



SIMPLIFYING SOLAR



Financing Solar in Hard Times

How Much is Enough? Lessons from Feed In Tariffs



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February 20, 2009



Defining the Feed In Tariff

German Model:

- § 20 year, fixed-price contracts
- § Differentiated by technology
- § No system size cap
- § All energy is exported to the grid

Spanish Model:

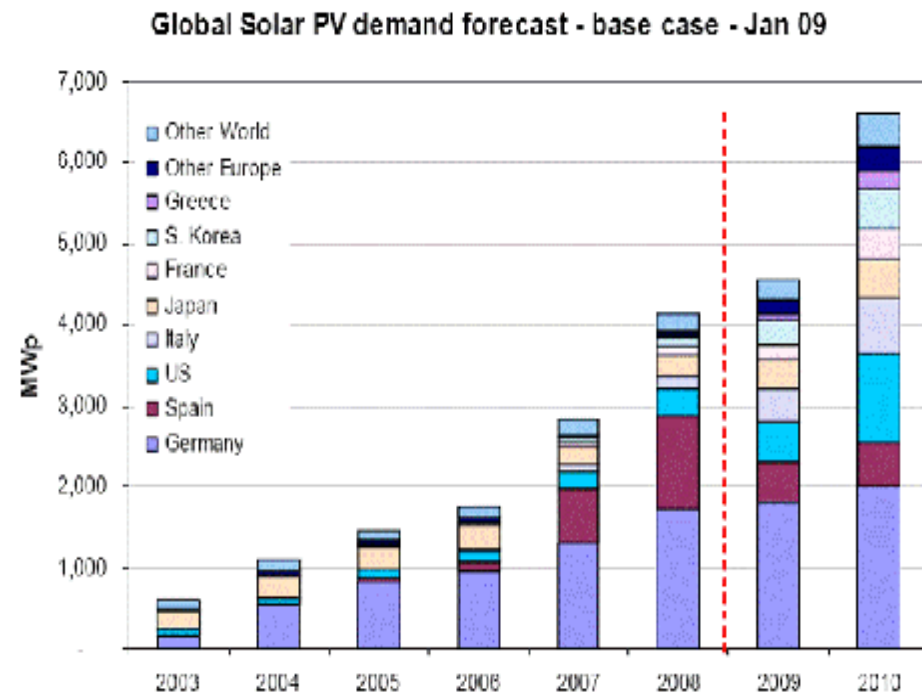
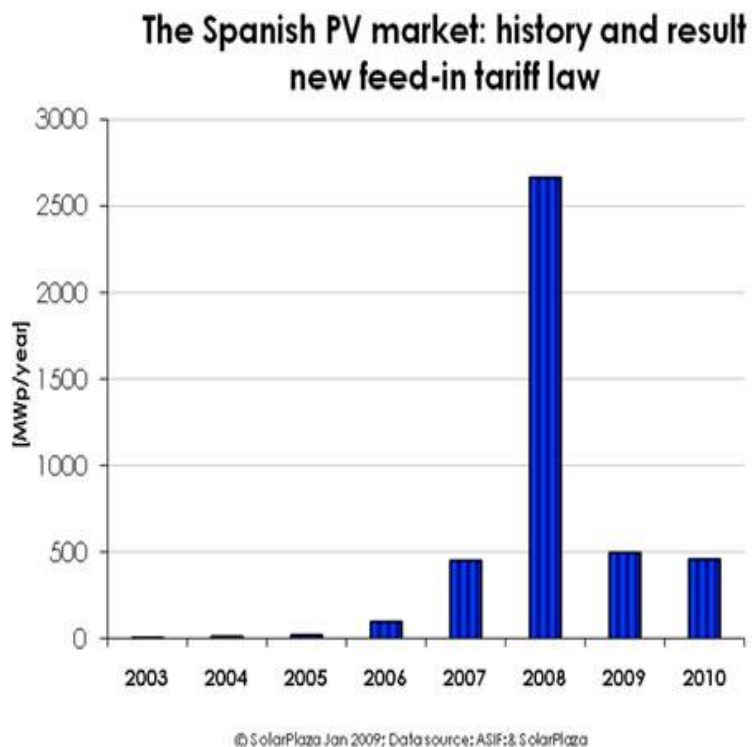
- § 20 year contracts
- § Generators can choose a German style FIT or a premium on top of the wholesale price of electricity.
- § All energy is exported to the grid.

Californian Model:

- § A short term, 5 year payment stream
- § Declining payment vintages
- § Systems < a certain size
- § Works with net metering

Varied structures & models create confusion

German, Spanish and Canadian FIT Experience



FITs promote rapid deployment but hyper growth observed in every market. Long term effects yet to be seen

FITs in America – Not a Foreign Idea



PURPA

Act of 1978

- Payments to qualifying facilities based on utility's long term avoided cost

**German
FIT**

2007

- **Michigan**

- HB 5218: Based on the German FIT.
- \$.50-\$.71/kWh for PV

- **California**

- The CEC recommended the CPUC establish a 20 MW FIT

2008

- § **Minnesota**

- § **Illinois**

- § **Rhode Island**

2009

- § **Indiana**

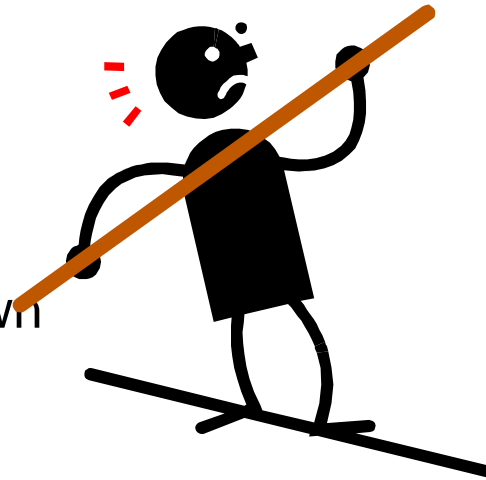
- § **Washington**

Gainesville Regional Utility, FL recently established a PV-only FIT offering 20 year contracts at .32/kWh. Enrollment commences in March, 2009.

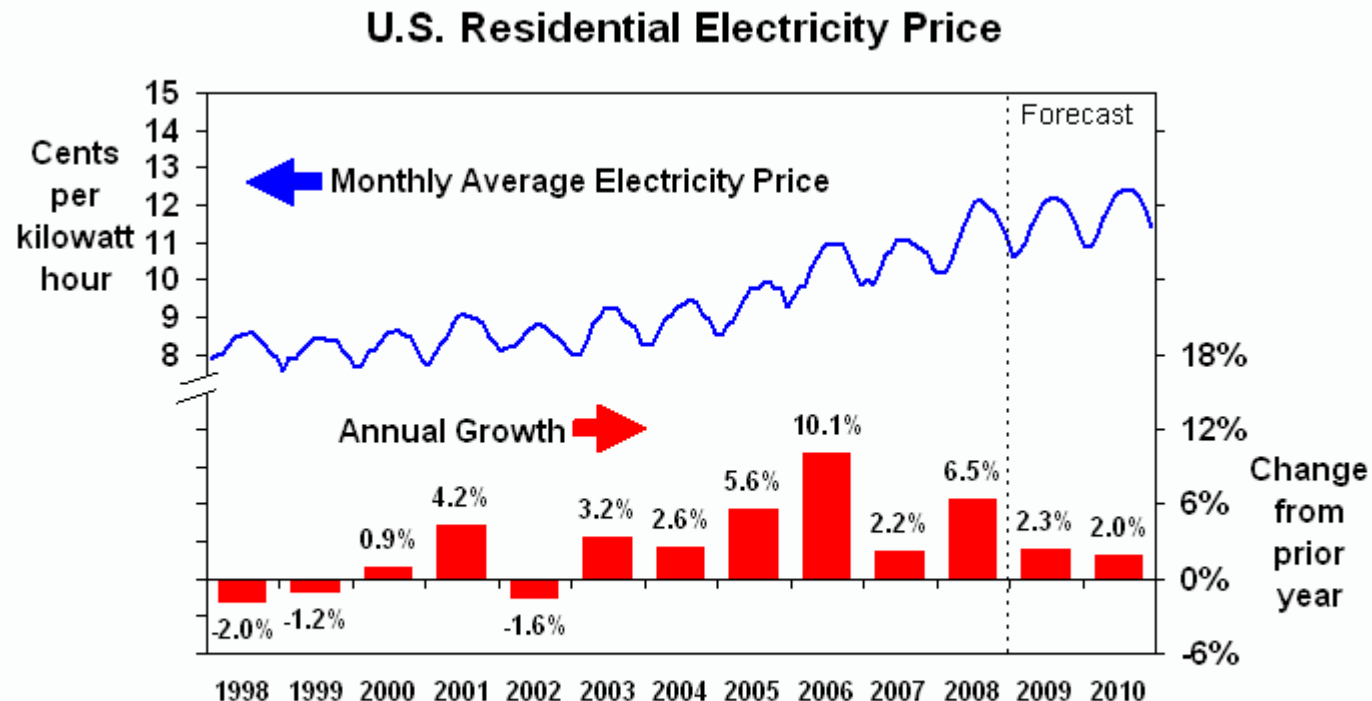


FIT Concerns and Mitigation:

- § Funding Uncertainty
- § Hyper growth
- § Realistic Implementation Expectations
- § Transmission and Infrastructure Issues
- § Stability
- § Net Metering: the right to generate one's own electricity?



Feed in Tariff Concerns and Mitigation: Replacing Net Metering



Short-Term Energy Outlook, February 2009

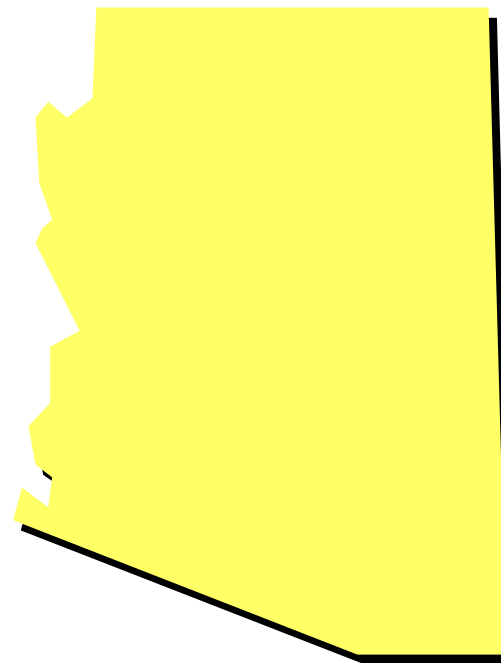


§If FIT rates are exceeded by electricity rates, customers will sustain financial loss

The Arizona Model – FIT-like Certainty With RPS Competition



- § A per kWh payment based on production
- § Payment term: contract terms of 10, 15 or 20 year
- § Competitive pricing offers benefit
- § Works with Net Metering
- § No system cap
- § 3rd party developers
 - Risk allocation
- § Additional Incentives

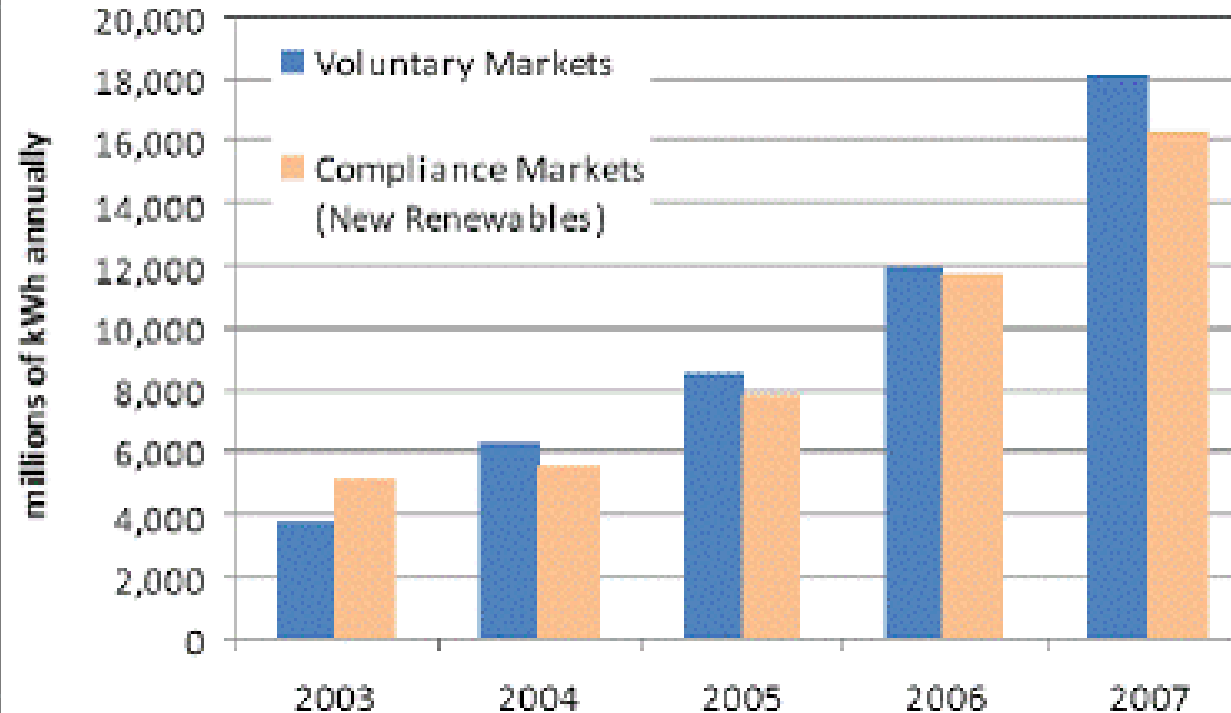




Federal Mechanisms - FIT or RPS

Expected carbon legislation can easily be implemented into a REC based market.

Voluntary markets make a large contributions:



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Source: Holt, Wiser: The Treatment of Renewable Energy Certificates, Emissions Allowances, and Green Power Programs in State Renewable Portfolio Standards



Thank you! Questions?



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