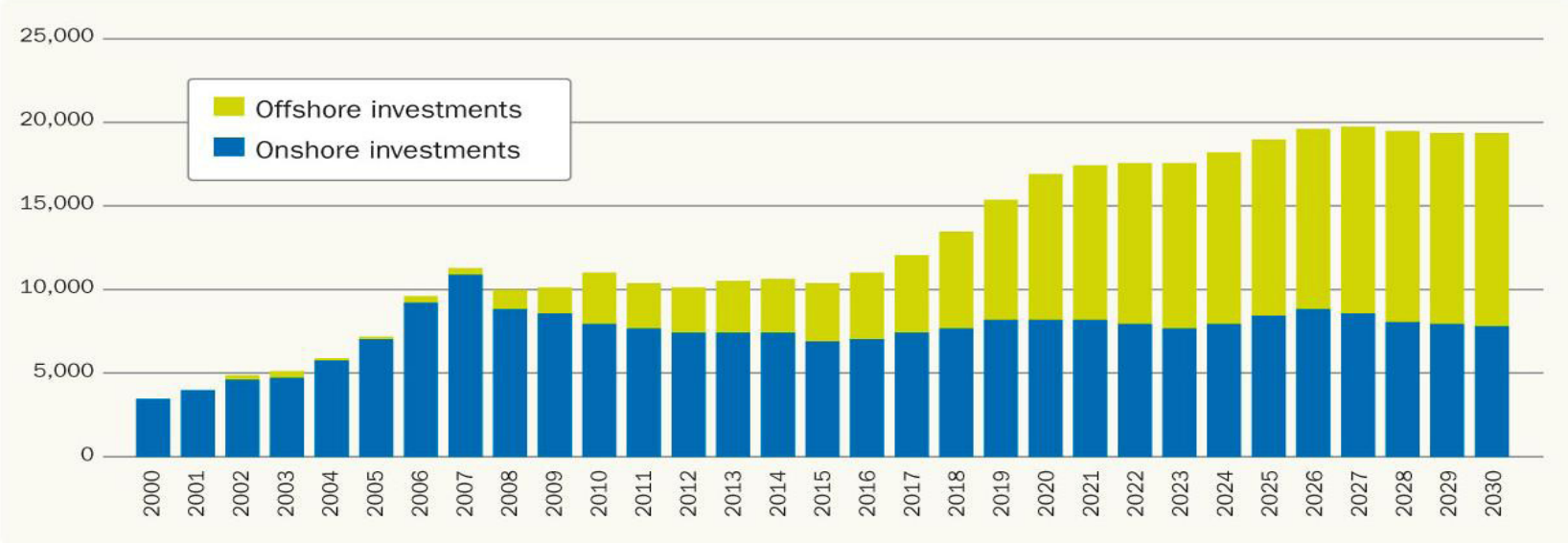
The Wind Energy Roadmap – total wind energy investments (I)

- Based on the EWEA reference scenario for installed capacity up to 2030, the figure below shows the historic and required annual wind power investments from 2000 to 2030, needed to reach 300 GW of wind power
- The market would be stable at around €10 billion/year up to 2015, with a gradually increasing share of investments going to offshore. By 2020, the annual market for wind power capacity will need to grow to €17 billion annually with approximately half of investments going to offshore. By 2030, annual wind energy investment needs in EU27 would reach almost €20 billion with 60% of investments offshore



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The Wind Energy Roadmap – total wind energy investments (II)

- Cumulative investment needs in wind energy over the three decades 2000 to 2030 would total €390 billion. Between 2008 and 2030, in EWEA's reference scenario, approximately €340 billion would need to be invested in wind energy in the EU27:
  - €31 billion in 2008 - 2010;
  - €120 billion in the decade 2011 - 2020;
  - €188 billion in the decade 2021 - 2030.
- The IEA (2006) expects that €925 billion of investment in electricity generating capacity will be needed for the period 2005 to 2030 in the EU. According to the EWEA reference scenario, €367 billion – or 40% – of that would need to be wind power investments, in order to reach the 300 GW and a share of wind power in the EU power mix of 21 - 28%, depending on the development of power demand

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The Wind Energy Roadmap – R&D wind energy investments (I)

- Europe is leading in wind energy, holding a 61% share of the globally installed wind energy capacity in 2007 (EUROBSERV'ER, 2008a)
- With wind energy in general being considered a rather mature technology, R&D investments are clearly dominated by industry, accounting for three quarters of the total
- Compared to the year 2006, the estimated corporate R&D investments in wind energy increased significantly (by an order of magnitude above 20%) to reach €292 million in 2007 while public national funds showed a small decrease (-7%). The EU funds under FP6 amounted to around €43 million over the period 2002-6 (or €11 million on an annual average)
- The aggregated R&D investment of EU-based companies (€292 million in 2007) is the result of an assessment of 13 companies

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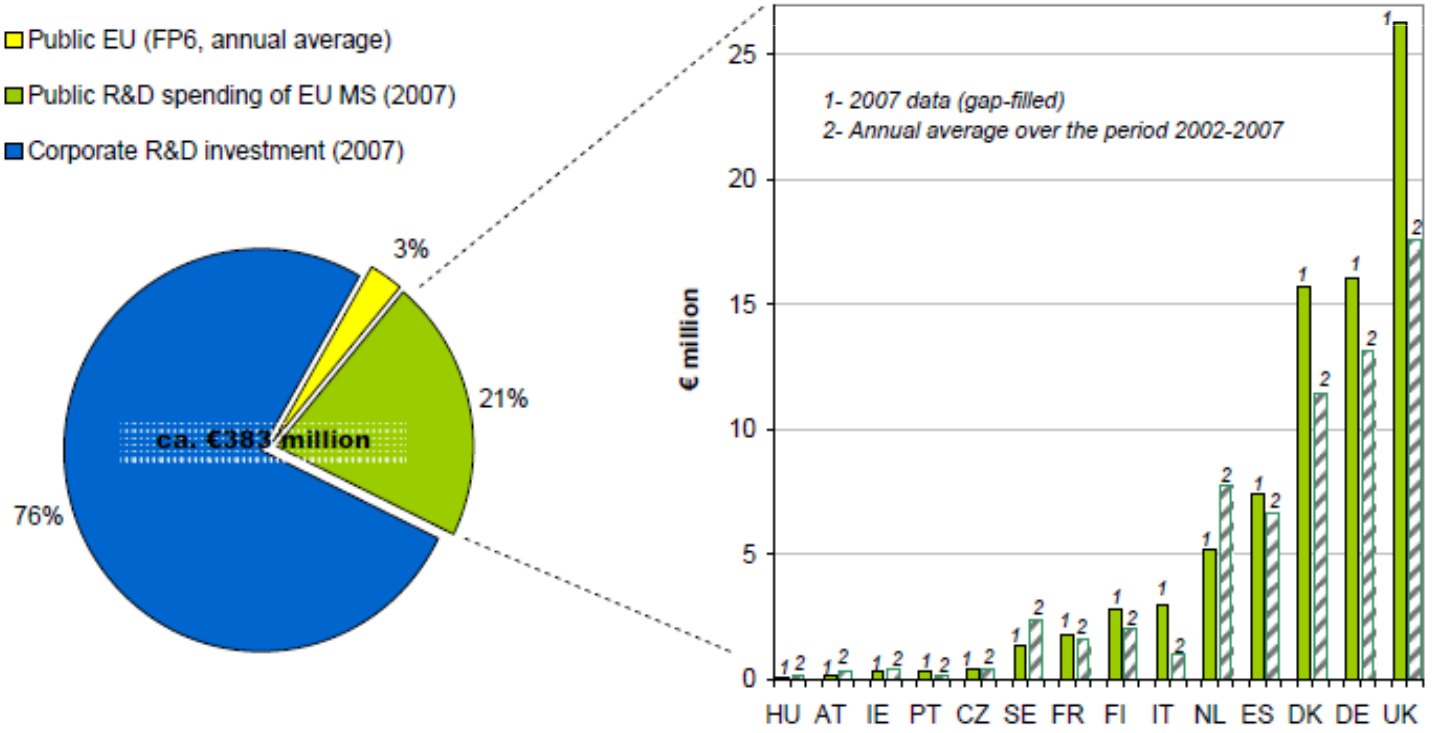
The Wind Energy Roadmap – R&D wind energy investments (II)

The approximate R&D investment in wind energy from industry and public sectors in 2007 (total: € 383 m) is outlined in the diagram below (source: EC – Communication "Investing in the Development of Low Carbon Technologies"):



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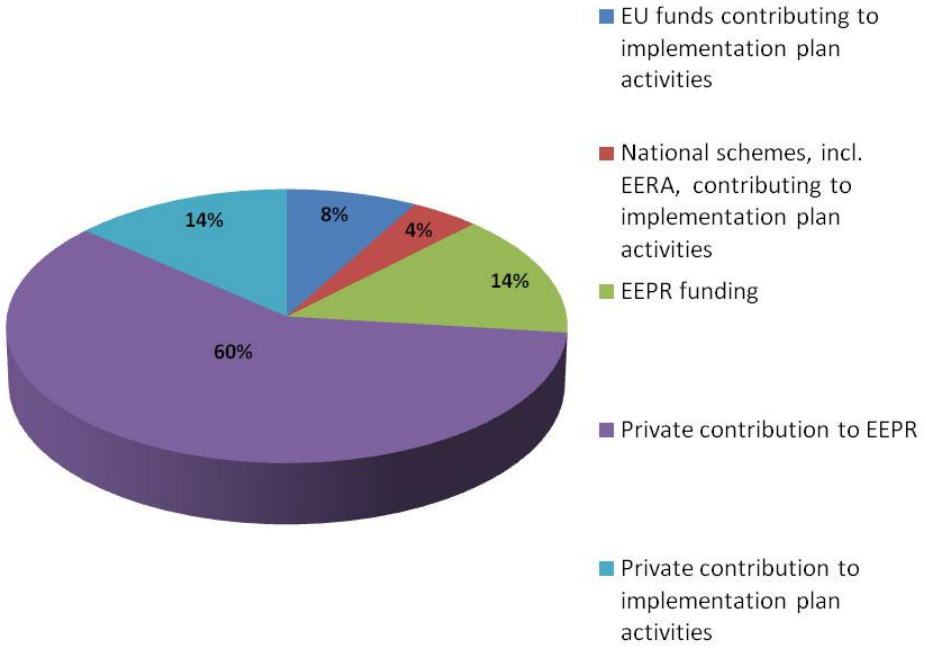
The Wind Energy Roadmap – R&D wind energy investments (III)

With the launch of the Roadmap, R&D investments will have to increase to a total level of € 3.243* m for the 2010 – 2012 period, which corresponds approximately to a 282% annual increase:



Note: the diagram takes into account the European Energy Programme for Recovery (EEPR), which is part of the Roadmap funding (the EEPR is a package of €519 m, which needs to be complemented by €2.1 bn from the industry to be implemented)

** € 3.243 m = € 1.443 m (total Roadmap budget for 2010 – 2012) + € 2.100 m required to the industry for the EEPR*

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The Wind Energy Roadmap – R&D wind energy investments (IV)

- In 2007, €383 million were invested in wind energy R&D at European level
- The largest contribution came from the private sector (76%), Member States contributed to 21%, and the Framework Programme only to 3%
- R&D support to wind energy should therefore be increased in order to implement the Wind Energy Roadmap and reflect the new RES Directive, which binds the EU to increase the share of renewables in its energy mix to 20% by 2020
- Providing support to R&D projects in the wind energy sector could therefore help the EU to fulfill both its original Lisbon goal (i.e. increasing R&D spending to 3% of its GDP by 2010) and its new RES target
- This should therefore be reflected in the allocations of the FP7, which is about to go through its mid-term review, and of the future FP8 (2014 – 2020): renewable energy sources should receive a fair share of the budget in European and National R&D Programmes

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The Wind Energy Roadmap – R&D wind energy investments (V)

"The overall breakdown of non-nuclear energy research financing in 2007 was 70% private to 30% public. Given the public policy-driven nature of the energy transition and the current economic situation, a significant rise in the public share of the burden in the short term towards a more equal level of commitment would have to be explored" (COM(2009) 519)

Total Roadmap bugdet	Costs (M€)
1. New turbines and components	2 500
2. Offshore structure-related technologies	1 200
3. Grid integration	2 100
4. Resource assessment and spatial planning	200
Total	6 000

- R&D investment: 383 M € (2007)
  - Industry: 292 M€ (76%)
  - Public: 91M€ (24%)
- Required Roadmap investment: at least 600 M €/y

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The Wind Energy Roadmap - conclusions

- The launch of the Wind Energy Roadmap will change the EU financing paradigm of wind power and will mark an historic moment
- With a budget of € 6 bn of private and public resources for the 2010 – 2020 period, the Wind Energy Roadmap will increase total R&D investments in wind energy and will ensure a higher participation of public authorities
- Further to that, the Roadmap will ensure coordination between EU and national funding schemes, which will all focus on its priorities and activities: nothing similar was ever attempted before
- Having developed the Roadmap and its 2010 – 2012 Implementation Plan on behalf of the wind energy industry and R&D community, TPWind will also be involved in its implementation, together with EU Institutions and Member States. TPWind will therefore continue to play a key role in the European energy framework and will contribute to shaping future EU wind energy policies

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Thank you for your attention!

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