

German Feed-In Tariff

The German Solar Feed-In Tariff has resulted in Germany's preeminence in photovoltaics. In a matter of years, Germany has installed 52% of the world's total solar-electric capacity. Despite relatively low "solar insolation" – about equivalent to Anchorage, Alaska -- Germany has created a solar industry that has attracted billions of dollars of public and private-sector investment, and that currently employs 35,000 Germans who work in all facets of solar R&D, poly-silicon manufacture, wafer and cell production, and photovoltaic (PV) module assembly.

The year 1991 marked the inception of the "feed-in tariff" – a mechanism whereby homeowners and businesses can feed as much renewable electricity into the grid as they can and want. At that time, and spurred by the European Union's commitment to climate protection and the Kyoto Protocol, the German government legally regulated the "feed-in" of electricity from independently generated renewable energies to the electric power grid under the auspices of the Electricity Feed Act. The law began the German solar revolution.

Then in April of 2000, the German government passed the Renewable Energy Sources Law that provided highly attractive incentives for different forms of renewable energy. The law dramatically stimulated the German photovoltaic market. In fact, it led to Germany's solar capacity and worldwide leadership. Unlike the "net metering" provisions that are common in the United States, and that limit solar system size to annual consumption of a particular meter, the feed-in tariff allows for participants to maximize solar production at a particular site. Furthermore, the rate is fixed for 20 years, making the economics of each investment clear to investors and clearly profitable for all participants.

In 2004, the EEG was further enhanced with an increased tariff structure, resulting in the installation of 600 MW of photovoltaics, followed by 750 MW in 2005 and 960 MW in 2006. For comparative purposes, total U.S. installations in 2006 were on the order of 140 MW, about 15% of the German total. This case study presents a nation that has aggressively developed a domestic solar electric market. And as a result of Germany's experience, other countries have instituted similar tariff mechanisms. These include Spain, Italy, and South Korea.

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Program Catalyst:

- European Union Climate Action Goals
- German Government Renewable Energy Targets

Program History:

- 1991 Electricity Feed Act
- 2000 Renewable Energy Law
- 2004 Remuneration Increased

Program Results:

- 5,000+ solar companies
- 35,000+ jobs in photovoltaics

Economic Development:

- 960 MW Annual Capacity Installed in 2006
- 2,715 MW Cumulative Capacity Installed by 2006
- 300,000 program participants
- Nearly 2 TWh of solar power generation

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In the early and mid 1990s The Results Center produced 126 case studies of the most successful energy efficiency and renewable energy programs in the United States and around the world. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. The Results Center is again producing the case studies it has been known for, still under the direction of Ted Flanigan, but now at EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us