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.
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.
Conergy is already represented in 23 countries on five continents.
The Conergy Group will continue to outpace the market significantly in 2007.

Sales in EUR million from 2002-2006

In € million

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (€ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>73.2</td>
</tr>
<tr>
<td>2003</td>
<td>122.4</td>
</tr>
<tr>
<td>2004</td>
<td>284.8</td>
</tr>
<tr>
<td>2005</td>
<td>530.2</td>
</tr>
<tr>
<td>2006</td>
<td>752.2</td>
</tr>
</tbody>
</table>
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…

Scope of prognostics and scenarios of worldwide energy consumption
(Index 2000 = 100)

Source: RWE Weltenergiereport 2003
… while resources of fossil fuels are declining.

Prognostics and scenarios of the availability of fossil fuels
(peak = 100)

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.

Source = PV NET (EC DG JRC, 2004) / Industry news
Fossil energies will not close the impending supply gap.

- Fossil energies are getting scarce or cannot 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.

Source = PV NET (EC DG JRC, 2004) / Industry news
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

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

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Corporate Intelligence Unit

07.11.2007

22
Influence of the EEG feed-in tariff on PV installations in Germany (MW)

1990 - 1000-rooftop program
1999 - 100,000 - rooftop program
2001 - feed-in tariff
2004 - New feed-in tariff
2006 - 

---

Corporate Intelligence Unit
07.11.2007
23
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.

Source: deutschland hat unendlich viel energie
* = Forecasts

Corporate Intelligence Unit
07.11.2007
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.
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.

Worldwide investment of RE in billions per year

*Forecast
Source: BEE, Branch, February 2007
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.
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
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.