

The Sustainable Way of Life

The success story of Germany's EEG – Renewable Energy Sources Act



For every energy demand worldwide we offer the best renewable energy solution with strong brands and an entrepreneurial organization.

OUR WORLD IS FULL OF ENERGY

CONERGY



Conergy is a global manufacturer 100% dedicated to renewable energy solutions.





Conergy created the business model and resources for sustainable growth to 2050.

International expansion: Fast and sustainable access to attractive future energy markets.

Financial and personnel resources are the basis for a sustainable management.

New product lines and innovations lead to the expansion of our strong market position.





Our strategy for substantial future growth relies on a diversified global enterprise.



For every energy consumer worldwide we offer the best renewable energy solution with strong brands and an entrepreneurial organisation.



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Conergy is already represented in 23 countries on five continents.













The Conergy Group will continue to outpace the market significantly in 2007.





How did it come to be that a cloudy, windless, coal burning, nuclear generating, energy importing country gained the pole position in the world of renewable energy?

the Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, EEG)



The advantages of RE were obvious to German political leadership.

Risk minimization of a climatic catastrophe

Globally applicable technology, cannot be misused, virtually no hazards.

Potential driving force of the German export economy.

Long-term strategic advantage for Germany.



The world wide energy demand is rising...



Source: RWE Weltenergiereport 2003

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... while resources of fossil fuels are declining.



Source: Ludwig-Bölkow-Systemtechnik GmbH 2005



The global primary energy consumption will triple until 2050.

Rising mobility and wealth lead to an increasing demand.

Newly developing countries as well as developing countries need more energy due to increasing industrialization.

Ahead of all, China and India have a strong rising energy demand due to strong economic growth.





Fossil energies will not close the impending supply gap.

Fossil energies are getting scarce or can not be extracted in a sufficient amount.

There is already a strong price increase for standard energy resources, such as gas, diesel and uranium.

Alternative technologies, such as thermonuclear fusion, are still not ready for the market. Due to optimistic estimation they won't be commercially applicable before 2050.





Supply of RE is enormous.



Theoretically required space for solar panels, to generate the electric energy demand of Germany, Europe (EU-25) and world wide by solar thermal power plants.

Source: German Centre of Aerospace (DLR), 2005



While the market price for electricity is rising, the electricity production costs for RE are further declining.



Source: BAF A, Tecson, BWE, UVS



The energy mix in 2050 will be composed to a considerable amount of RE.



Source: Solarwirtschaft.de



Given all this information-What has Germany done right for the global climate?

Imposed renewable energies on the market

without state subsidies

using the shared burden principle

Launched technologies for electricity production from wind power, solar radiation, biomass, geothermal power and hydropower

The core element of the legislation is the duty of grid operators to give priority to electricity from renewable energy sources, and to pay for it according to fixed premium prices

Feed-in tariffs (FIT).

the Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, EEG)



Cost and benefit effects of the EEG

Cost effects of EEG-promoted electricity generation (esimated/2006)			Benefit effects of EEG-promoted electricity generation (estimated/2006)
EEG differential costs	3.2 billion euros	5.0 billion euros	Reduction in the wholesale price
Additional costs as compared with conventional electricity.i.e. decentralized equipment			Price reduction through merit-order effect, i.e. EEG electricity crowding out electricity produced from fossil fuels.
Additional costs, regulation energy	0.1 billion euros	3.4 billion euros	Avoided external costs for electricity generation
Estimated upper limit			External costs from climate change and air pollutants. i.e. pollution and health
Transaction costs	0.002 billion euros	1.0 billion euros	Avoided energy imports
Estimated personnel costs – shared burden costs			Savings in hard coal and gas imports for electricity generation, including large-scale hydroelectric power plants.
= 3.3 billion euros			= 9.4 billion euros



Influence of the EEG feed-in tariff on PV installations in Germany (MW)





Almost instantly Germany is a global leader in a new industry

- The EEG has created an undreamed-of boom in renewable energy sources.
- Within just a few years an autonomous, highly dynamic and efficient industry has come into being in Germany which covers the entire value-added chain.
- In contrast to the conventional energy generation sector, numerous medium-sized enterprises across the whole of the country are involved in producing power from renewable sources.







Germany will employ around 250,000 persons in the fields of RE in 2007.



Source: DIW/industry news/BMU



As an exporting country, Germany benefits from this growth.



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In 2006, 12.0% of total German electricity consumption was supplied from renewable energy sources and, as a result, there was a reduction of over 100 million tonnes in CO2 emissions.













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A number of countries around the world are turning to RE to cover their growing energy needs

- 48 countries already offer incentives for renewable energies
- Among them are 16 EU countries, 14 developing countries, 18 US states and 3 Canadian provinces
- About 30 countries have already introduced measures similar to EEG
- Renewable energy coverage by 2020:
 - EU: 20% (three times higher than the current level)
 - China: Five times more than today (currently 3%)
 - California: 48% of electricity consumption (currently 11%)



Source: Conergy



Investment in RE is rising worldwide.



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Renewable energies accounted for 18% of new generating plants built in 2006 (worldwide).

In 2006 between \$110 billion and \$125 billion were invested in around 120 GW of new power generation globally. Of this investment, \$30.8 billion was in new renewables, which included \$21.5 billion of asset finance in new generating plants, and the remainder in small-scale systems, such as rooftop solar. The \$21.5 billion in renewables plant financing represents about 18% of the total power sector investment.



New Energy Finance – August 2007 Issue





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In the near term the worldwide RE market will amount to 140 billion EURO in 2015.



Source: Conergy



Especially PV, Solar Thermal and Bioenergy will keep growing at a rapid rate.



Source: Conergy

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Innovation, like energy sources needs to be decentralized.

I am just a simple entrepreneur.

My advice?

Do not pick technology winners and losers with R&D policies and funding formulas.

Create a market as fast as you can.

Launch renewable energy technologies.

Let innovative businesses find -

The Sustainable Way of Life.



Thank you for your attention.