

**U.S.-JORDAN ELECTRIC POWER  
TRANSMISSION PARTNERSHIP  
EXECUTIVE EXCHANGE VISIT**

**NATIONAL ELECTRIC POWER COMPANY  
OF JORDAN**

***UNITED STATES ENERGY ASSOCIATION  
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Policies to Grow Renewable Energy  
Electric Generation

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# **Energy Policies to Support Development and Deployment of Renewable Energy.**

**Renewable Energy Policy Has Become A High Priority on Agenda of World Leaders**

**Critical to:**

- **Energy security,**
- **National security, and**
- **Economic growth and stability.**

**Crucial to reducing global carbon emissions.**

# Principle Policies That Have Been Successful in Promoting Renewable Energy.

- **Renewable Portfolio Standards**
- **Feed-in Tariffs**
- **Capital Subsidies, Grants, or Rebates**
- **Investment, Production, or Other Tax Credits**
- **Tradable Renewable Energy Credits**
- **Net metering**
- **Competitive Bidding**
- **Public Investment**

# Renewable Portfolio Standards (RPS)

- **Plan, Goal, or Requirement to Achieve a Certain Level by Specific Date**
- **Mandatory RPS in 26 States, and Non-binding in 6 States**

# State RPS Programs

- **Have Permitted States to Customize the Program to Its Situation.**
- **State RPS Programs – along with Production Tax Credits – Have Been Primary Drivers of Growth of Wind Power in U.S.**

# National RPS

- **National RPS Is Key Element of Obama Administration's Energy Program and Energy Legislation Being Debated in Congress**

# Feed-in Electric Tariffs

- **Driver of Rapid Growth of Renewable Energy in Europe, with Those in Germany, France, and Spain Being the Best Known.**
- **No National Use of Feed-in Tariffs in U.S.**
- **Limited Interest at State Level in U.S.**

# Feed-in Tariff

- **What Is It?**
- **Requires Electricity From Renewable Resources to Be Purchases at Premium Rate.**
- **Provides Price Certainty to Renewable Generator**
- **Some Assurance of Reasonable Profit**



# Feed-in Tariffs in Germany, France, and Spain

- **More Sophisticated Feed-in Tariffs, Also Known as Advanced Renewable Tariffs.**
- **Pay different prices per KWH for Different Technologies, Projects of Different Sizes, Different Applications, and Different Resource Intensities.**

## **Example, German Feed-in Tariffs**

- **Renewable Energy Technologies Are Guaranteed Interconnection to Grid**
- **Paid Premium Rate Designed to Give Reasonable Profit for Investors over 20-year Term**
- **Rates Are Differentiated by Technology – Intent That Each Can Profitably Be Developed**

# German Feed-in Tariff

- **Have Caused High Rate of Growth in Renewable Energy Market**
- **Made Germany Leader in Photovoltaic Systems and Wind Power**

# Feed-in Tariff in Ontario

- **Canadian Province of Ontario Is Presently Considering Green Energy and Green Economy Act (“Green Energy Act”) Containing Feed-in Tariff Program.**
- **Purpose: Guarantee Prices and Help Spark New Investment in Renewable Energy Generation.**

# Ontario's Proposed Feed-in Tariff

- **For Renewable Generator – Availability of Guaranteed Price, Buyer, and Long-term Revenue Stream**
- **Without Cost and Uncertainty of Request for Proposal Process.**
- **Standard Program Rules, Standard Contracts, and Standard Pricing.**

# Proposed Feed-in Tariff Rates

| Technology          | Proposed size tranches | Proposed ¢kWh |
|---------------------|------------------------|---------------|
| Biomass             | Any size               | 12.2          |
| Biogas              | ≤ 5MW                  | 14.7          |
|                     | > 5MW                  | 10.4          |
|                     |                        |               |
| Waterpower          | ≤ 50 MW                | 12.9          |
|                     |                        |               |
| Community Based     | ≤ 2 MW                 | 13.4          |
| Landfill gas        | ≤ 5 MW                 | 11.1          |
|                     | > 5 MW                 | 10.3          |
|                     |                        |               |
| Solar PV<br>Rooftop | ≤ 10 kW                | 80.2          |
|                     | 10 – 100 kW            | 71.3          |
|                     | 100 – 500 kW           | 63.5          |
|                     | > 500 kW               | 53.9          |
|                     |                        |               |
|                     |                        |               |
| Ground Mounted      | ≤ 10 MW                | 44.3          |
|                     |                        |               |
| Wind                |                        |               |
| Onshore             | Any size               | 13.5          |
| Offshore            | Any size               | 19.0          |
| Community Based     | ≤ 10 MW                | 14.4          |

# Ontario's Proposed Green Energy Act

- **Among Many Other Provisions, the Green Energy Act:**
  - **Renewable energy projects get right to connect and preferred right of connection to transmission and distribution grids, subject to technical and economic criteria in regulations.**
  - **Investment in smart grid.**

# Transmission Grid

- **Access to Transmission Grid Many Times Has Been Difficult for Renewable Resources in the U.S.**
- **Location-Constrained Character of Renewable Resources.**



# Transmission Access and Grid Policies

- **Key Policy Area for Growth of Electric Generation Using Renewable Energy**
- **Transmission Policies In The U.S. Have Been “Evolving.”**
- **Transmission Access, Cost of Interconnection and New Transmission Facilities, and Transmission Rates and Services.**
- **FERC Now More Friendly to Renewable Resource Generation.**

# Thank You.

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