**Energy policy and climate change**
*The German model*

**Narrator**
With a population of over 82 million, Germany is the biggest energy consumer in Europe. To meet its demand the country has been heavily dependent on imports, a subsidised coal industry and a significant number of nuclear power stations.

**Lutz Metz**
After the first energy crisis Germany moved towards nuclear power and energy saving, so that they are the 2 main directions and there was combination with hot coal promotion policy, this means that until the liberalisation of the energy markets in the late 1990s we had a combination of power generation of lignite power stations, hot coal power stations and nuclear and the rest was a little bit natural gas and a renewable, mainly hydro power.

**Narrator**
But in 1986, en event occurred that was to profoundly change the course of German energy policy.

**Narrator**
The world's worst nuclear power accident at Chernobyl prompted a sea change in public opinion.

**Lutz Metz**
Chernobyl changed the attitude of the social democratic party and the trade unions and it also changed the position within the utilities because since then no new contracts were closed and, and even plans were put back in the drawer! So that's one side, the other is that the public opinion in Germany since then has very strongly against nuclear and this the case also comparison to other countries like Sweden or Finland, in Germany it's anti nuclear.

**Narrator**
Although the German green movement had long opposed nuclear power, the strength of public reaction to Chernobyl eventually led to a government decision to phase out all nuclear plants by 2025.

**Lutz Metz**
At the moment there are 17 nuclear power stations operating in Germany and their contribution for electricity generation is in the range of 26, 27%. The phase out policy means that the utilities are not interested for the moment in constructing new nuclear power plants, it's too risky.

**Narrator**
But this decision has presented a massive challenge for policy makers, how will Germany's electricity demand be met in the coming decades?

**Lutz Metz**
The substitution of the nuclear will be a mix of fossil fuels hopefully clean ones, so in first hand natural gas but if it's possible to use clean coal powers stations then this will also have a part. And naturally also renewable energy sources, and last but not least energy efficiency, so we have to reduce our electricity consumption in the long run.

**Narrator**
To meet its ambitious CO2 reduction targets it was to renewables that policy makers turned to find a long term solution to Germany's electricity needs. The passing of the renewable energy

law in 2000 marked a dramatic shift in the pace of change towards a sustainable energy future.

**Hermann Scheer**
The turning point was the renewable energy act with its special philosophy and the philosophy is to allow to make a investment for renewables possible, without asking the power companies if they would accept that. That means it was the first energy law since the case which was adopted against the power companies. And the result is now that er.. we have an annual new installation for renewables in the electric power sector of 3,000 megawatt, annually.

**Narrator**
One of the most significant aspects of this new law was the introduction of the feed-in tariff.

**Lutz Metz**
The feed in tariff is basically a obligation of the utilities to take renewable energy into the grid and to pay a certain remuneration for it. The table of today's remuneration is very complicated because it also has to stimulate innovation of the technology, so it's depreciated each year, and it works very well.

**Narrator**
The prospect of premium rates being paid for energy fed into the grid resulted in a huge demand for solar panels and wind turbines.

**Hermann Scheer**
We created with the law a market, and the guaranteed price is for the investor, for the supplier, the power supplier, that means for the people who buy the windmills. The more productive the windmill the higher the profit. That means our law is a strong incentive for technological improvements for the improvement of the productivity of windmills and therefore it gave a strong push for the technological development of the windmill industry.

**Narrator**
Although the growth in wind energy has been hailed by many as a major success story, the siting of turbines, and in particular the large wind farms has generated controversy.

**Hermann Scheer**
If someone compares a free landscape with the landscape with windmills, he may be disturbed by that. But this is not a fair comparison. One must compare a landscape with windmills and the landscape which is touched everywhere, by the emissions, the acid rain, its damages for the sea, for all water resources, its damages for the forests, its damages for the climate.

**Narrator**
Alongside wind power, Germany is continuing to develop other renewable sources of energy.

**Lutz Metz**
The most prominent form today since last year is wind power followed up by hydro power which is partly large hydro and small hydro. And then bio mass power plants are also increasingly important.

**Narrator**
There has also been an enormous growth in solar photo voltaic power, based in Berlin Solon AG is one of a new generation of companies, riding the wave of a burgeoning alternative energy industry, boosted by further legislation that includes a requirement to reduce energy demand of all new buildings by an average of 30%.

**Teresa Raatz**
Since the introduction of the EEG the renewable energies act in 2004, we have seen a huge demand growing for the voltaic systems, in Germany, Germany being the biggest market now for photo voltaic technology. So this is also reflected in the numbers of our company we have

been able to grow output and revenues by about 100% annually in the past years, since 2004, so we are seeing a big growth in the market.

This particular plant is a trial plant for Solon, we developed it about 3 years ago and before launching it to the mass production and the mass market we have built this plant as a trial.

**Hermann Scheer**
The renewal energy industry became the most successful new industry with the highest growth number. We have an annual growth rate of 30%. In the turnovers and even in the job creations. And we are I think only at the beginning of this process. We created 170,000 new jobs and I think we will arrive at one million and more.

**Narrator**
There's no doubt that the last decade has seen Germany take significant steps towards a sustainable energy future, but some remain impatient at the pace of change.

**Thorben Becker**
Germany does enough to promote renewable energy in the electricity sector, but Germany does nearly nothing to promote renewable energy in the sector of heating and cooling and so we are discussing with our environmental ministry to set up some kind of a feed in law for heating and cooling and bio renewable energies but it's not clear that we do it, but Bund is just pushing strong for such a law.

**Narrator**
However far the country still has to go, Germany has come further than most of its European neighbours, there is an increasing conviction that German energy policy makes economic sense and that where Germany leads, others will inevitably follow.

**Hermann Scheer**
Conventional energy is fossil and nuclear, it will go up. There's no way out. There are rising fuel costs. Rising infrastructural costs, rising environmental costs. And rising security costs. The cost for renewables can only go down. There are no fuel costs, with the exception of bio mass. There are low infrastructural costs the only costs are costs for technology and technology costs go down by industrial mass production and further technological improvements, that's very clear.