



INTERNATIONAL  
**TRADE**  
ADMINISTRATION

# Renewable Energy: Growth Opportunities in International Markets

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Office of Energy and Environmental  
Industries

U.S. Department of Commerce

# Office of Energy & Environmental Industries

- Promotes U.S. business competitiveness
- Eliminates foreign trade barriers
- Evaluates economic and regulatory impacts
- Analyzes energy-related trade policy
- Supports trade promotion activities

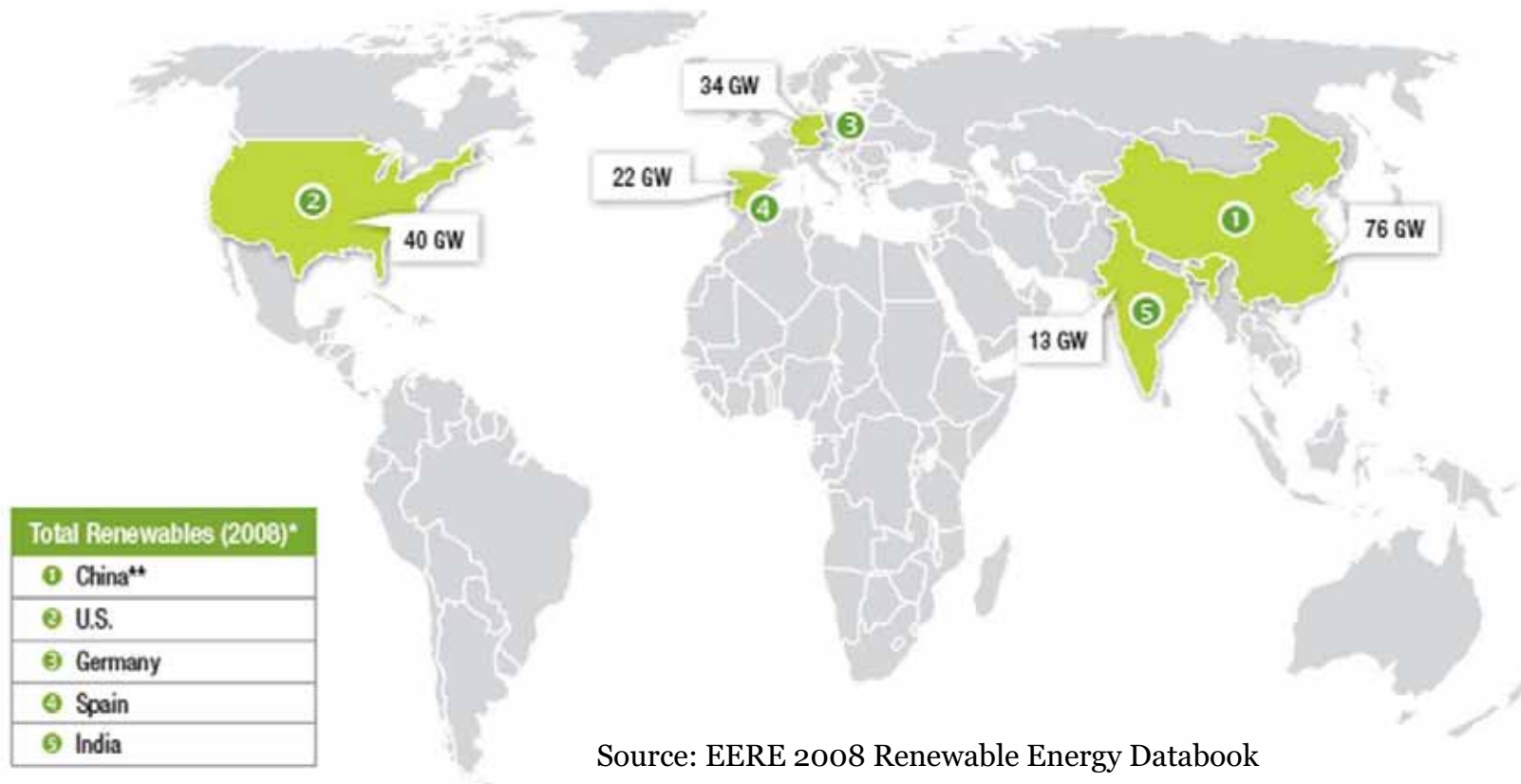


# International Trade Administration

- Competitiveness (Manufacturing and Services)
- Promotion (U.S. Commercial Service)
- Negotiation (Market Access and Compliance)
- Anti-Dumping (Import Administration)



# Installed Renewable Energy Capacity (2008)



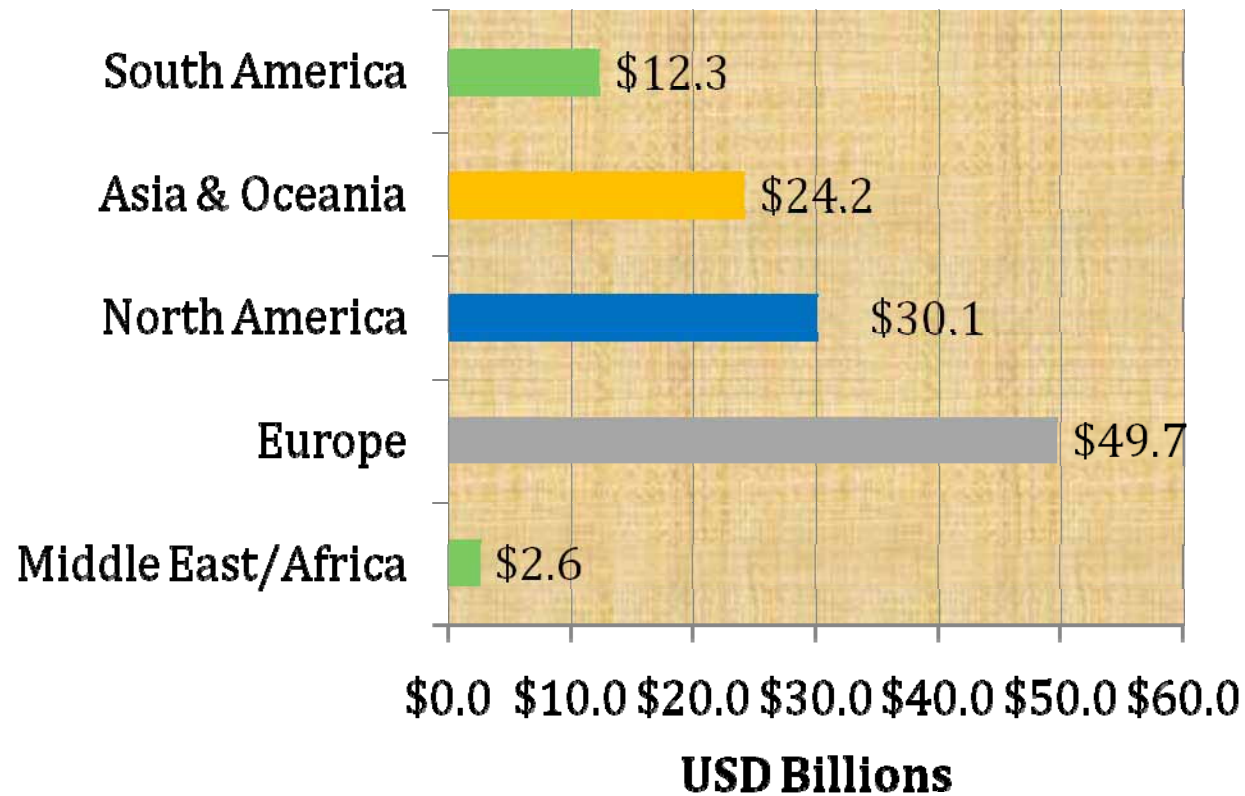
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# Renewable Energy Investment by Region (2008)

Source: New Energy Finance, UNEP SEFI



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## Drivers...Government Policies Really Matter

- Government Incentives
  - Feed in Tariffs
  - Tax Incentives
- Renewable electricity standards
- Carbon pricing
- Oil/natural gas prices
- Access to transmission
- Logical interconnection standards
- Access to financing
- Renewable energy resources



# Industry Barriers

## United States

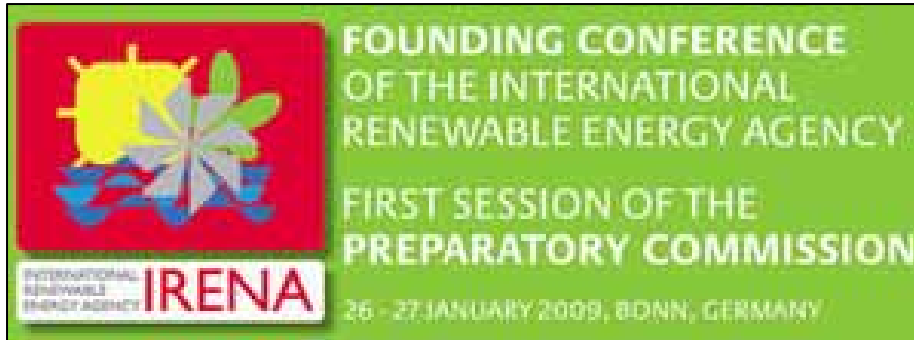
- Transmission constraints
- Long interconnection queues
- Siting and permitting issues
- Slow implementation of the American Recovery and Reinvestment Act

## International

- Intellectual property rights
- Local content requirements
- Preferences for local ownership
- Lack of financing for large and small projects
- Regulatory uncertainty
- Burdensome certification requirements



# International Renewable Energy Agency



**Founded:** January 26, 2009

**Purpose:** Support for the global expansion of renewable energy

**Headquarters:** Abu Dhabi, UAE  
– first international organization headquartered in a developing country.



# United States: The World's Most Exciting Market?

## United States

Leads the world in wind, geothermal, biomass, and concentrated solar power capacity. One of the world's leading markets in most technology areas.

## Canada

Large market for U.S. renewable energy technology. Not a standout in global markets, but some provinces, including Ontario could become significant players.

## Mexico

No compelling market to date.



## U.S. Manufacturing Base: The More We Make, the More We Export!

### Trade Statistics

- **U.S. Exports:** \$2.7 billion (2008) Year-to-date down 6.3% from last year
- **U.S. Imports:** \$6.4 billion. (2008)Year-to-date imports up 12.4% from last year. \***Note:** Due to poor data, these statistics are purely *estimates*.

### Growing Manufacturing Base...

- U.S. content comprises 50% of wind turbines installed in the United States (2008) up from 30% in 2005.
- The U.S. produced 499 megawatts of solar panels in 2008, 70 percent of which were thin-film panels.
- Stimulus Bill provides \$2.3 billion in tax incentives for renewable energy manufacturing



# Wind

**Top Installed Capacity:**  
United States, Germany, Spain,  
China, and India



**Markets to Watch:** Brazil



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# Solar



## Types of Solar:

- Concentrated Solar Power (CSP)
- Photovoltaics (PV)
- Solar Hot Water

## Top Installed Capacity:

(CSP) : United States, Spain

## Top Installed Capacity:

(Solar Hot Water): China, Turkey, Germany, Brazil, France

## Top Installed Capacity

(PV): Spain\*, Germany, United States, South Korea, Japan, Italy



# Geothermal

**Top Installed Capacity:** United States, Philippines, Indonesia, Mexico, Italy, Finland

**Markets to Watch:** Chile, Kenya, Ethiopia



# Biomass Electricity

**Top Installed Capacity:** United States, Brazil, Philippines, Germany, Sweden, Finland



**Markets to Watch:**  
Indonesia, Vietnam,  
Malaysia, China



# Hydroelectric Power



**Top Installed Capacity:**  
China, Japan, United States, Italy, Brazil

**Markets to Watch:** Latin America and Southeast Asia

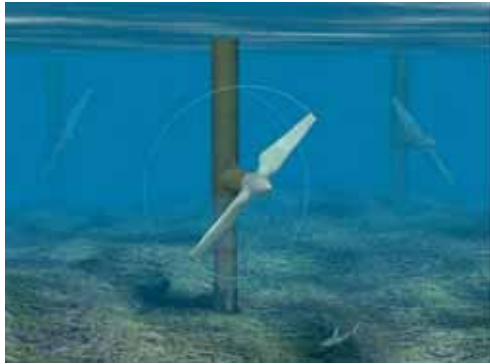
**Small Hydro:** Less than 10 MW

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# Emerging Technologies



## Wave, Tidal, Current, and Ocean Thermal Energy Conversion

**Status:** In various phases of demonstration projects.

**Markets to Watch:** United Kingdom, Portugal, United States



## Offshore Wind

**Status:** Commercial-scale demonstration projects.

**Markets to Watch:** United Kingdom, Nordic Countries, United States, China



# Questions?



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