

Renewable Energy Feed-in Laws:

The **Green-light** for Economic Development and Jobs in Nevada

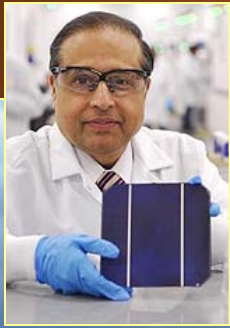
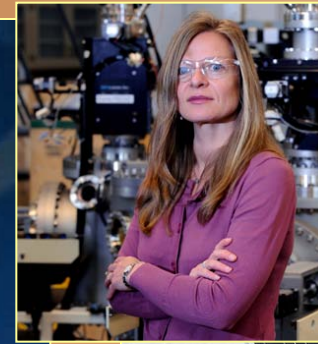


EXHIBIT E - ENERGY
Document consists of 15 pages.
Entire exhibit provided.
Meeting Date: 06-01-10



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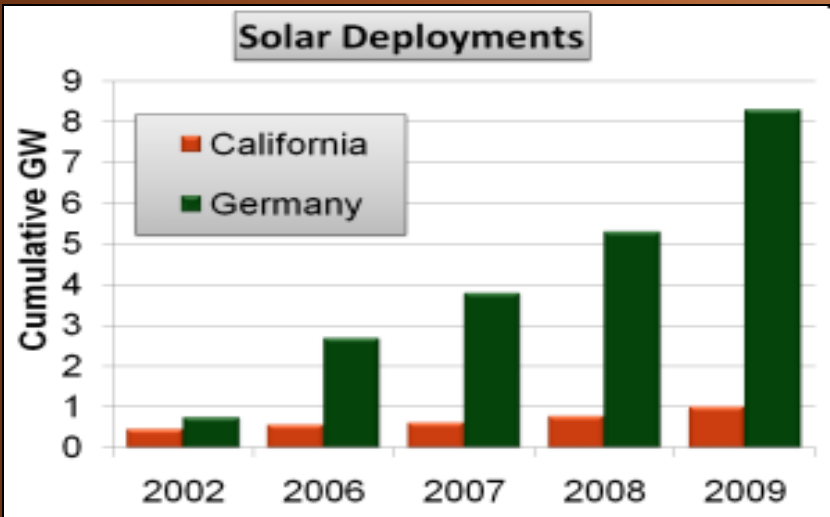
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Score: Germany 189, United States 7

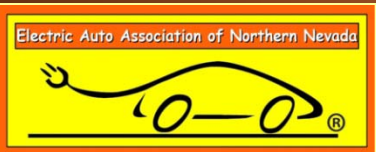
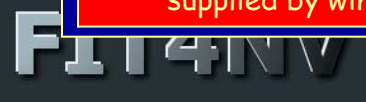
Although California receives 70% more sunlight for producing solar energy, Germany installs 15 times more solar electric capacity every year!



The U.S did well installing 10 GWs of new wind in 2009, but...

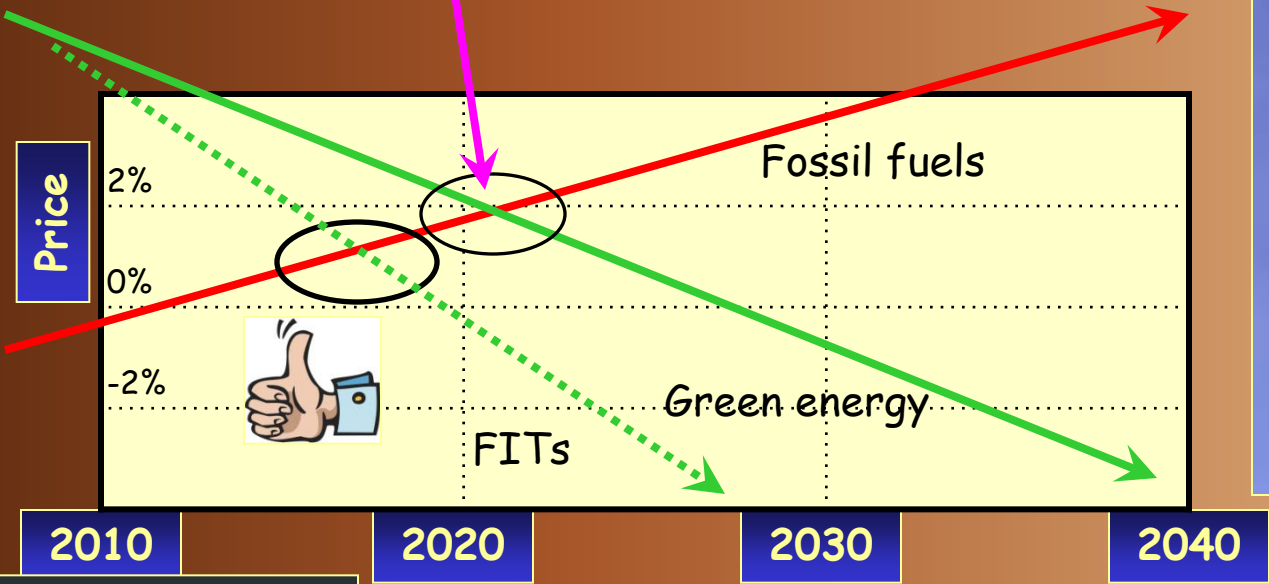
United States	Germany
4x Population = 309 million	Population = 80 million
27x Sq miles = 3.7 million	Sq miles = 137,000
4x GDP = \$14.2 Trillion	GDP = \$3.4 Trillion
~ 1% of domestic energy supplied by wind.	> 7% of domestic energy supplied by wind.

"It's not a technology problem, this is a mobilization problem." -- Catherine Zoi, DOE Secretary for Energy Efficiency & Renewable Energy

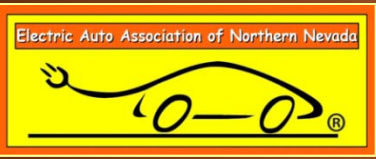


Renewable Energy Program Goal

It should be the goal of any renewable energy incentive to provide price support such that desirable new technologies displace undesirable old technologies with the eventual ultimate goal of reaching grid-parity conditions.



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FIT policies offer a cost-efficient method for fostering rapid development of RE resources, thereby benefiting ratepayers, RE developers, and society at large. FIT policies offer a stable investment environment featuring long-term certainty of payment terms. --National Renewable Energy Laboratory (NREL), An Analysis of Renewable Energy Feed-in Tariffs in the U.S., 06/09 (v).

Common Qualities of Real Feed-in Tariffs

FITs = Certainty + Simplicity + Transparency + Accessibility

Feed-in tariff definition:

A Feed-in Tariff or FIT (where "tariff" is a "price paid," not a tax) guarantees that any renewable energy generator is paid a fair price, plus a reasonable ROI, to "feed" renewable energy into the grid.



Both Policies are Partially Market Based	<u>Price</u>	<u>Quantity</u>
<u>Renewable Portfolio Standard (RPS), Tax Credits (ITC/PTC), Rebates, PACE, RECs/PECs</u>	Market Based	Policy Based
<u>Feed Law</u>	Policy Based	Market Based

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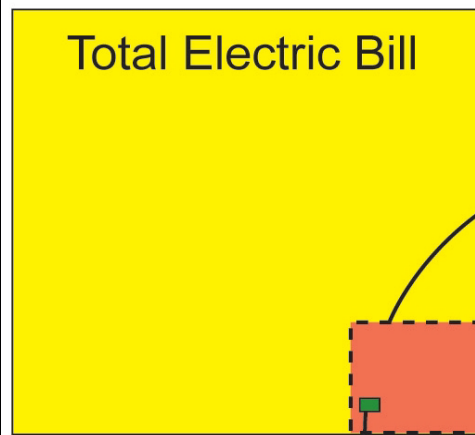
Experience from Europe is also beginning to demonstrate that properly designed FITs may be more cost-effective than renewable portfolio standards (RPS). --National Renewable Energy Laboratory (NREL), Feed-in Tariff Policy: Design, Implementation and PRS Interactions, 03/09 (1).

Rebates v. Production Incentives

Future wind developers



Total Electric Bill



Rebate incentives



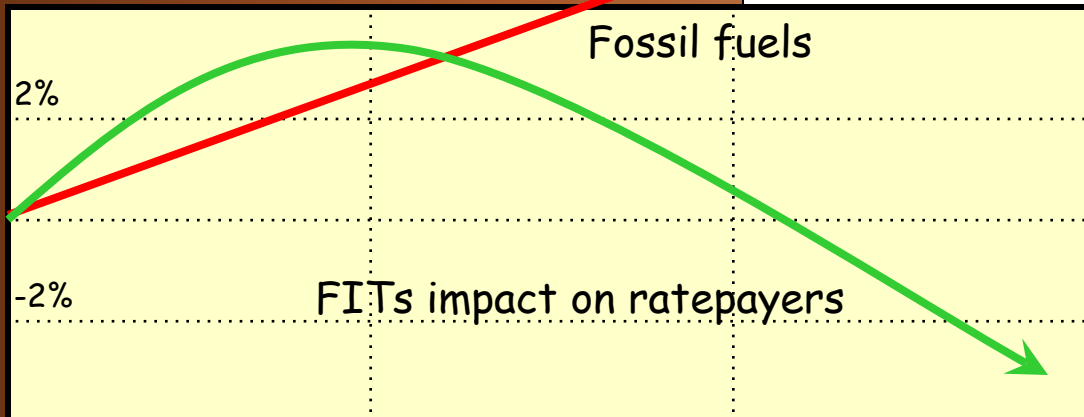
Large installments annually

Annual Cost to Ratepayers

Feed-In tariff incentives



Small installments over 20 years



2010

2020

2030

2040

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The future of Nevada must include energy independence and that can only result from a dramatic growth in renewable energy in Nevada.

--Governor Jim Gibbons, Governor's Press Release, 12/15/08

More on Ratepayer Impacts

⚡ Merit Order Effect: Prioritize FIT renewables to displace the most expensive energies on the grid.

⚡ Substitution Effect: FITs generation displaces conventional generation.

⚡ Locational Benefits: Distributed generation maximizes supply-side efficiency.

⚡ Parasitic Transaction Costs: Big projects are expensive to negotiate.



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In terms of project returns, given the expected feed-in tariffs of approximately \$400 per megawatt hour, solar projects in Israel are very attractive, and this has created a good opportunity for a commercial entry into this market as a developer.
--Yoram Bronicki, CEO of Ormat Technologies Inc., in Q3 2009 Earning Call

A Note on Federal Preemption



National Renewable Energy Laboratory

A national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy

Innovation for Our Energy Future

Renewable Energy Prices in State-Level Feed-in Tariffs: Federal Law Constraints and Possible Solutions

Scott Hempling

*National Regulatory Research Institute
Silver Spring, Maryland*

Carolyn Elefant

*The Law Offices of Carolyn Elefant
Washington, D.C.*

Karlynn Cory

*National Renewable Energy Laboratory
Golden, Colorado*

Kevin Porter

*Exeter Associates, Inc.
Golden, Colorado*

Technical Report

NREL/TP-6A2-47408

January 2010



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Just as cash is king, feed-in tariffs are favored by investors and in particular finance banks. --Jonathan Johns, Ernst & Young Renewable Energy Group, Exerter, UK, RE Country Attractiveness Indices Quarter 3 2008

Where might FITs, fit?

PUCN Order & Report: e) "The Nevada Legislature should address the issue of the gap that exists for solar projects that are too large for the Solar Program and too small for the RPS" (p. 3 & 13).

✦ Fill the solar incentives gap of 50kW-3MW commercial distributed generation systems?



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Feed-in tariffs will draw additional investment into Hawai'i's renewable energy developments and signify to the rest of the nation and global community that Hawai'i is a model for clean energy initiatives.

--Republican Gov. Linda Lingle, Hawaii, Radio address on 10/1/09

Where might FITs also fit?

PUCN Order & Report: b) "[A] FIT could be used to stimulate a specific technology like combined heat and power" (p. 2 & 13). FIT4NV might add: solar thermal, biomethane pipeline injection, onsite biogas combustion, air and ground source heat pumps, anaerobic digestion, waste heat to energy, &c.

PUCN Report: I) "Regulatory Operations Staff stated that adoption of any FIT policy in Nevada should be driven by the goals to be achieved by the policy, whether compliance with the RPS, development of solar generation, or economic development" (p. 7).

Bingo! Economic Development, KA-CHING!

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I think there is a lot of potential for new local jobs in this, we need one big state to join Vermont in implementing feed-in tariffs. --R. James Woolsey, Venture Partner VantagePoint & former CIA Director (1993-95)

Dateline Ontario, Canada

✦ German technology provider Conergy is planning to manufacture solar mounting systems in Ontario.

✦ Ontario-based Arise Technologies, which ironically has most of its production in Germany are also planning to establish production.

✦ "Solar module maker Canadian Solar Inc. is preparing to establish a manufacturing facility in Ontario that will create 500 direct jobs to take advantage of feed-in tariffs. The new module manufacturing facility in Ontario will be Canadian Solar's first outside of China."

✦ The feed-in tariffs will attract foreign manufacturers, especially Europeans familiar with feed-in tariff plans who will make Ontario a "beachhead" for North America.

✦ Ontario is acting independently of Canada's federal government and plans to close all its coal-fired power plants by 2014.

✦ The 694 FIT contracts announced to date will create 20,000 direct and indirect green-jobs and attract an estimated \$9 billion in private sector investment.



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Feed-in tariffs attract private capital to the business of creating solar energy, because you can make money doing this. --John MacDonald, CEO of Day4 Energy Inc., a Vancouver-based solar cell maker

Local Ownership = Growth!

⚡ Two times the jobs

⚡ Four to five times more economic impact

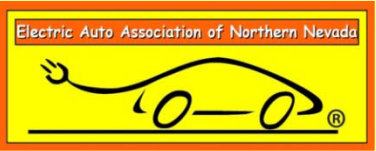
Absentee owned



Locally owned



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So what's very attractive about the green technologies is the markets are enormous. We did very well in the Internet market which is \$100 billion or so; but the energy market is \$6 trillion. This is the mother of all markets.
--John Doerr, a partner at Kleiner Perkins

Manufacture Here, Ship There

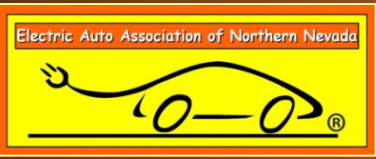
Two major highways & railroads!

Three really big ports!

10th Largest Economy!

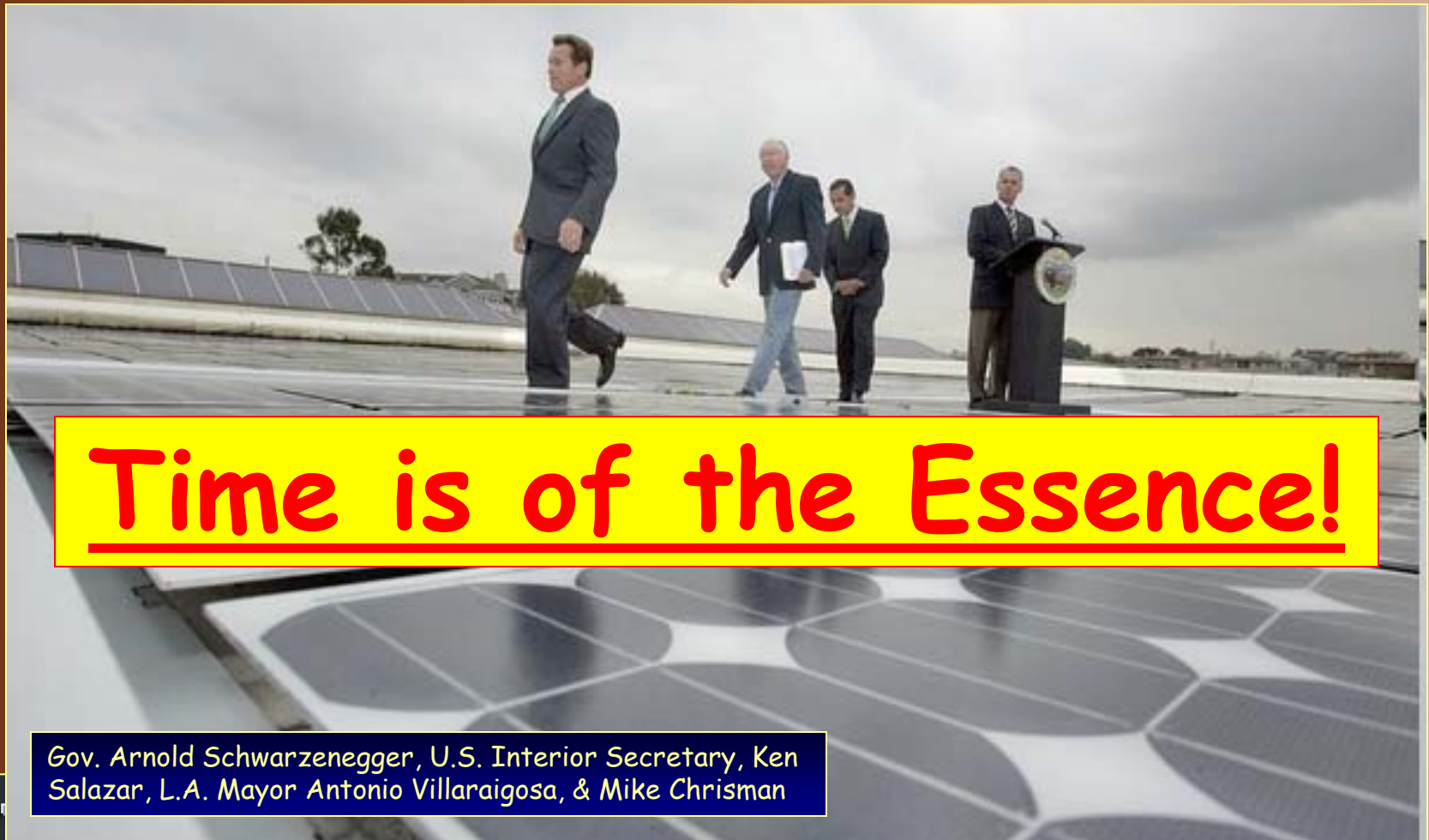
China & India: Super Big Sized!

5th Largest City!



The world is on track to add another 2.5 billion people by 2050, and many will be aspiring to live American-like, high-energy lifestyles. In such a world, renewable energy - where the variable cost of your fuel, sun or wind, is zero - will be in huge demand. -- Thomas Friedman, Have a Nice Day, NY Times, 9/15/09

California is Tapping FITs, will Nevada?



Time is of the Essence!

Gov. Arnold Schwarzenegger, U.S. Interior Secretary, Ken Salazar, L.A. Mayor Antonio Villaraigosa, & Mike Chrisman

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In addition to implementing the provisions of [SB32], I encourage the PUC to continue their work so that we can take advantage of the new renewable electricity capacity that a robust FIT program can provide.

--Republican Gov. Schwarzenegger, Memo to the CA Senate, 10/11/09

Thank you! - Questions?

The logo for FIT4NV, featuring the text "FIT4NV" in a bold, sans-serif font with a slight 3D effect, set against a dark grey background.

✦ Feed-in Tariffs for Nevada: an Energy Independence and Economic Security Initiative. On the web at www.FIT4NV.org. Contacts: Bob Tregilus, 775.826.4514, lakeport104@yahoo.com or John Hadder, 775.348.1986, john@gbrw.org.

The logo for the Electric Auto Association of Northern Nevada, featuring a stylized electric car with a plug for a front wheel, set against a yellow background with a black border.

✦ The Electric Auto Association is your Electric Car & Vehicle authority for Reno, Sparks, Washoe County, & Northern Nevada! We also encourage and support interest in all forms of alternative transportation options as well as renewable energy technologies and policies. On the web at www.ElectricNevada.org. Contact: Bob Tregilus, 775.826.4514, lakeport104@yahoo.com.



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✦ Great Basin Resource Watch is a 501(c)(3) non-profit organization, founded in 1994 by a coalition of environmental, Native American and scientific community representatives. We are a regional environmental justice organization dedicated to protecting the health and well being of the land, air, water, wildlife, and human communities of the Great Basin from the adverse effects of resource extraction and use. On the web at www.GBRW.org. Contact: John Hadder, 775.348.1986, john@gbrw.org.



**THIS WEEK IN
ENERGY**

✦ This Week in Energy (TWiEpodcast) is co-hosted by Nikki Gordon-Bloomfield (UK) & Bob Tregilus (USA) & streams live each Wednesday at 17:00 UTC (10:00am PDT & 1:00pm EDT). Hitch a ride with Nikki (UK) & Bob (USA) in their electric car as they travel the smart-grid superhighway! On the web at www.ThisWeekinEnergy.tv.