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Press information

New Report Shows Wind Power Experiencing Exponential Growth

- Decade of 30 per cent year on year increase in MW-additions for wind sector
- Global wind power capacity set to double in next three years
- Growth rates indicate dominance of renewables by 2025
- IEA World Energy Outlook 2008 prediction of stagnation 'blown' out of water

London: A new study by leading independent research authority Energy Watch Group, was released today, "**Wind Power in Context – A Clean Revolution in the Energy Sector**" identifies exponential growth in wind power capacity since the early 1990s. With net capacity additions of almost 20,000 Megawatts in 2007 the report suggests that, contrary to IEA forecasts [see figs 1&2], growth of wind power additions will continue and that it will be driven not just by costs for fossil fuels and nuclear cost overruns - but by access to new wind resources, by new grid regulations, by an emerging world market for wind turbines and components and by ever cheaper and better wind technology.

The author of the report, Energy Watch Group expert Dr. Rudolf Rechsteiner, explored the drivers behind the growth in wind power identifying sixteen key attributes that will continue to drive growth. These include: a free primary energy; an infinite resource supply; global accessibility to supply; stable life cycle cost guarantee; increasing price competitiveness; zero operational carbon emissions or hazardous waste; zero requirement for cooling water; decreased payback times and fast innovation cycles.

The study explores four different scenarios for power consumption and wind generation which see, should the growth of the last ten years continue, the potential for global wind power generation (accompanied by solar) to match that of conventional generation by 2025.

Scenario A: high power consumption and high wind power growth sees renewables exceed 50 per cent of global electricity provision before 2025 with a total demand of 37600 TWh and wind generation capacity of 7,500,000 MW worldwide, producing 16400 TWh. The observed mean annual growth rate of wind power net additions from 1998 to 2007, 30.4 percent per year, was used as a proxy for further expansion. As a result, wind energy, alongside with solar, would conquer a 50 percent market share of global new power plant installations by 2019. Global non-renewable power generation would peak in 2018 and could be phased out completely by 2037.

Scenario B: high power consumption and moderate wind power growth (15.2 percent per year, half the rate historically observed 1998-2007) sees renewables at 23 per cent of global electricity provision in 2025, with a total demand of 37600 TWh and a wind generation capacity of 1,837,000 MW worldwide, producing some 4023 TWh (including a non specified amount of solar). As a result, wind energy would conquer a 50 percent market share of global new power plant installations by 2033, alongside with solar.

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Scenario C: moderate power consumption growth (1.8 percent per year) and high wind power growth sees renewables exceed 65 per cent of global electricity provision in 2025, with a total electricity demand at 27430 TWh and a wind capacity of 5,212,000 MW worldwide, producing 11,414 TWh. As a result, wind energy will conquer a 50 percent market share of global new power plant installations by 2017, alongside with solar.

Scenario D: moderate power consumption (1.8 percent per year) and moderate wind power growth (15.2 percent) sees renewables exceed 31 per cent of global electricity provision in 2025, with a total electricity demand of 27430 TWh and a wind generation capacity of 1,837,000 MW worldwide, producing 4023 TWh. As a result, wind energy will conquer a 50 percent market share of global new power plant installations by 2026, alongside with solar.

Dr. Werner Zittel, expert of Energy Earth Watch Group, commented:

“It is time to recognise that the many detractors of wind energy, including the IEA, have got it wrong. We have seen more than ten years of unprecedented growth in this sector driven by a wide variety of factors ranging from cost reductions to access to new high-wind resources and better grid regulations. There are challenges to overcome in the form of fluctuation in supply and grid connectivity but there are strong incentives for better grids and storage capacities in terms of cost savings for the consumers and real security of supply. Unbundling in the power sector and a timely planning of new grids will put many regions of the world on the fast track for a renewable driven energy sector.”

“With the renewables market being driven forward by the entrance of major commercial players, and experiencing the benefits of consolidation of services around the strengths of different primary energy sources, we believe that the growth of the wind sector, accompanied by solar and other renewables will continue. This is not about morals or environment but the commercial reality that wind, coupled with hydro, solar, biomass and geothermal energy is not only a rapid and cost effective alternative but one that could deliver all our energy requirements within the first half of this century. In times of rising supply disruption risks and rising cost renewable energy technologies are the only source which provides electricity predictable, in terms of economics and in terms of supply.”

Wind power net capacity additions over the last ten years (1998-2007) have showed a mean growth rate of 30.4 percent per year, corresponding to a doubling of net additions every two and a half years. High worldwide growth rates for wind power will continue, and wind power will conquer a large part of the energy market in the next foreseeable future (10-15 years).

Over the last 25 years, the productivity of wind turbines grew one hundred fold and average capacity per turbine grew by more than 1000 percent. Transnational companies including General Electric, Siemens, Areva, Alstom, Suzlon have entered the industry and are being followed by a growing number of Chinese businesses.

The report is available for download from www.energywatchgroup.org

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For interview or comment please contact:

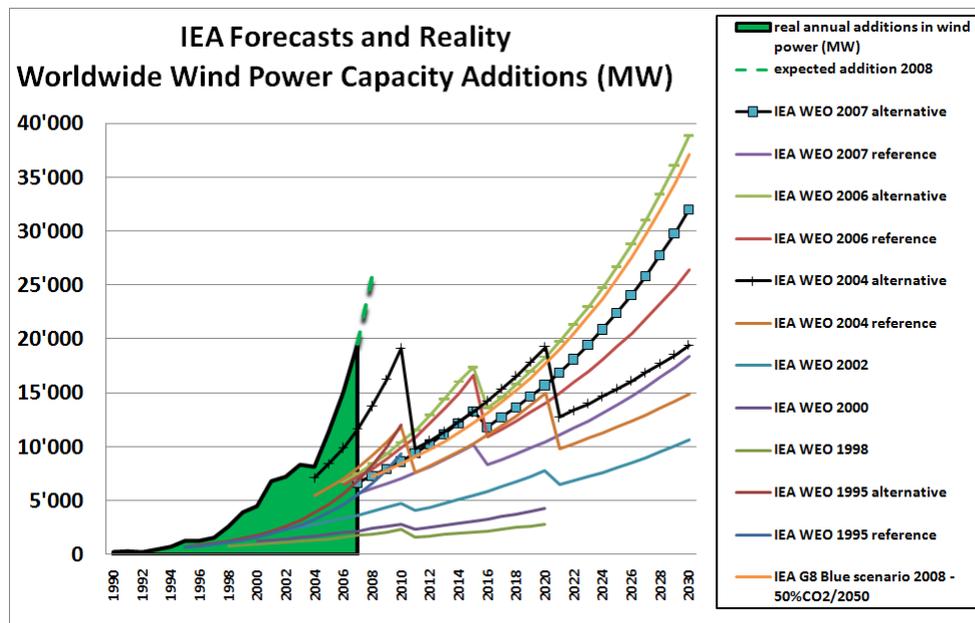
Sarah Reardon/Tim Lewis + 44 (0) 870 626 9934 / cleanrevolution@fourcommunications.com

Notes to editors:

The sixteen drivers for wind power:

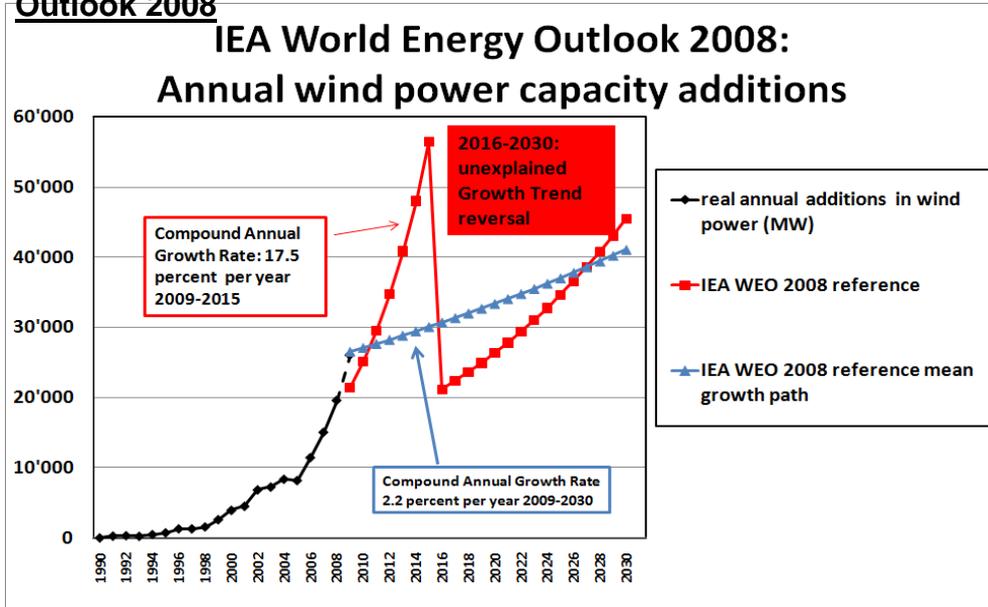
1. The primary energy (wind) is cost-free;
2. The primary energy never runs out;
3. There is an abundant resource; creating power independence in many regions of the world
4. Stable life-cycle-cost can be guaranteed;
5. Wind power is competitive with other new power sources;
6. wind turbines cause no carbon, air emissions nor hazardous waste;
7. No water for cooling is needed;
8. Wind has an energy payback of less than 1 year
9. There is easy access to wind technology
10. Time to market is very short
11. Fast innovation cycles prevail
12. Wind is a young technology, allowing progress on the learning curve and cost reductions;
13. Wind is decentralized power with a non-exclusive structure;
14. Distance to consumers is moderate (1-1000 miles)
15. Wind energy has positive side benefits such as taxes, income for farmers, and remote areas,
16. Wind energy creates know-how and human labor.

Fig 1: IEA long-term forecasts of annual additions: World



Net additions of wind power, in 2007, were 417 percent bigger than the mean estimate published by the International Energy Agency (IEA), in its World Energy Outlook 1995-2004 editions.

Fig 2: IEA projection annual wind capacity additions 2010-2030, World Energy Outlook 2008



The 2008 World Energy Outlook of IEA for the first time took a slightly different view. Global wind output has been projected to grow fivefold from 130 TWh in 2006 to 660 TWh in 2015. But after 2015, cumulative wind power capacity is forecasted to rise to 1,490 TWh in 2030 only. This translates into sharp reductions of annual capacity additions – from 57 GW per year in 2015 down to an average of 32 GW for the 2016-2030 period, a virtual stagnation compared to the 25-26 GW addition expected for 2008. No arguments are given by the IEA why the wind sector should suffer such a crisis by 2015 and after.

Fig 3: cumulative wind power capacity (including a non specified amount of solar)

Source: Energy Watch Group

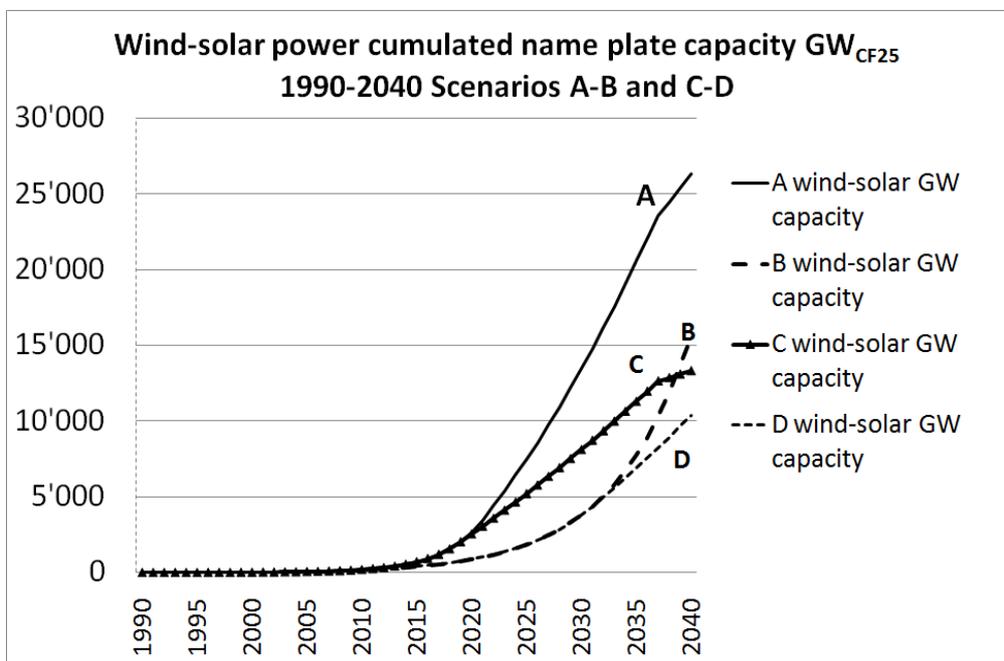
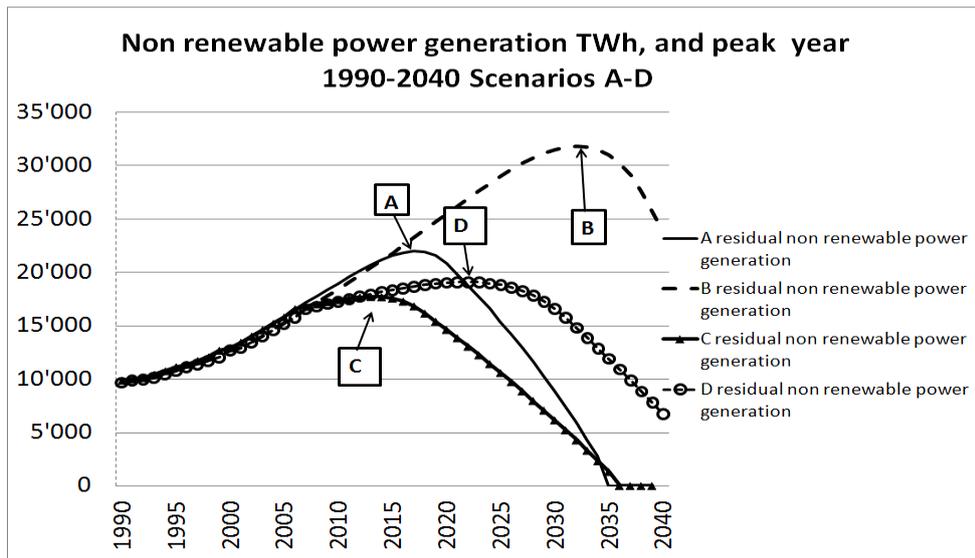


Fig 4: non-renewable power generation 1990-2040 : Source Energy Watch Group



In scenario A, the observed mean growth rate of wind power additions, from 1998 to 2007, is used as a proxy for further expansion. As a result, the wind sector will have conquered a 50 percent market share of global new power plant installations by 2019 and a close to 100 percent market share by 2022 (accompanied by solar and alongside other renewables such as hydro and biomass). Global non-renewable power generation will peak in 2018 and could be phased out completely by 2037. The scenarios B, C and D, with half the annual growth rates for wind power or/and consumption growth, show similar results: Market conquest of the wind-solar sector is expected between 2019 (scenario C) and 2039 (scenario B). Non-renewable power generation will peak between 2014 and 2032 and be phased out within the following two decades.

About the Energy Watch Group:

The Energy Watch Group is an international network of scientists and parliamentarians. The supporting organization is the Ludwig-Bölkow-Foundation. In this project scientists are working on studies independently of government and company interests concerning:

- the shortage of fossil and nuclear energy resources,
 - development scenarios for regenerative energy sources,
- as well as,
- strategic deriving from these for a long-term secure energy supply at affordable prices.

The scientists are therefore collecting and analysing not only ecological but above all economical and technological connections. The results of these studies are to be presented not only to experts but also to the politically interested public.

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