

Germany's path toward a sustainable energy supply



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Contents

- I. **Three convincing reasons for Germany to restructure its energy supply –**
Why a conservative government initiates a fundamental change towards a new sustainable energy supply in a highly industrialized, export-orientated country aimed at (maintaining) a high living standard

- II. **How is Germany doing it:**
The energy concept and the “Energiewende”
Moving towards renewable energies and energy efficiency

- III. **What are the consequences?**
A myth-buster after 1 year of experience: no black-outs, no grid collapse, no net power imports, no rise in GHG emissions, even drastic decrease in CO₂ price and drop in stock market price of electricity.



I. Good reason no.1:

Successful economies need a sustainable energy supply – this means:

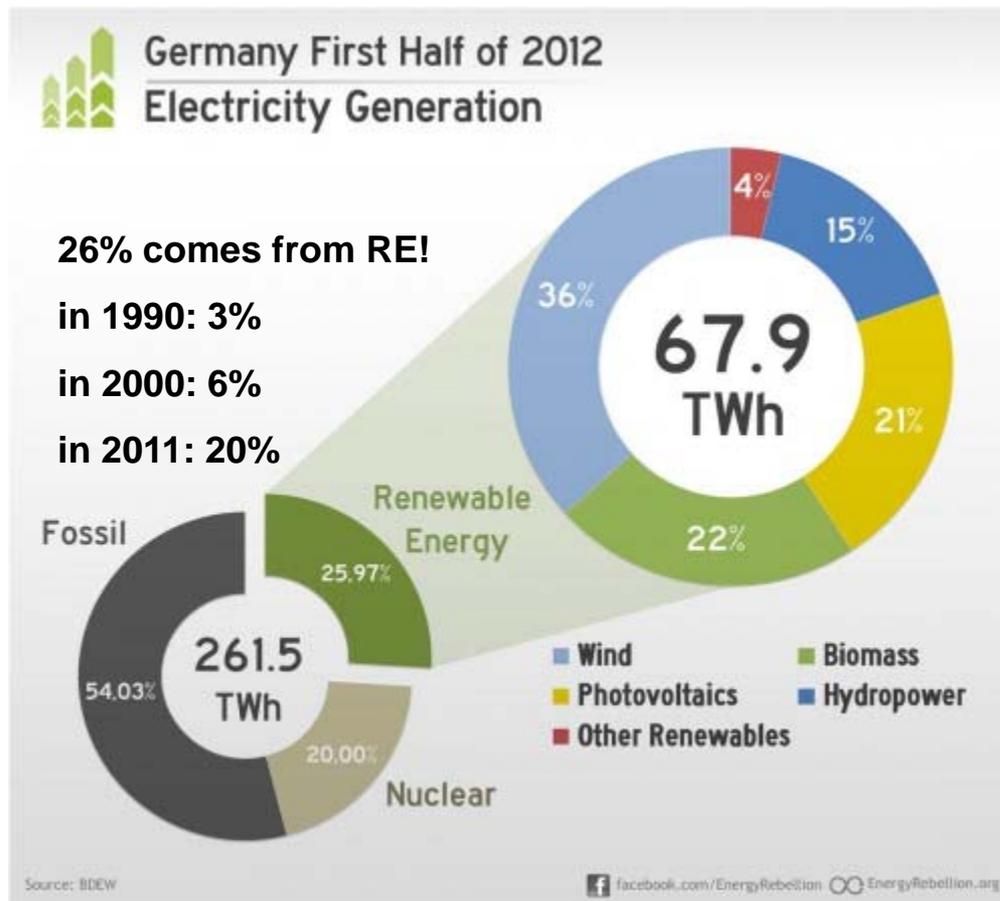
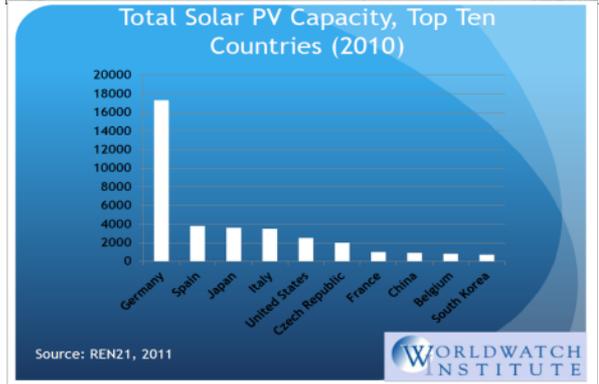
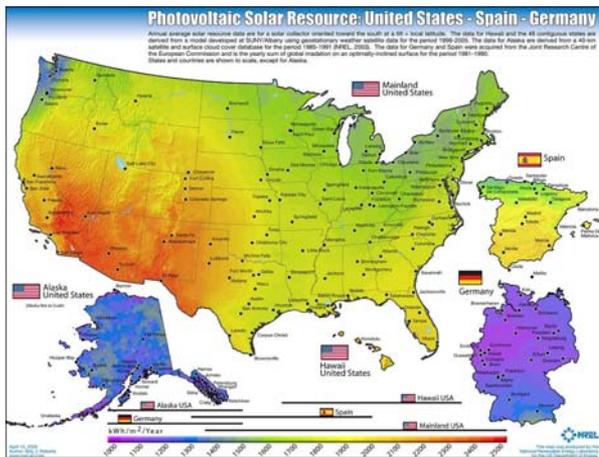
1. **secure**: sustainable and reliable energy resources (fewer imports → at present Germany imports 70% of total energy used)
2. **economic**: affordable prices over the long term (no/lower external costs → at present high dependency on oil price)
3. **environmentally** friendly: no/less emissions or risks → at present 75% conventional sources used for electricity with high emissions and unsolved storage problems for nuclear waste

Solutions:

- a. **only renewable energy (RE) sources meet these criteria**
- b. **energy efficiency is a giant energy source – and needed to achieve a high share of RE**
- c. **a comprehensive energy concept providing a framework: initializing RE, efficiency, and infrastructure.**



I. Good reason no. 2: There is an abundance of renewables – even in Germany



I. Good reason no.3: The “Energiewende” offers immense BENEFITS

for economy, environment, and energy security

□ Why?

- efficiency reduces energy demand and costs
- new investments (€30 billion per year only for RE), new jobs (390,000 in 2011 only in RE), more innovation and research
- costs for traditional fuels and power plants rise, those for RE installations fall
- less energy imports worth 7 billion €/year
- drastic reduction in emissions (RE reduce GHG by 130 mio. tonnes CO₂-eq. in 2012)

□ The energy future:

- all comprehensive long-term projections show the Energiewende path is clearly advantageous compared with business-as-usual for economy, society, and climate



III. Climate + energy policy pays off

By achieving Germany's targets by 2020:

- at least **500,000 additional** jobs will be created
- annual **avoided fossil fuel imports** will be worth approx. **€22 billion** (approx. €38 billion in 2030)
- national **GDP** will annually increase by around **€20 billion per year**
- a **SURPLUS of €34 per reduced CO_{2eq}** will be realized
- in 2030 the **national debt would be some 180 billion euro lower** than it would be without climate protection measures



Transformation of the German energy system (the "Energiewende")

- is needed to achieve sustainable energy supply
 - is beneficial: → for the economy (costs, energy security), society (jobs), and the climate
 - is a complex task, which needs a generation to implement
 - needs political will and a program: → the Energy Concept 2050
 - Renewables, intelligent grids, and energy efficiency are key !
- If it happens in Germany, it can happen everywhere!