

Lackawanna, New York

Bringing the Renewable Energy Revolution Back Home with the California Renewable Energy Sources Act (CaIRESA)

Paul Gipe, wind-works.org

California Renewable Energy Sources Act (CaIRESA)

- Grants Priority to Renewable Energy
- Through Advanced Renewable Tariffs



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Dardesheim, Germany

Advanced Renewable Tariffs

- **What Are They?**

Payment for Generation (Feed-in Tariffs)

Political Price, Not Political Quota (RPS)

- **How Do They Work?**

Price Differentiation

Paying for Solar, Paying for Wind

- **Where?**



Where?

- Mongolia
- Sri Lanka
- Bulgaria
- Bosnia
- Switzerland
- Germany
- Spain
- Ireland
- China
- Slovenia
- Thailand
- Croatia
- Great Britain
- France
- Portugal
- Uganda . . .

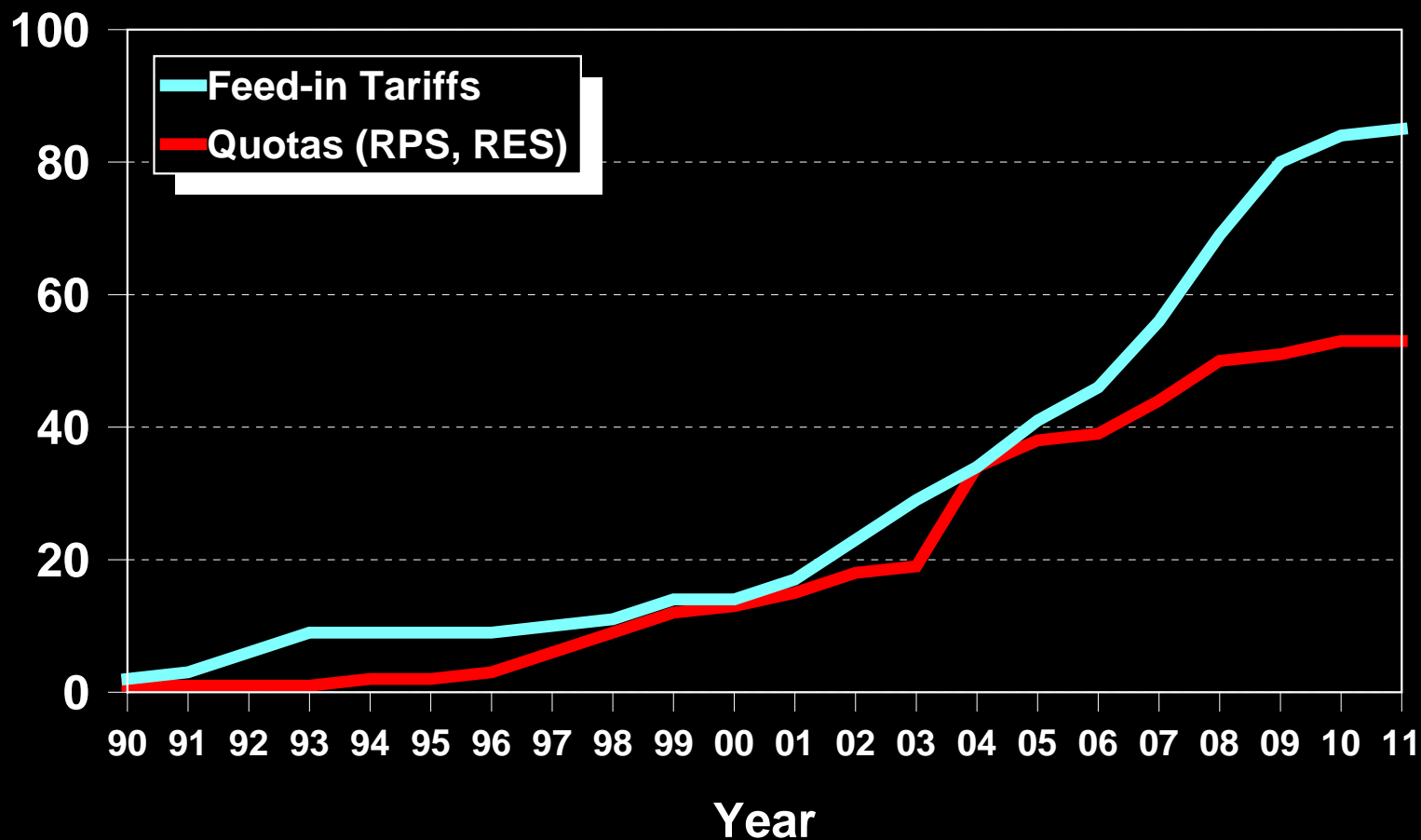
Partial List of Countries with Feed-in Tariffs

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Yorkshire, Great Britain



Cumulative Feed-in Tariff Programs Worldwide



REN 21: Renewables 2011 Global Status Report, pages 84-85.

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Feed-in Tariffs Deliver Results

- >50% of Wind Worldwide
- >75% of Solar PV Worldwide
- >90% of Farm Biogas Worldwide



Ydby, Denmark

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European Renewable Policy

- 23/27 States Use Feed-in Tariffs
- Since 1997
 - 85% of all Wind from FITs
 - ~100% of all Solar PV from FITs
 - ~70% of all Biogas from FITs
- FITs Most Cost-Effective Policy
- FITs Principal Way to Meet Targets



Fraunhofer Institute: www.reshaping-res-policy.eu

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Wörstadt, Germany



Revolutionary: 100% Renewable

- **Dardesheim Today--Electricity**
- **Schleswig-Holstein 2020--Electricity**
- **Rheinland-Pfalz 2030--Electricity**
- **Scotland 2020--Electricity**
- **Denmark 2050--Energy**

Renewable Policy--Best Practice

- **Bold Targets**

That Can Excite the Imagination

California: 40% 2025; 50% 2030?

- **Advanced Renewable Tariffs**

. . . A System of Feed-in Tariffs

Landau, Rheinland-Pfalz, Germany

Feed-in Tariff Best Practice

- Policies Must be Comprehensive
and Inclusive
Open to All for All



Comprehensive & Inclusive

- Wind & Solar
- Biomass & Geothermal
- Renewable Heat

Wörstadt, Rheinland-Pfalz, Germany

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Feed-in Tariff Best Practice Price Differentiation

- For Different Technologies
 - For Different Applications
 - For Different Sizes
 - For Different Resource Intensities
- For Wind (Germany, France, & China!)
For Solar (France, Oregon)

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Feed-in Tariffs Best Practice for North America

- **Differentiated Wind Tariffs**
Long Recommended--Time Now to Act
- **Radical Revision of Solar PV Tariffs**
Breaking the Grip of US Tax Subsidies
on Solar PV Prices
- **Renewable Heat Tariffs**
- **Tariffs for Storage**

Feed-in Tariff Best Practice

Criteria

Program Caps

Project Size Caps

Contract Term

Multiple Technologies

Cost-Based Tariffs

Technology Differentiation

Technology Banding

Resource Differentiation

Best Practice

None or >20%

None or 20 MW

>20 years

Wind, Solar PV, Solar
DHW, Geothermal, CSP

For All Classes

Tariffs for Each Class

By Application & Size

Wind & Solar PV

Feed-in Tariff Best Practice

- **Open to All for All**

**Homeowners, Farmers, Business & Industry,
Communities, Native Americans**

Regardless of Tax Status

Tariffs with & without Tax Credits

Ownership of Renewables in Germany 2009

- 51% Farmers & Individuals
- Own 22,000 MW!

Wind, Solar, & Biogas

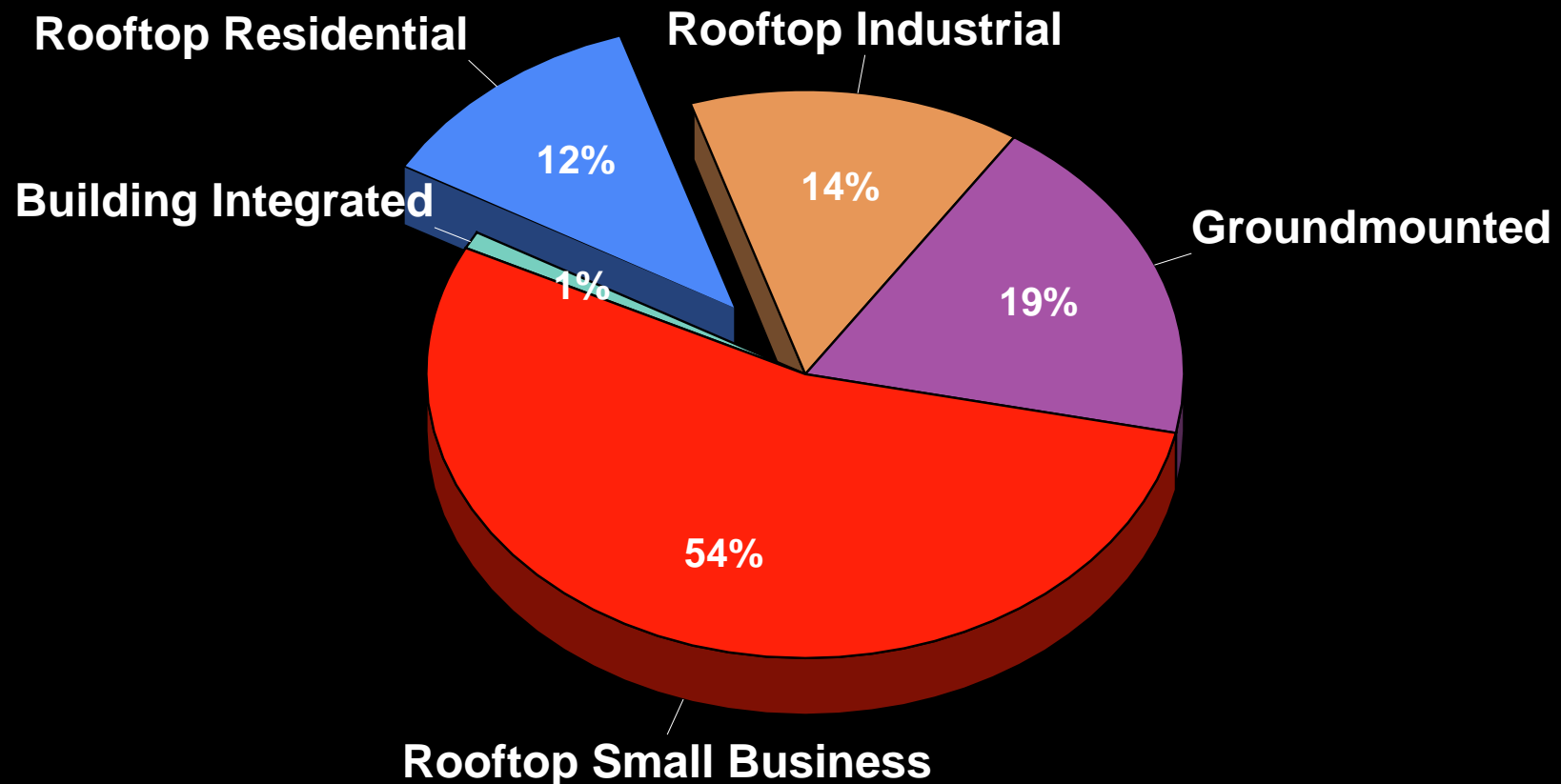
- US Wind: ~35,000 MW

Owned by Utilities, Subsidiaries, & Developers



2009 Solar PV Market in Germany

80% Rooftop (Distributed Generation)



2009: 3,800 MW

Bundesverband Solarwirtschaft (BSW)

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Time for Californians to Take the Road to the Future



Freiburg, Germany

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Gaspé Peninsula, Quebec

No Time for Half-Measures

No Time to Lose

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We Need A Lot More Wind . . .

Matane, Quebec



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--A Lot More Geothermal

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Geothermal, Collina Metalifera, Tuscany, Italy



Hinesburg, Vermont

... A Lot More Solar



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Renewable Energy

The Revolution Has Begun!

www.wind-works.org

Manawatu Gorge, New Zealand

