

The True Meaning and Impact of Energy Independence



MIT & Stanford Alumni

“Great Debate Series”

**Dan E. Arvizu
Laboratory Director**

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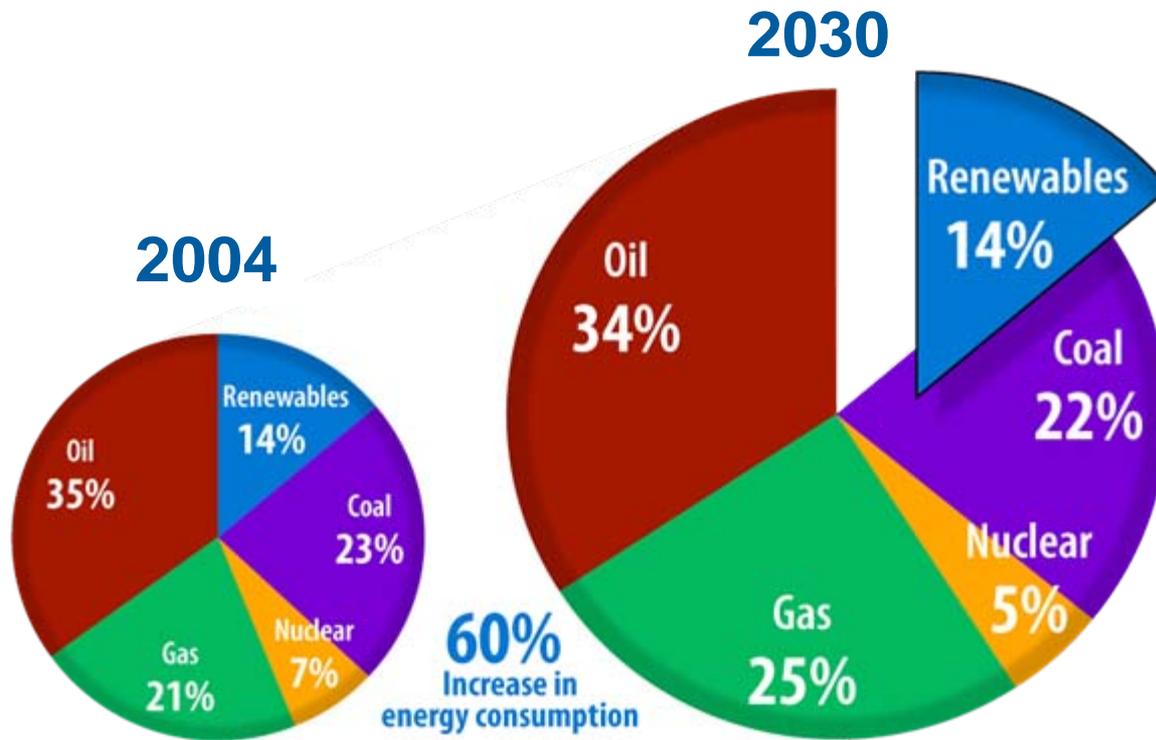
Mounting Evidence



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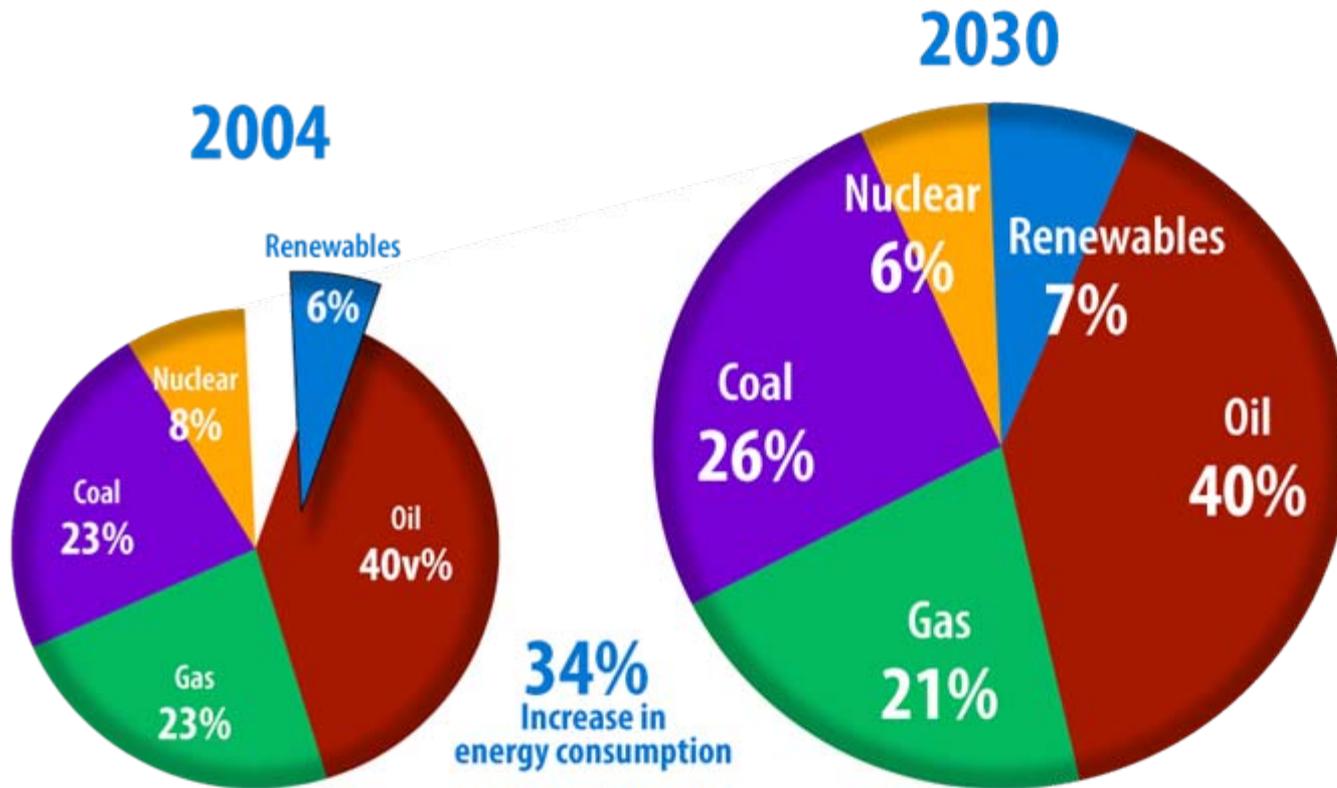
World Energy Supply and the Role of Renewable Energy



Source: IEA/OECD, World Energy Outlook 2007

Table: Reference Scenario: World, p. 592

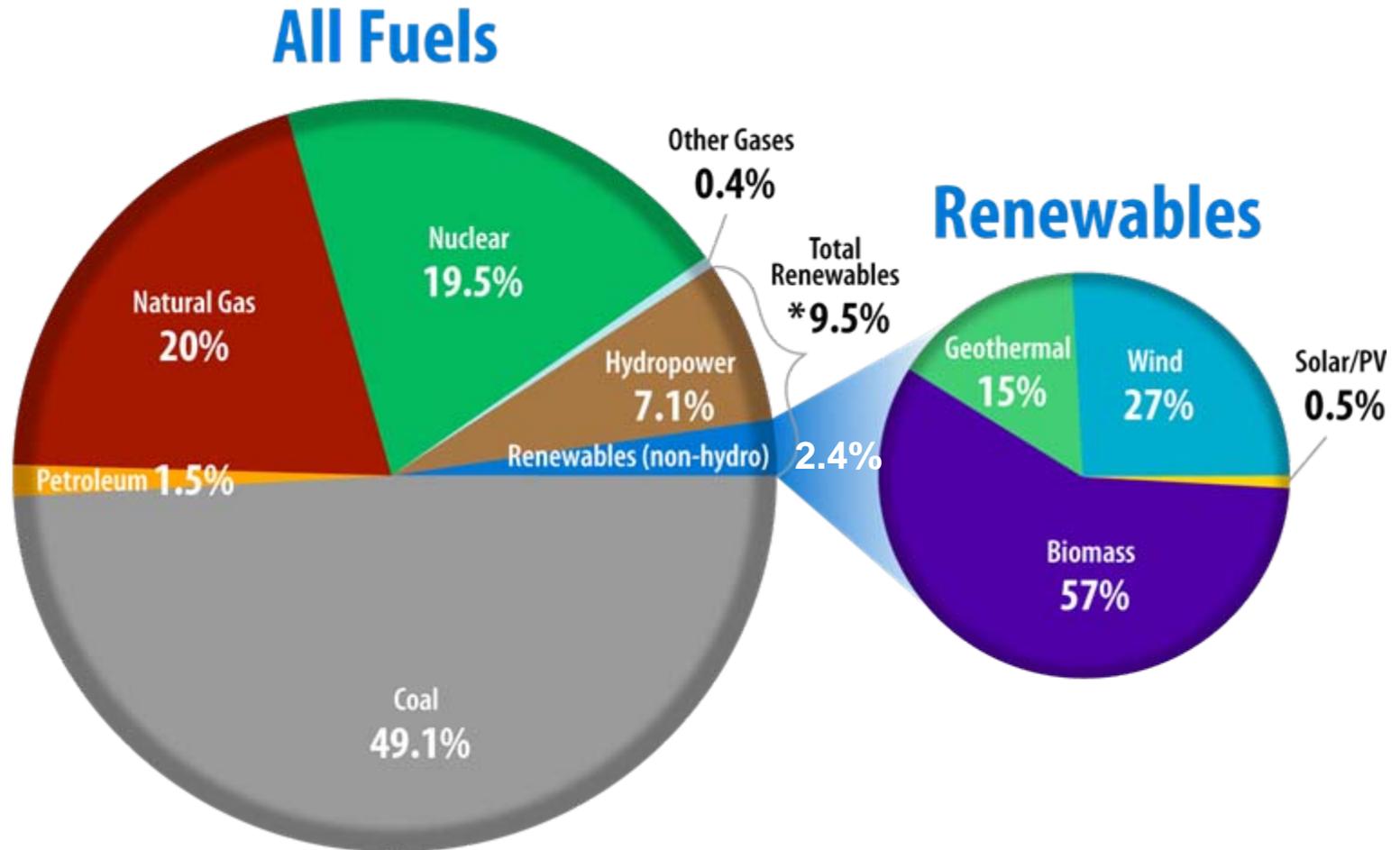
U.S. Energy Consumption and the Role of Renewable Energy



Source: Energy Information Administration,
Annual Energy Outlook 2006, Table D4

What Are the Major Renewables?

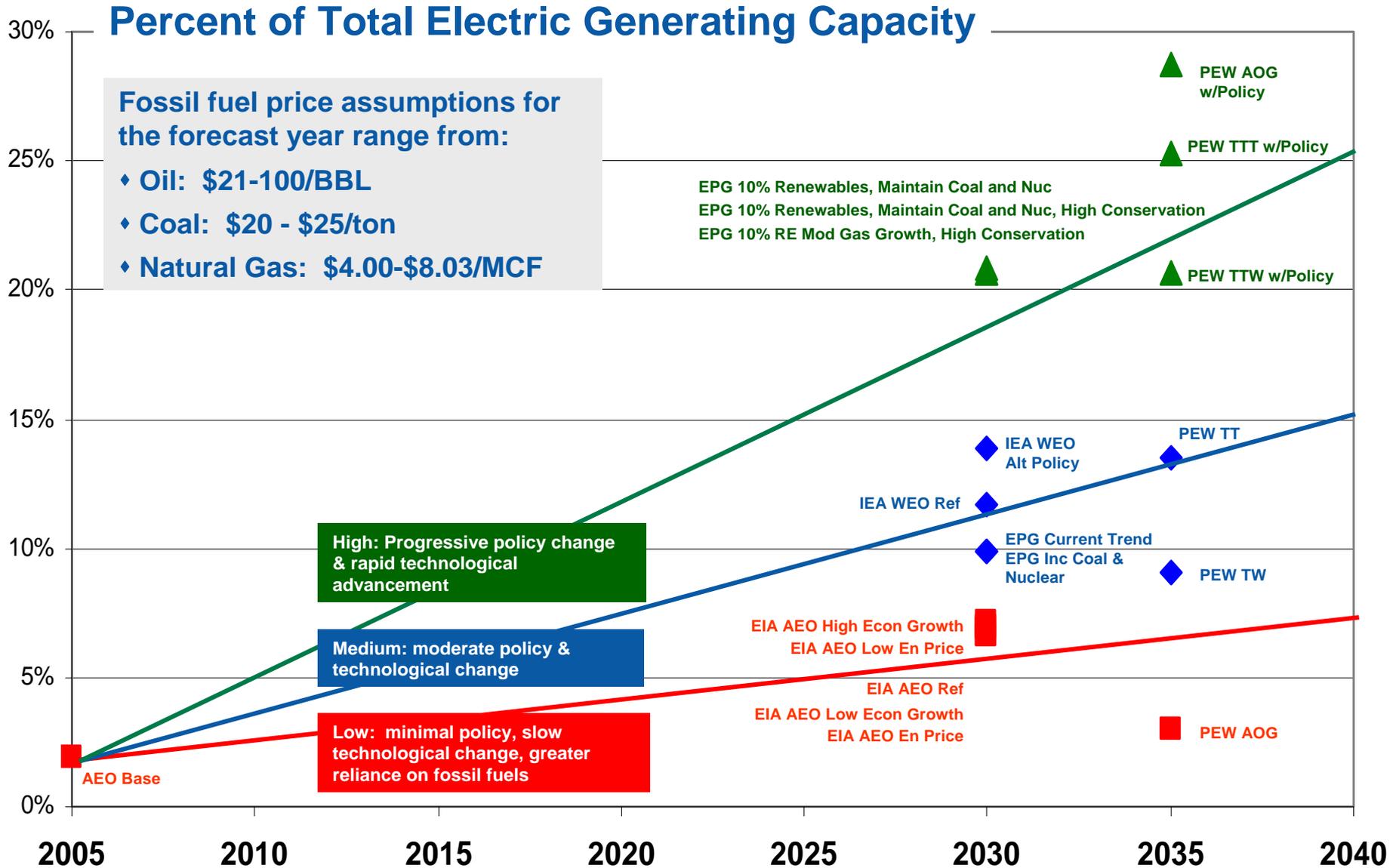
U.S. Electricity Net Generation



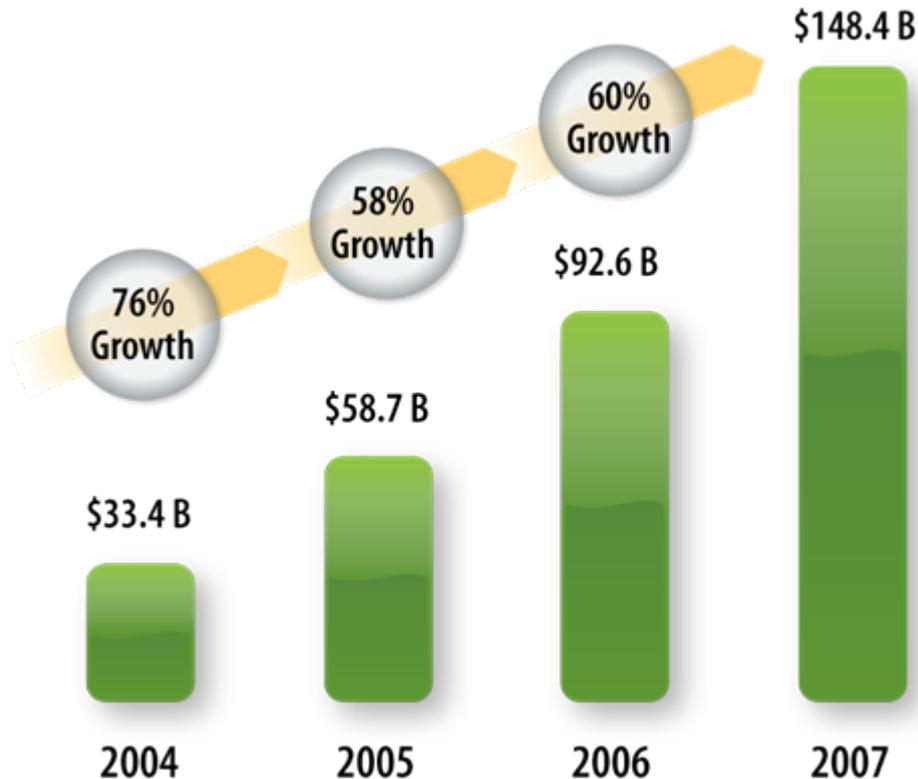
Net generation for 2006 = 3814 TWhr UCb

Source: EIA Annual Energy Review 2007, AEO 2008

U.S. Renewable Energy Contributions



Global New Investment in Clean Energy



1% of global fixed asset investment

10.5% of global energy industry infrastructure investment

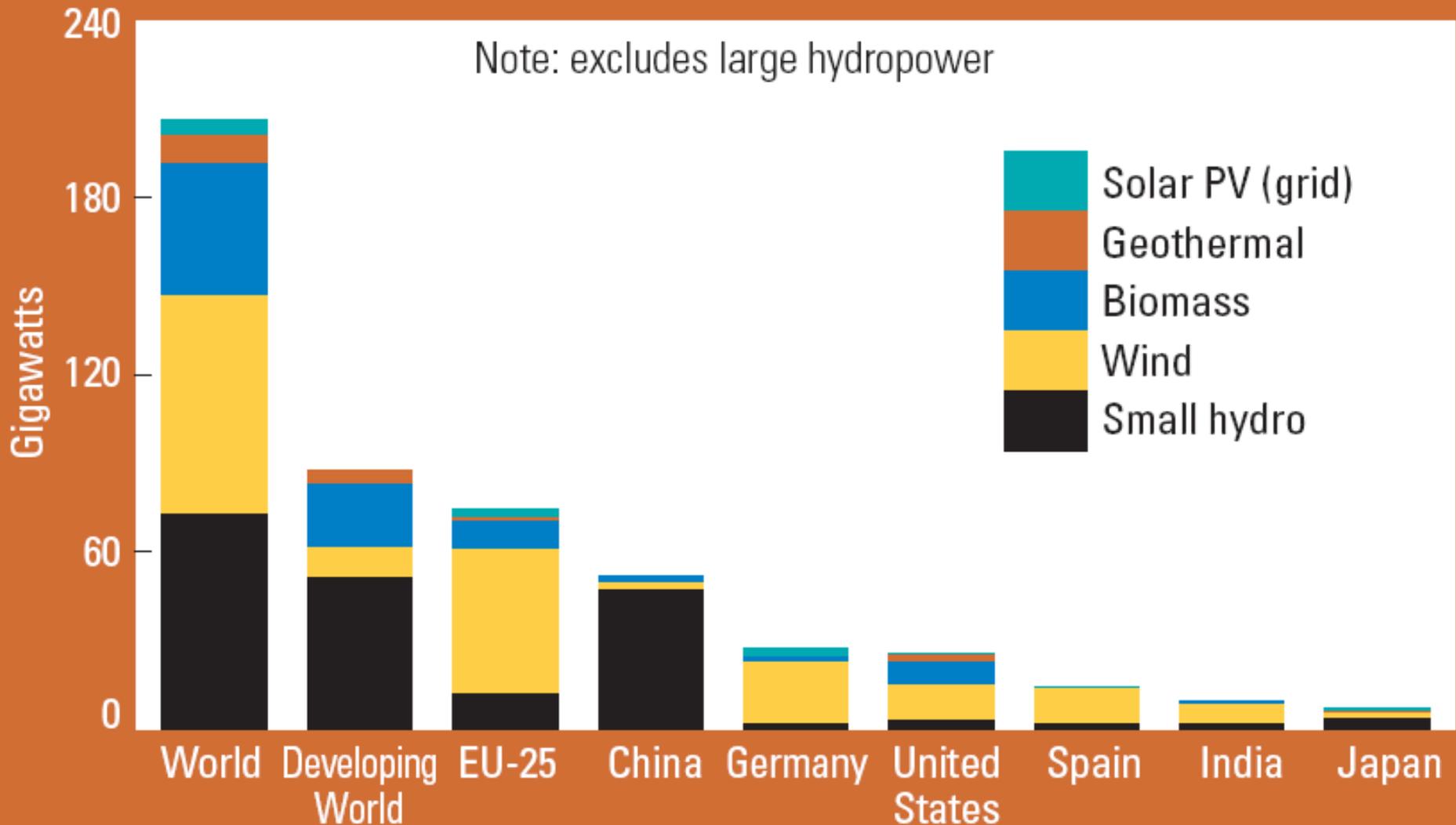
2.5 times the size of commercial aircraft investment sector

Adjusted for reinvestment. Geared re-investment assumes a 1 year lag between VC/PE/Public Markets funds raised and re-investment in projects.

Source: New Energy Finance, IMF WEO Database, IEA WEO 2007, Boeing 2006 Annual Report

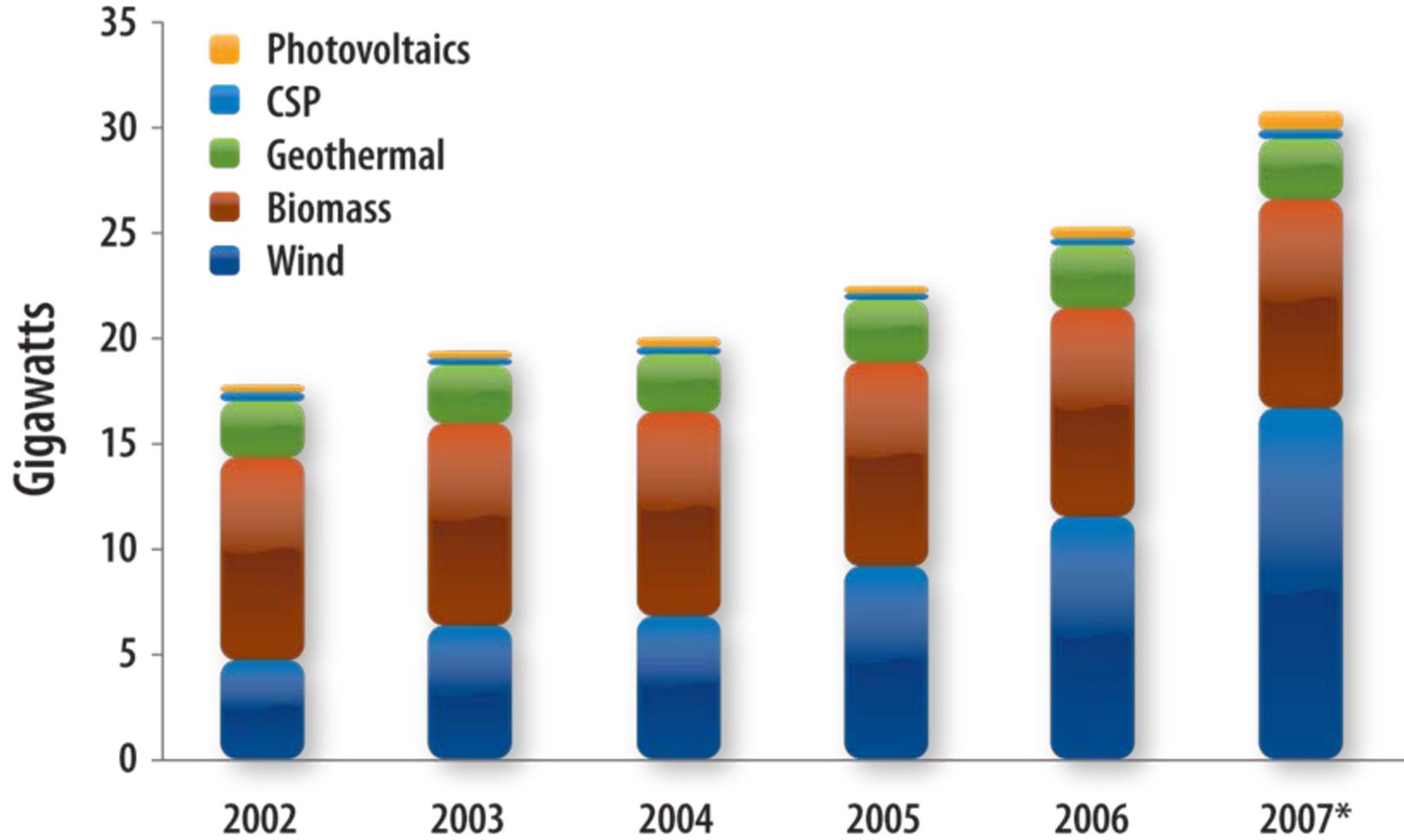
Global Renewable Electricity Capacity

Developing World, EU, and Top Six Countries, 2006



Source: REN21 2007 Global Status Report

U.S. Renewable Electricity Capacity



Installed Nameplate

Sources: Chalk, AWEA, IEA, NREL, EIA, GEA

Technology Development Programs



Efficient Energy Use

- Vehicle Technologies
- Building Technologies
- Industrial Technologies



Renewable Resources

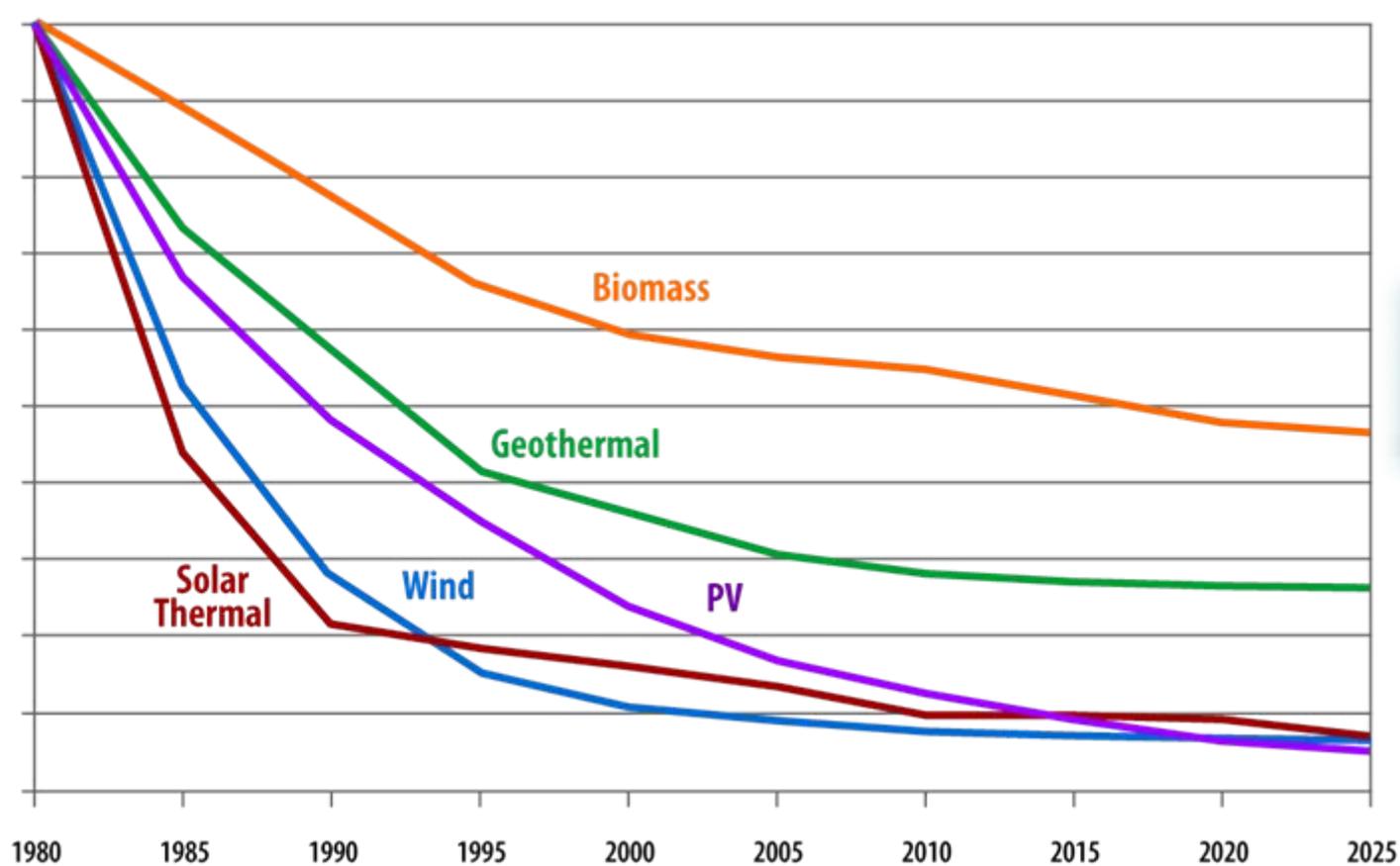
- Wind
- Solar
- Biomass
- Geothermal



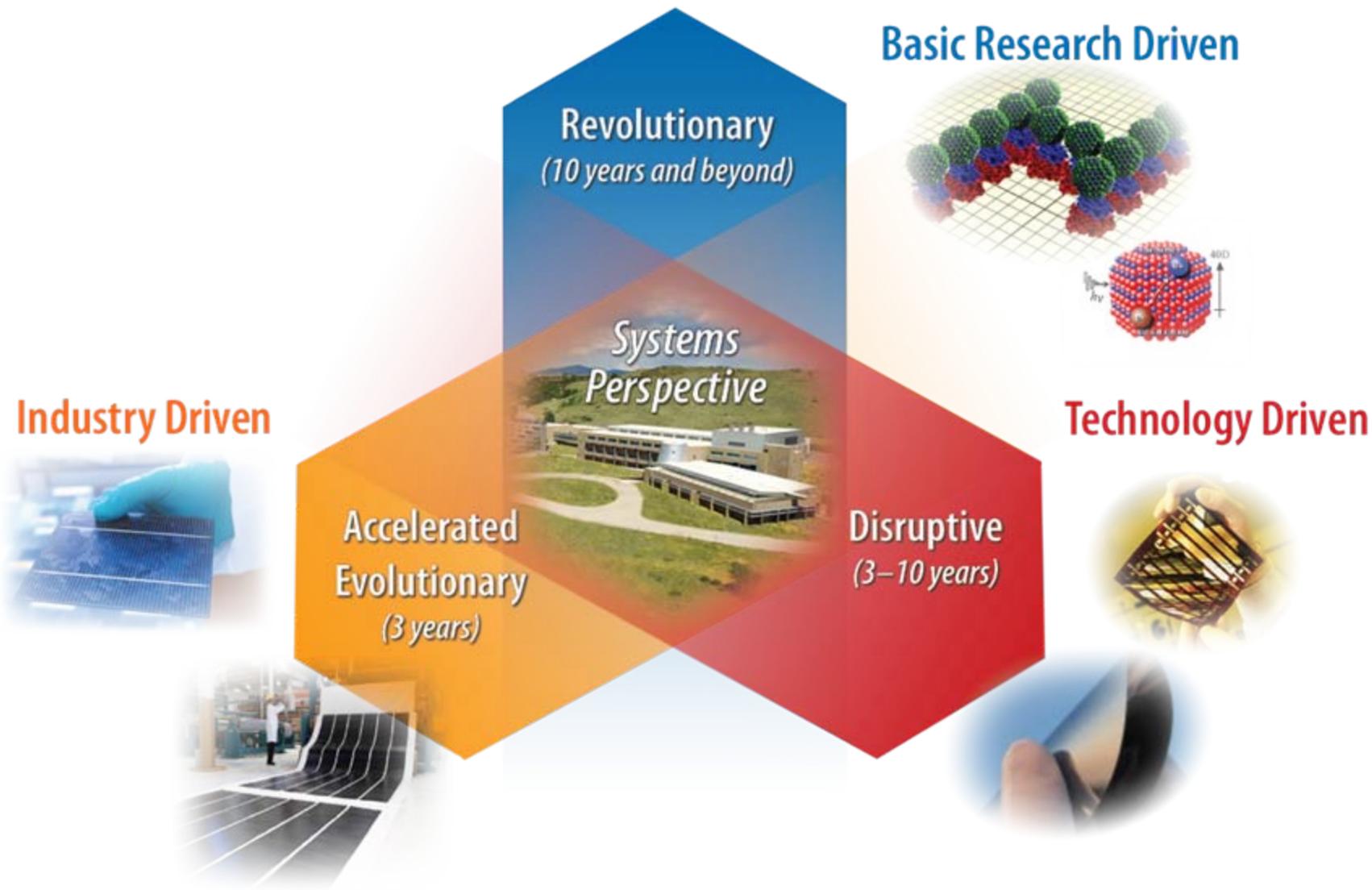
Energy Delivery and Storage

- Electricity Transmission and Distribution
- Alternative Fuels
- Hydrogen Delivery and Storage

Innovation—Past Investments Have Dramatically Reduced Costs

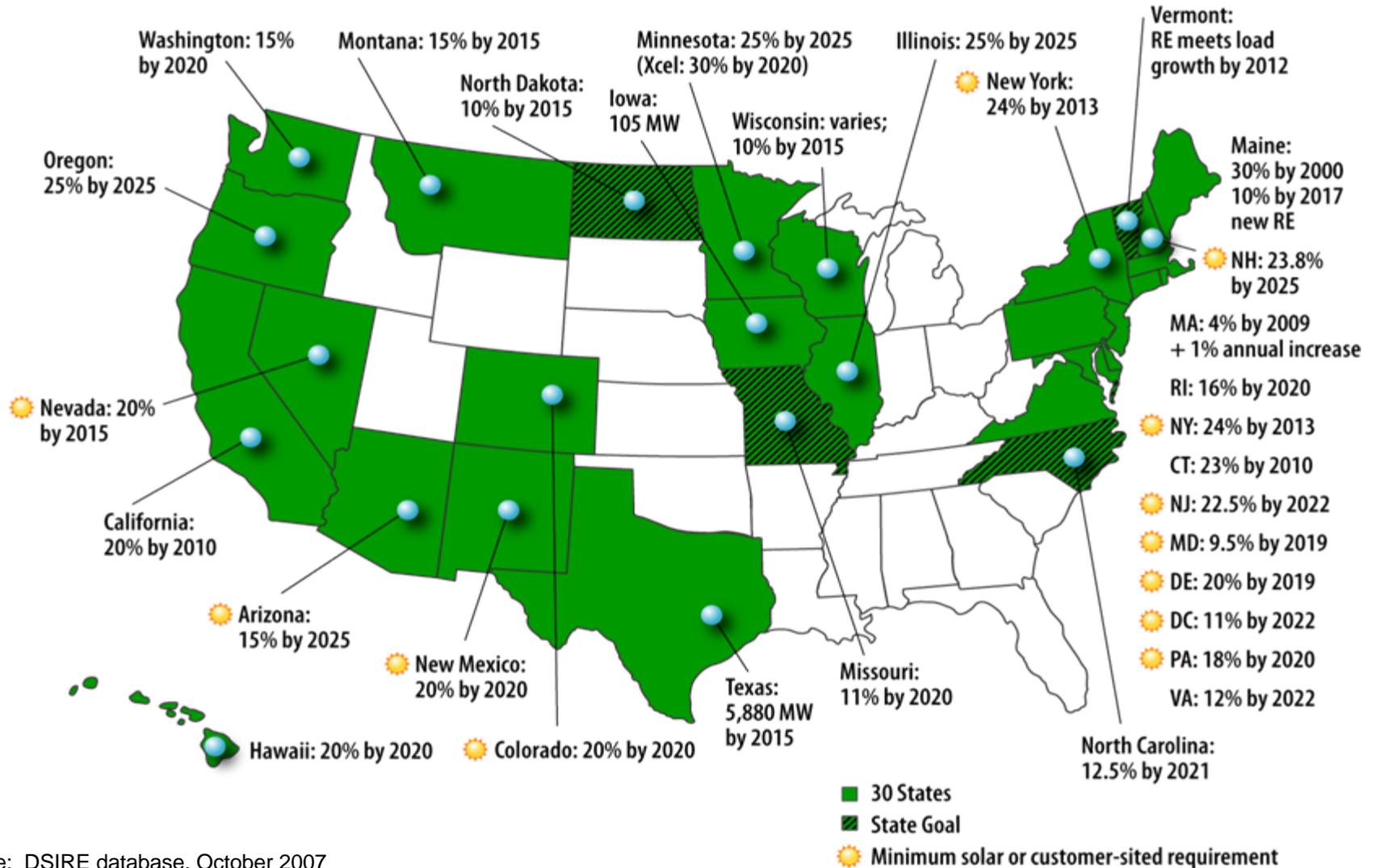


Accelerating Progress



State Policy Framework

Renewable Portfolio Standards



Source: DSIRE database, October 2007

An Integrated Approach is Required



Promise of renewable energy is profound and can be realized if we...

- Aggressively seek a global sustainable energy economy
- Accelerate investment in technology innovation
- Acknowledge and mitigate the carbon challenge with the necessary policies

It is a matter of national will and leadership



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