

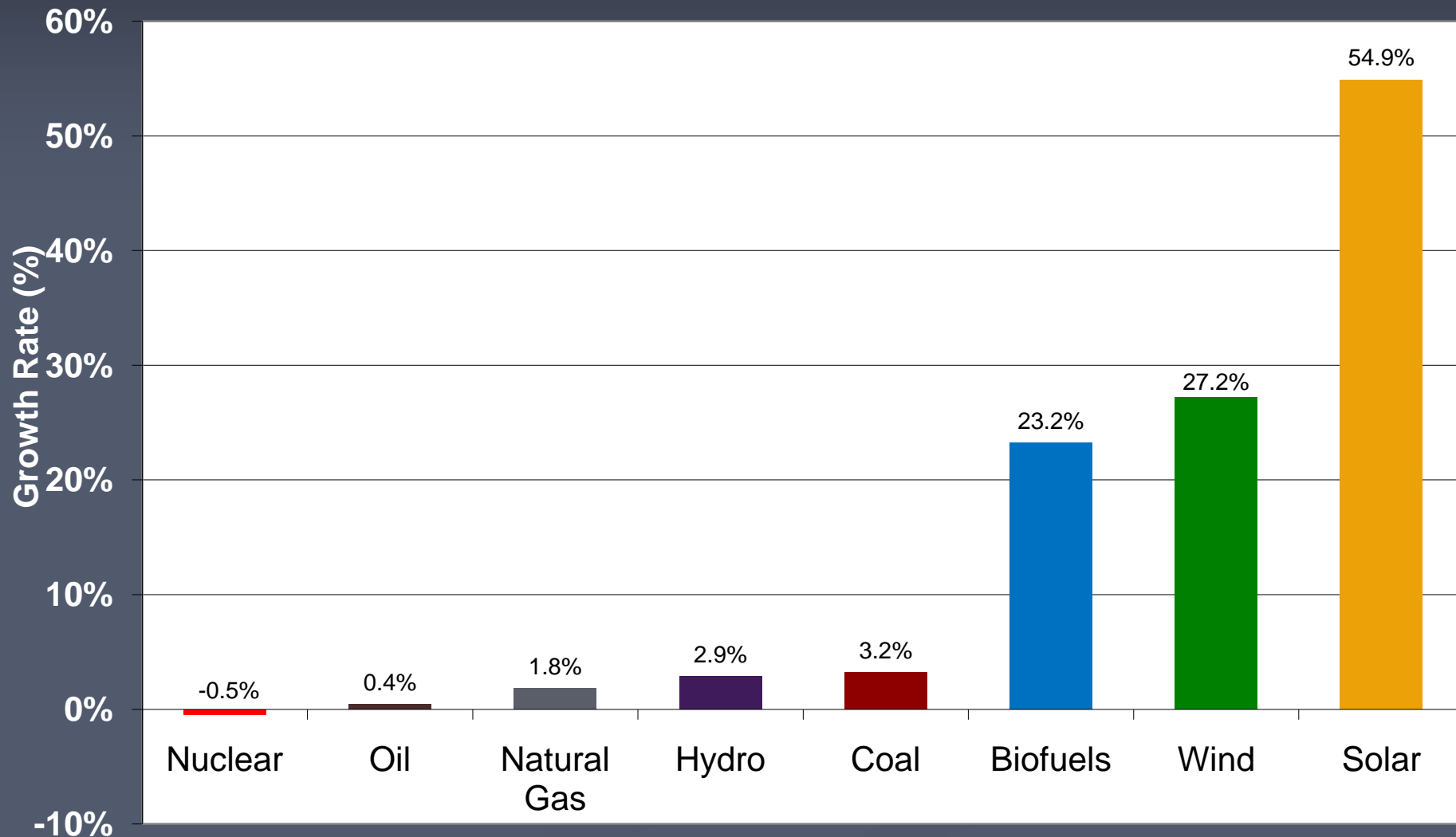
# Energy in Transition

Christopher Flavin  
Worldwatch Institute

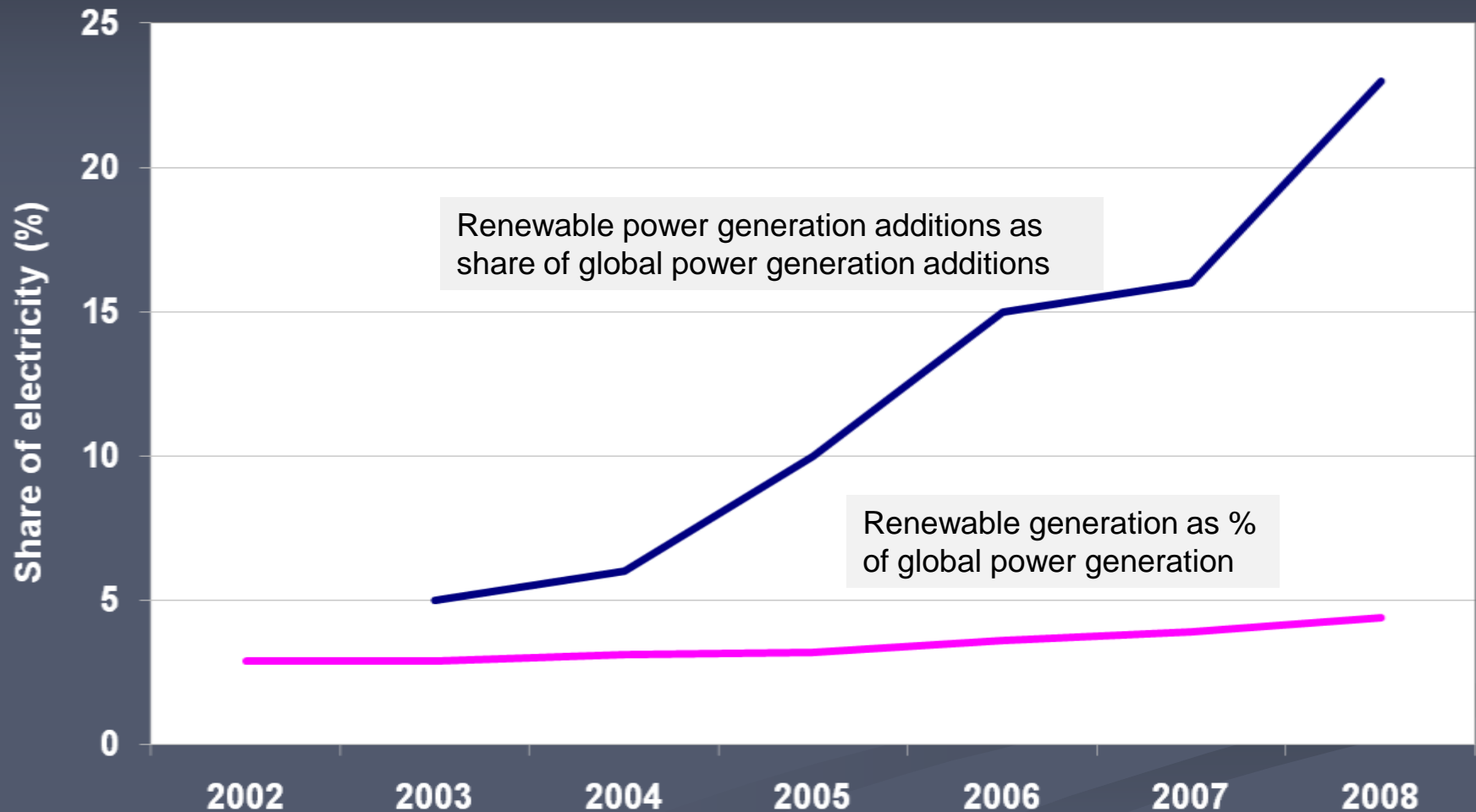


January 2011

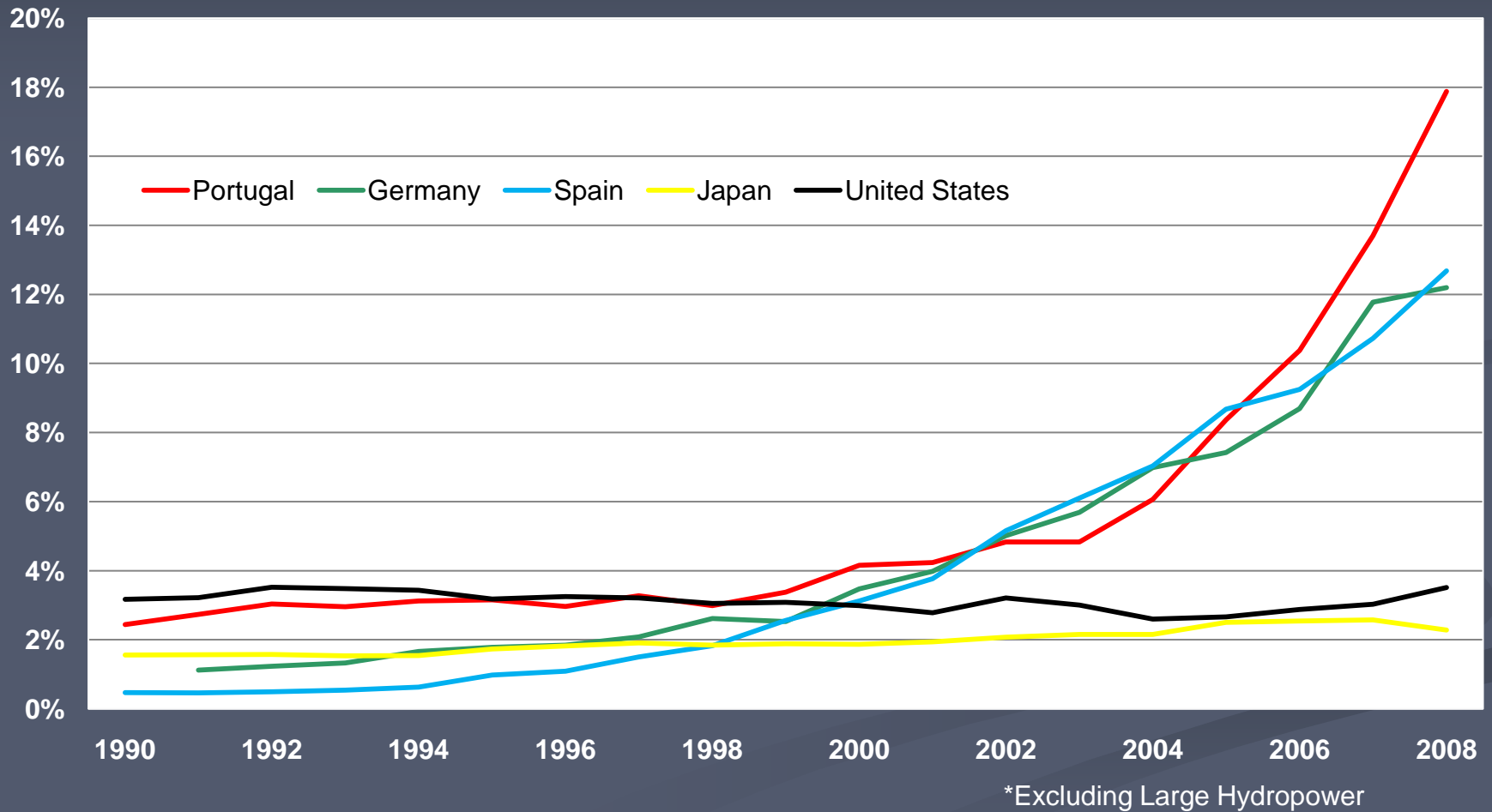
# Average Global Growth Rates by Energy Source, 2004-2009



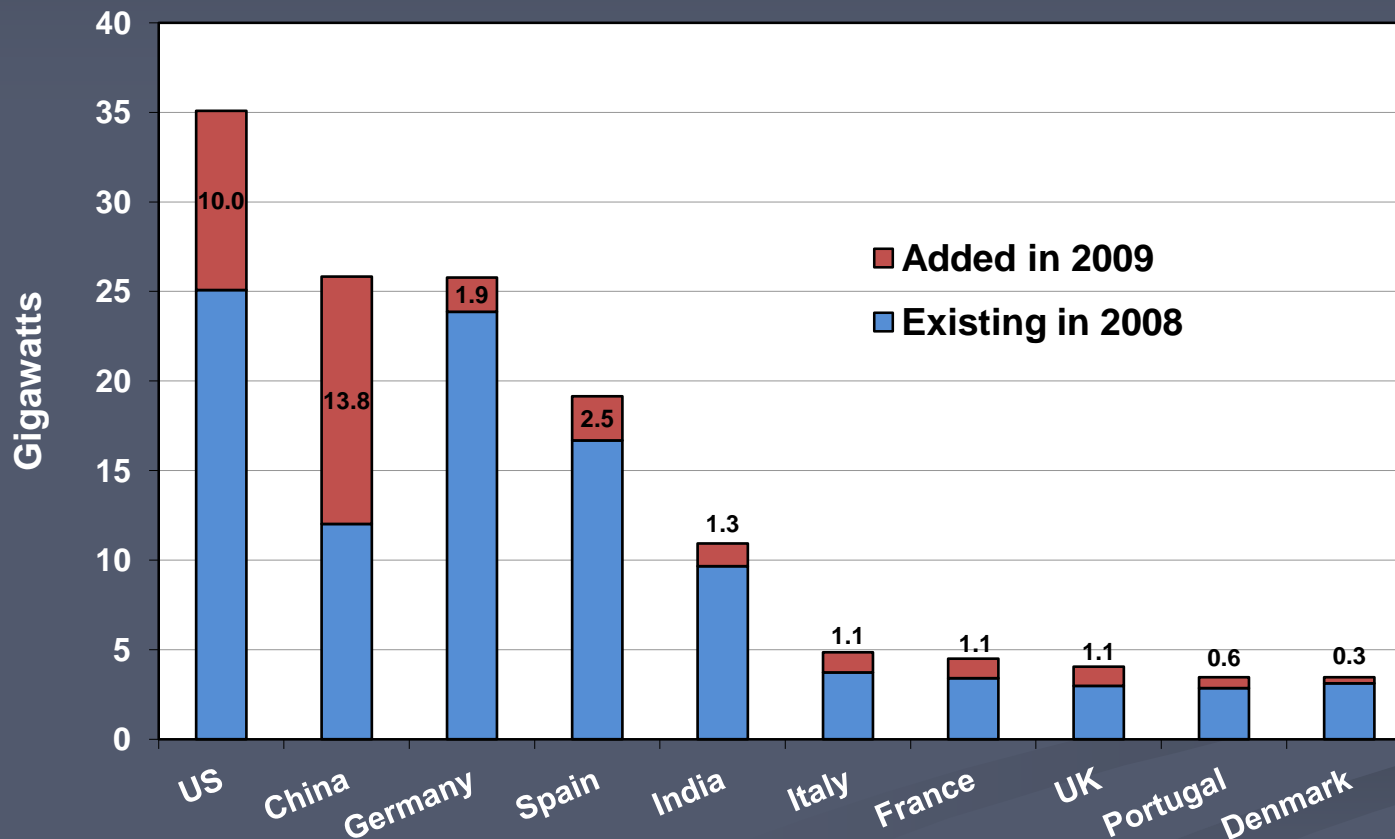
# Global Electricity from Renewables 2002-2008



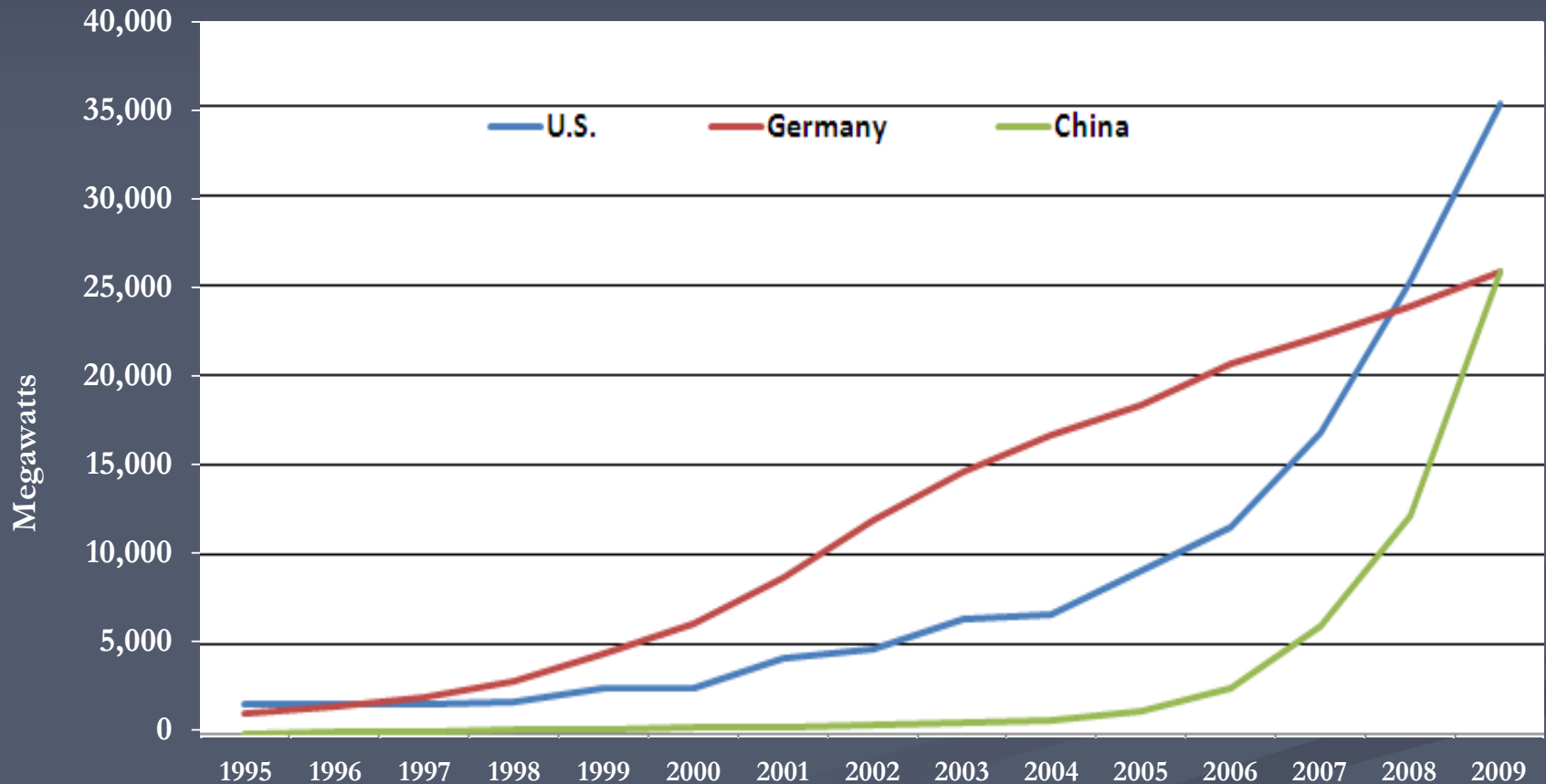
# New Renewables as Share of Electricity Generation: 1990-2008\*



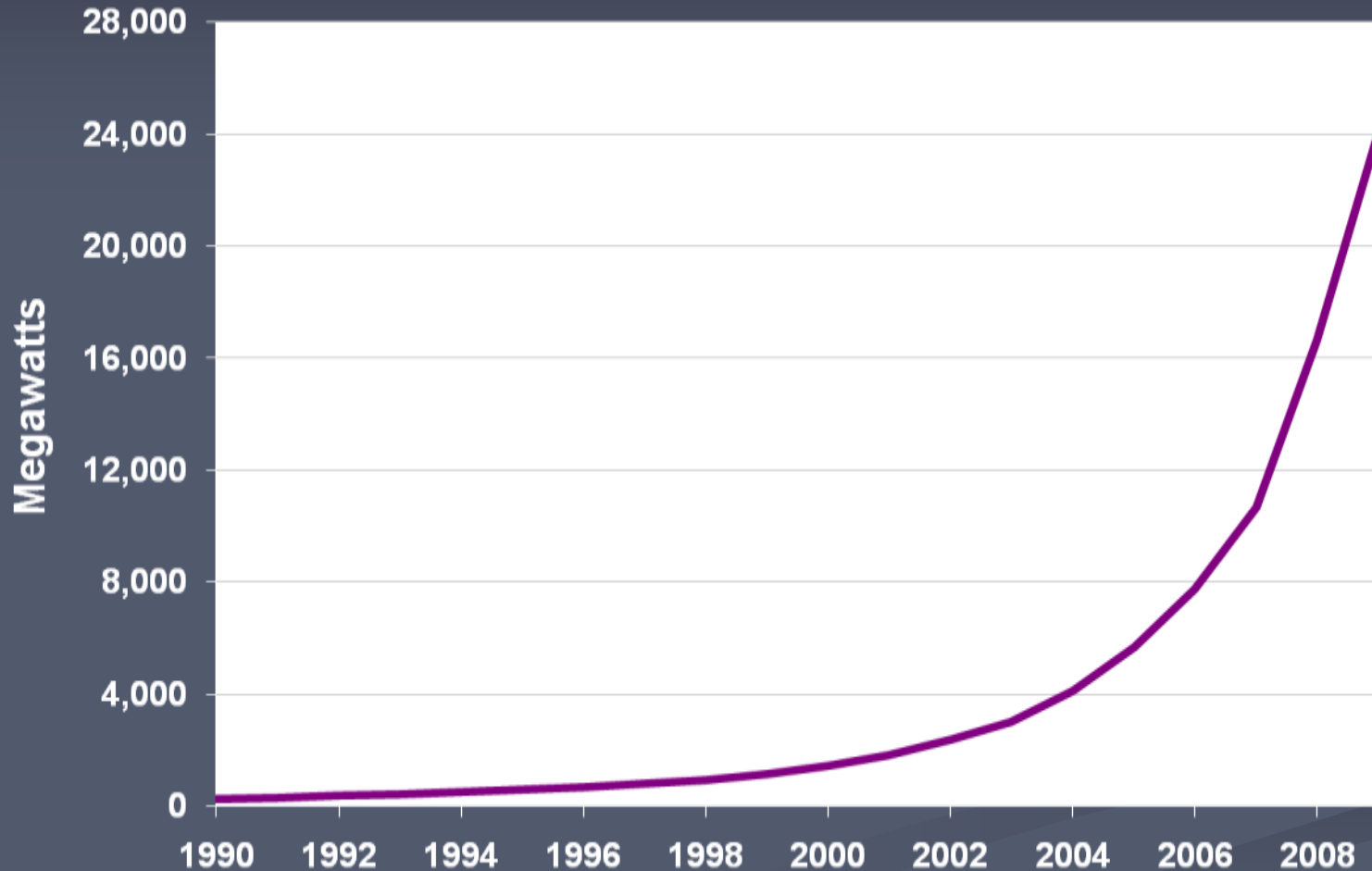
# Wind Capacity, Top 10 Countries, 2009



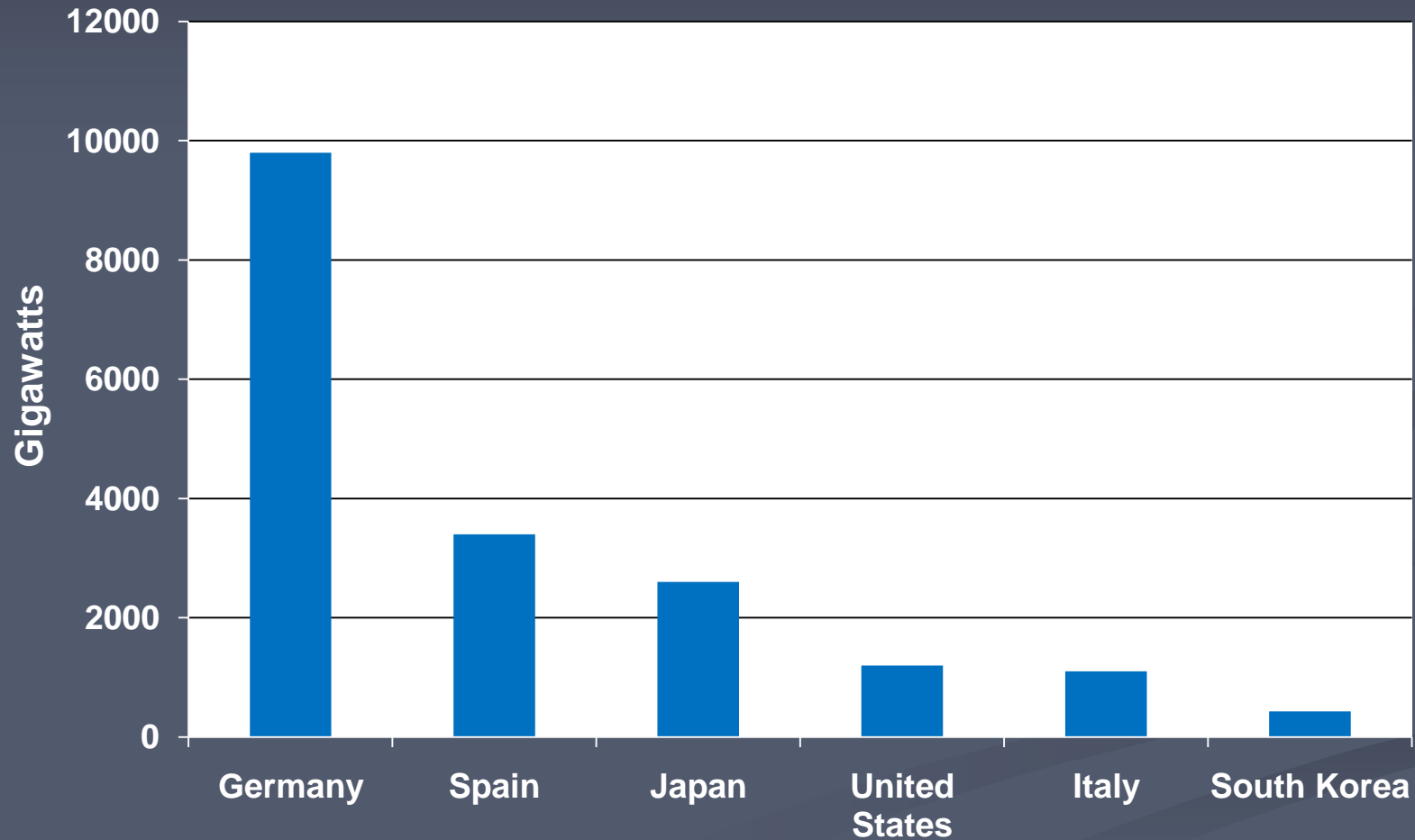
# Installed Wind Power Capacity: China, Germany and U.S.



# World Solar PV Capacity 1990-2009

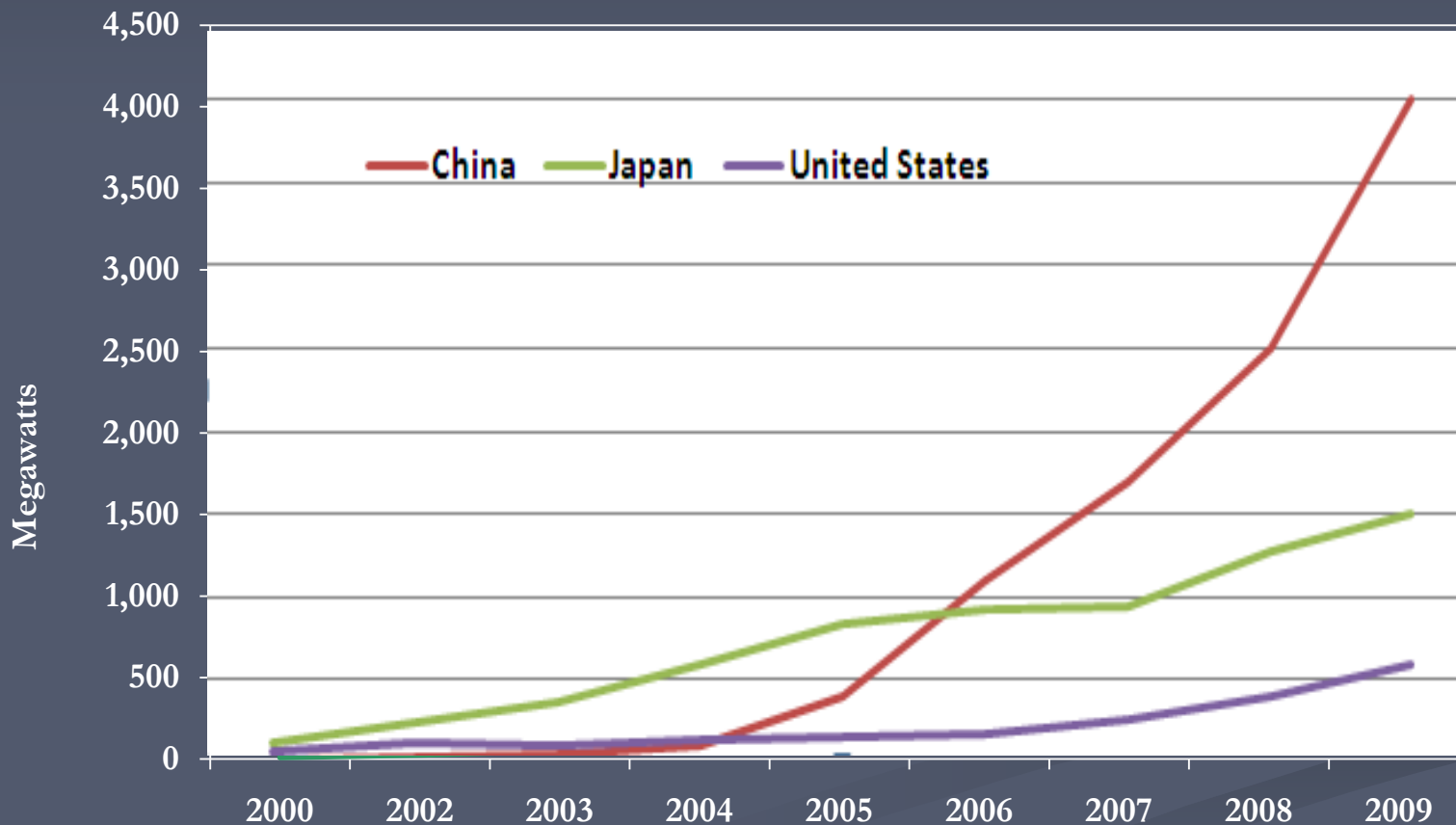


# Solar PV Capacity, Top Six Countries, 2009

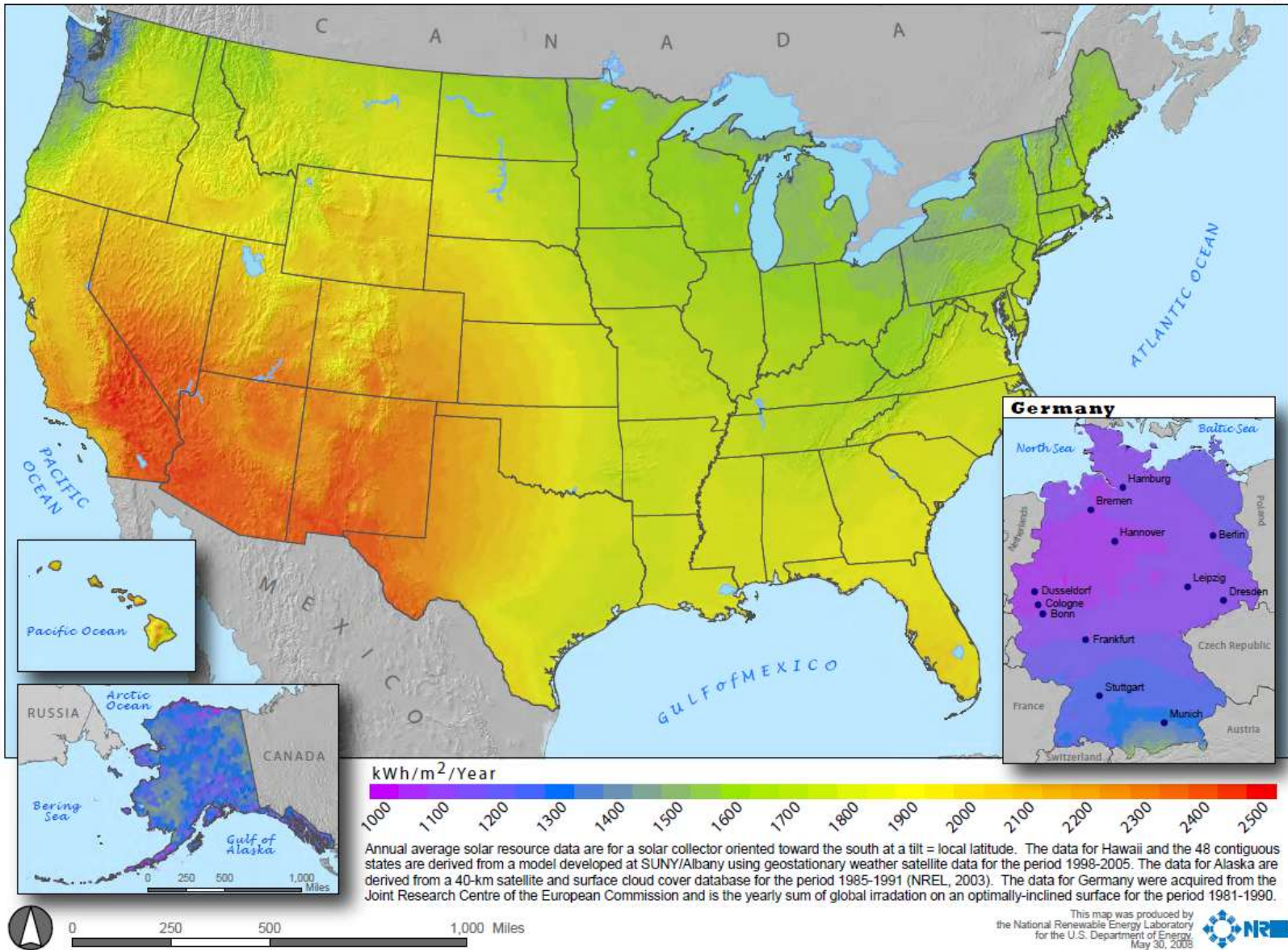




# Annual Solar PV Production: China, Japan and United States

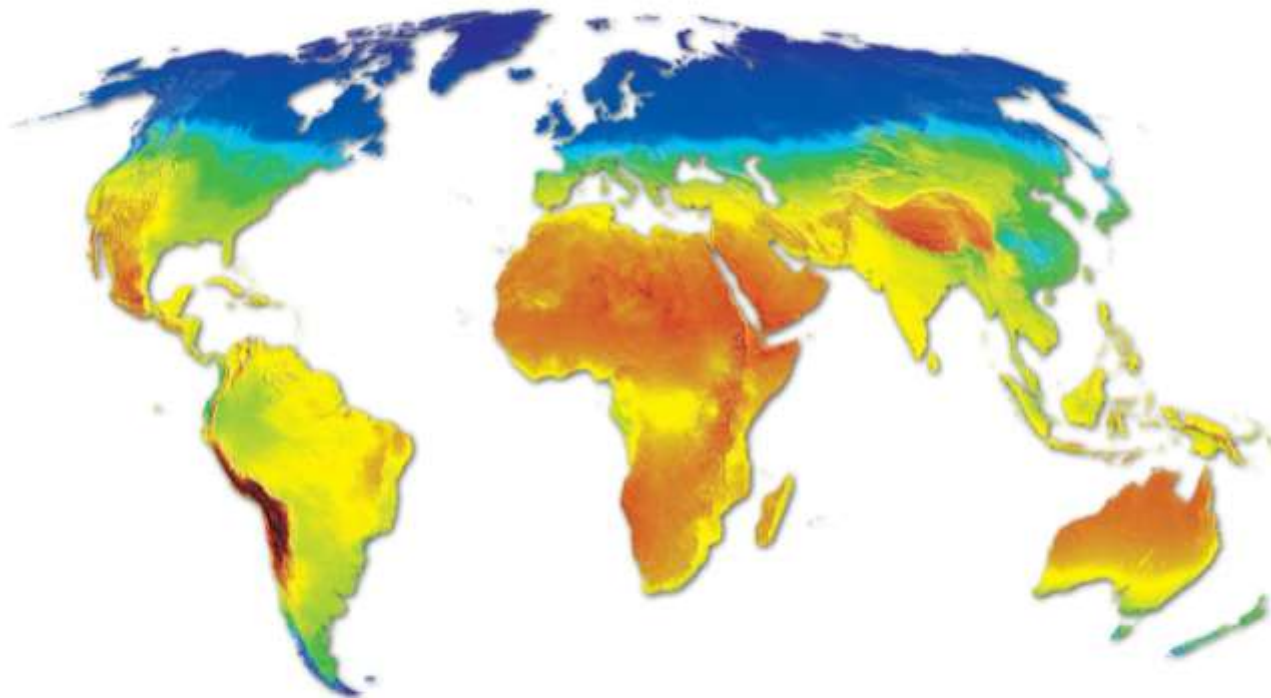


# Photovoltaic Solar Resource : United States and Germany

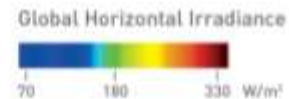


# Solar Potential

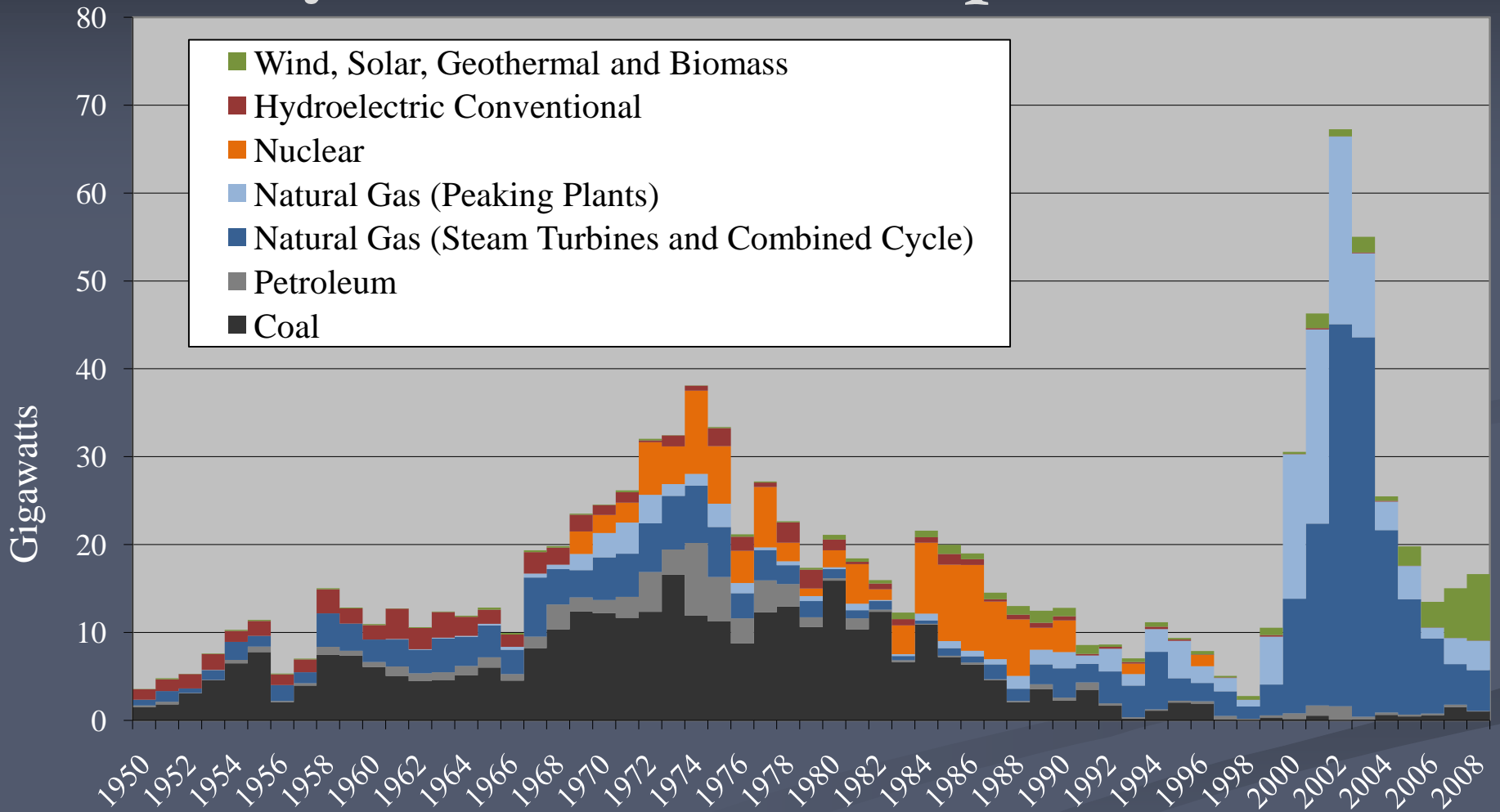
Global Solar Irradiance



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# U.S. Generating Capacity in 2020 by Initial Year of Operation



# Worldwatch's Energy Roadmaps



Communicating Low-Carbon  
Development Strategies for Small Island  
States in the Caribbean



# Worldwatch's Energy Roadmaps

- Multi-Staged approach:
  - Technical Mapping
    - Detailed and comprehensive resource mapping (solar, wind, biomass, small hydro)
    - Combined w/ layers including transmission & consumption
    - In-depth analysis of specific sites for each technology examining barriers to grid integration and extension

# Worldwatch's Energy Roadmaps

- Staged approach
  - Socio-Economic & Policy Environment
    - Creation of a possible policy framework
    - Training of policymakers and stakeholders in working with roadmaps
    - Suggesting concrete recommendations through workshops and continuous collaboration

# Worldwatch's Energy Roadmaps

## ■ Example: Dominican Republic

