The economics of abundant solar- and wind-electricity

or:

Future electricity markets

Tomas Kåberger
Professor Chalmers University of Technology, Zhejiang University
2013-08-29

Non-fossil electricity generation globally, 1965-2012

Data from BP Statistical Review 2013
Windpower in Denmark
Share of total Electricity production 1980-2011

Data from Danish Energy Agency

German renewable electricity, TWh

Data from: http://www.erneuerbare-energien.de
Renewables: A rising power

By Pilita Clark, Environment Correspondent

Plunging prices are finally making solar power competitive with conventional sources of energy

UBS: Boom in unsubsidised solar PV flags energy revolution

By Giles Parkinson on 23 January 2013

(ED: See also the second story from this report, Why subsidy-free solar is a no brainer for households).

The revolution in energy markets caused by the growing impact of rooftop solar PV is about to take a dramatic leap in scale.

According to analysts from the global investment banking giant UBS, the arrival of socket parity – where the cost of installing solar is cheaper than grid-sourced supplies – is about to cause a boom in un-subsidised solar installation in Europe, and the energy market may never be quite the same again.
US Wind Power Prices Down To $0.04 Per kWh

Anyone who tells you wind power is expensive is bad-shit crazy. Wind power is the cheapest option for new electricity generation in many if not most places in the world, including much of the US. That would indeed help to explain why the US installed more wind power capacity than power capacity from any other source in 2012, 42% (or 43%?) of all new power capacity in the country.

Negative network effects will transform the economics and operations of our infrastructure within 1,000 days. Are you prepared to benefit from the massive value creation that will come with game-changing shifts in energy and other industries? In this comprehensively researched economic analysis, noted consultant Michael Rogol shows how to rapidly build small and midsize companies into hundred-million-dollar enterprises within a thousand days. If you do not adjust to market conditions, you put your business at substantial risk including possible annihilation. The clock is ticking.
NRG Skirts Utilities Taking Solar Panels to U.S. Rooftop

By Christopher Martin & Naureen S. Malik - Mar 25, 2013 2:38 PM GMT+0100

NRG Energy Inc. Chief Executive Officer David Crane said, consumers are realizing “they don’t need the power industry at all.”

Electricity consumption in the Nordic countries last week
Prices have sometimes been high

Output Fluctuation of Wind Power Generation
Electricity price west Denmark 2012-12-25

Elspot prices

ALL SYS NO SE FI DK EE LT

Hourly Daily Weekly Monthly Yearly

25-12-

EUR €

from Nordpool spot

Elspot volumes

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from Nordpool spot
Competing

- Transmission
- batteries
- electrofuels
- more and less electric heating

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