

The Nuclear Renaissance

NMMSS Users Annual Training Meeting
May 20-22, 2008

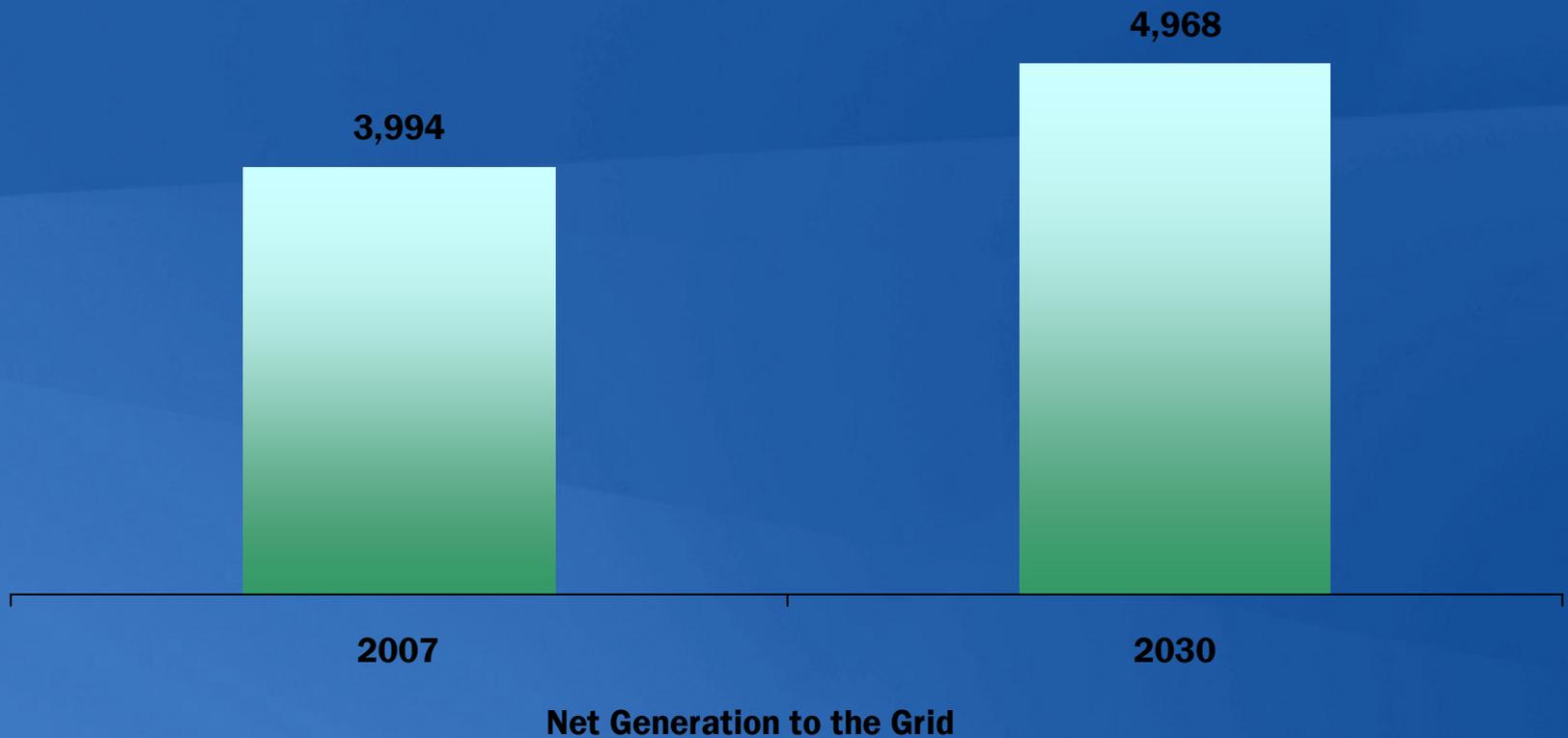


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Why A Nuclear Renaissance?

- **The lesson of the last 20 years in U.S. electricity policy:**
 - Diversified fuel and technology portfolio is essential
 - All fuels and technologies (nuclear, coal, natural gas, renewables, efficiency) have a legitimate role
- **The challenge for the future:**
 - Preserving/restoring diversified portfolio
 - Ensuring resource adequacy, particularly in competitive markets
- **Expanded use of nuclear energy is part of the answer**
 - Integrated used fuel management supports nuclear competitiveness

U.S. Needs 25 Percent More Electricity by 2030 BkWh

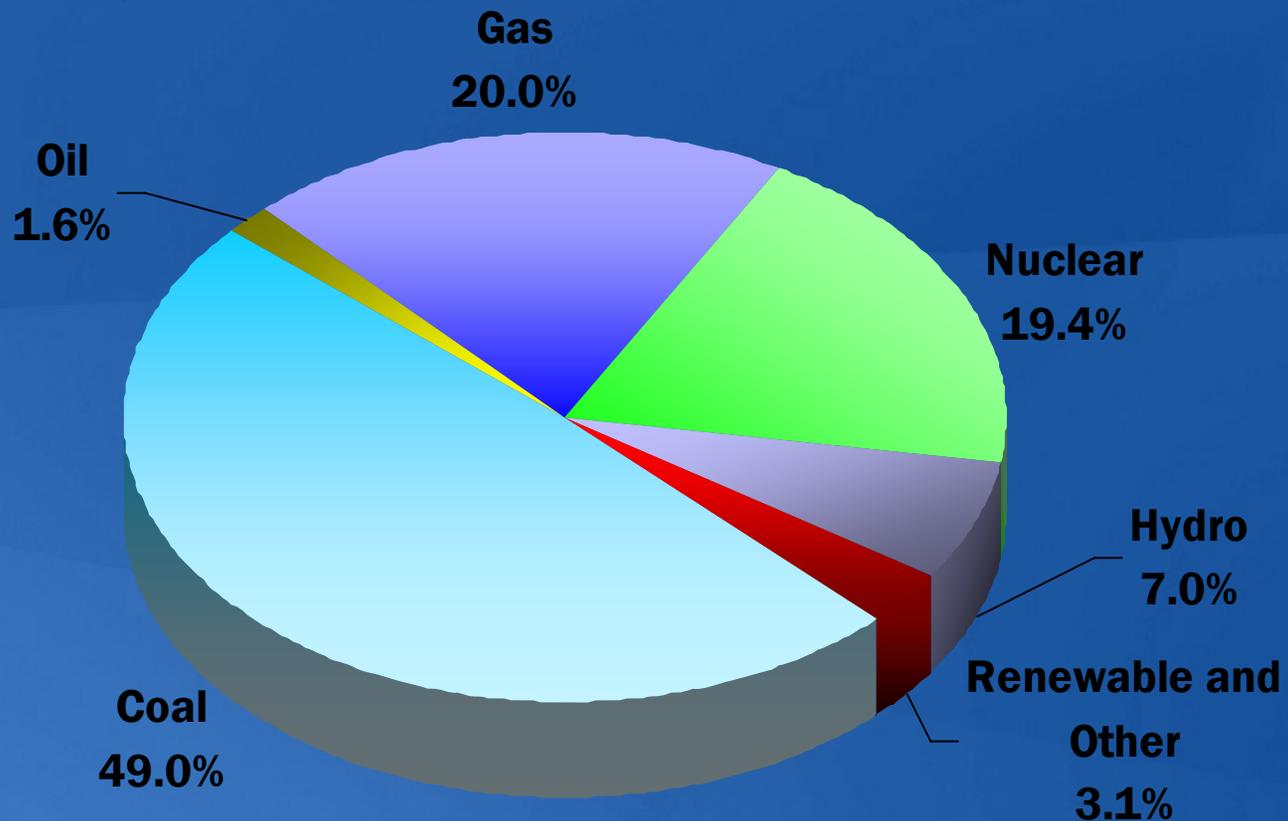


Source: Energy Information Administration Annual Energy Outlook 2008

Updated: 3/08

U.S. Electricity Generation Shares

2006



Source: Global Energy Decisions / Energy Information Administration

Updated: 10/07

Sustained Reliability and Productivity

U.S. Nuclear Capacity Factor, Percent



89.4% in 2001
90.3% in 2002
87.9% in 2003
90.1% in 2004
89.3% in 2005
89.6% in 2006
91.8% in 2007*

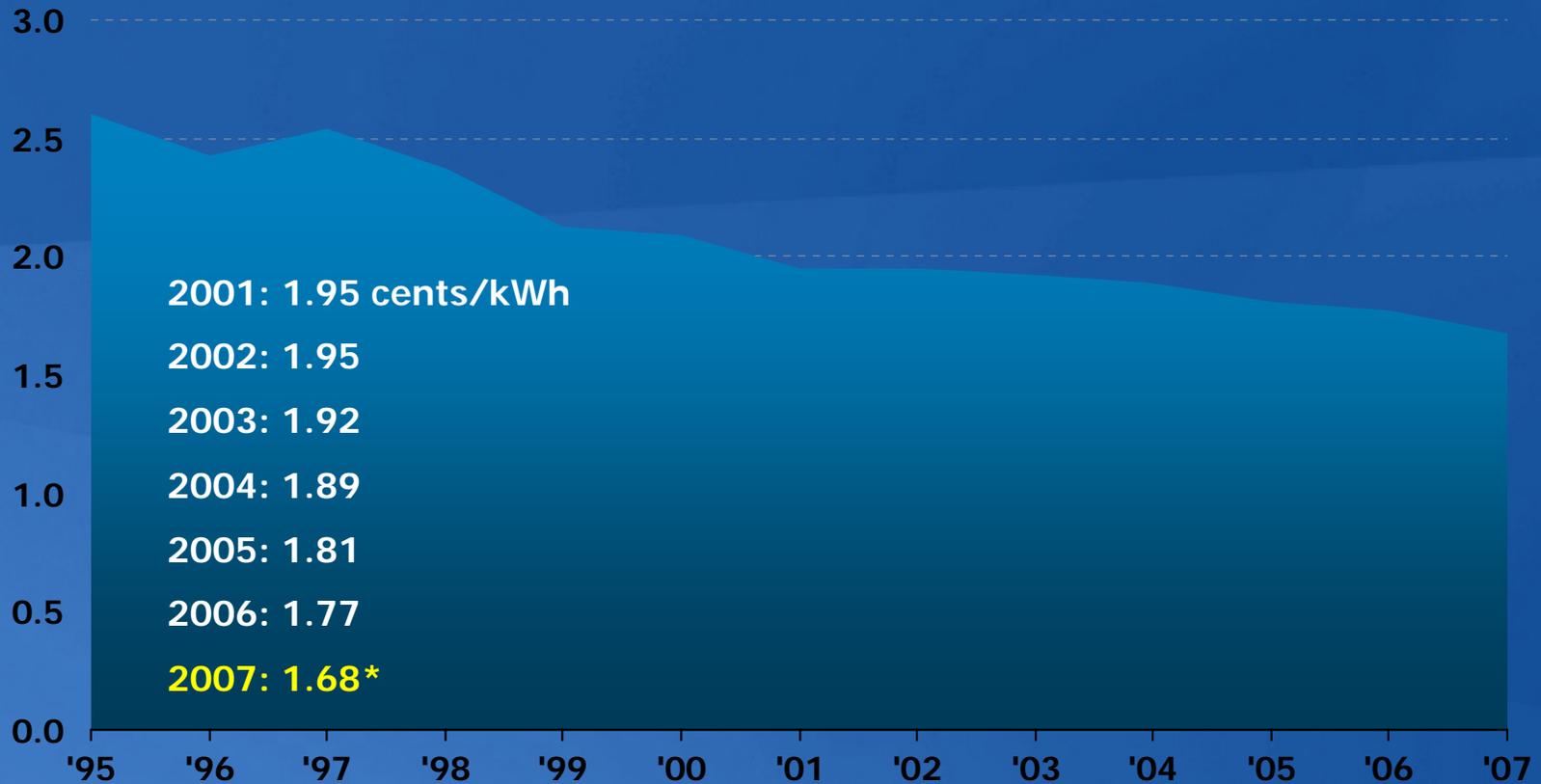


Source: Global Energy Decisions / Energy Information Administration

* Preliminary

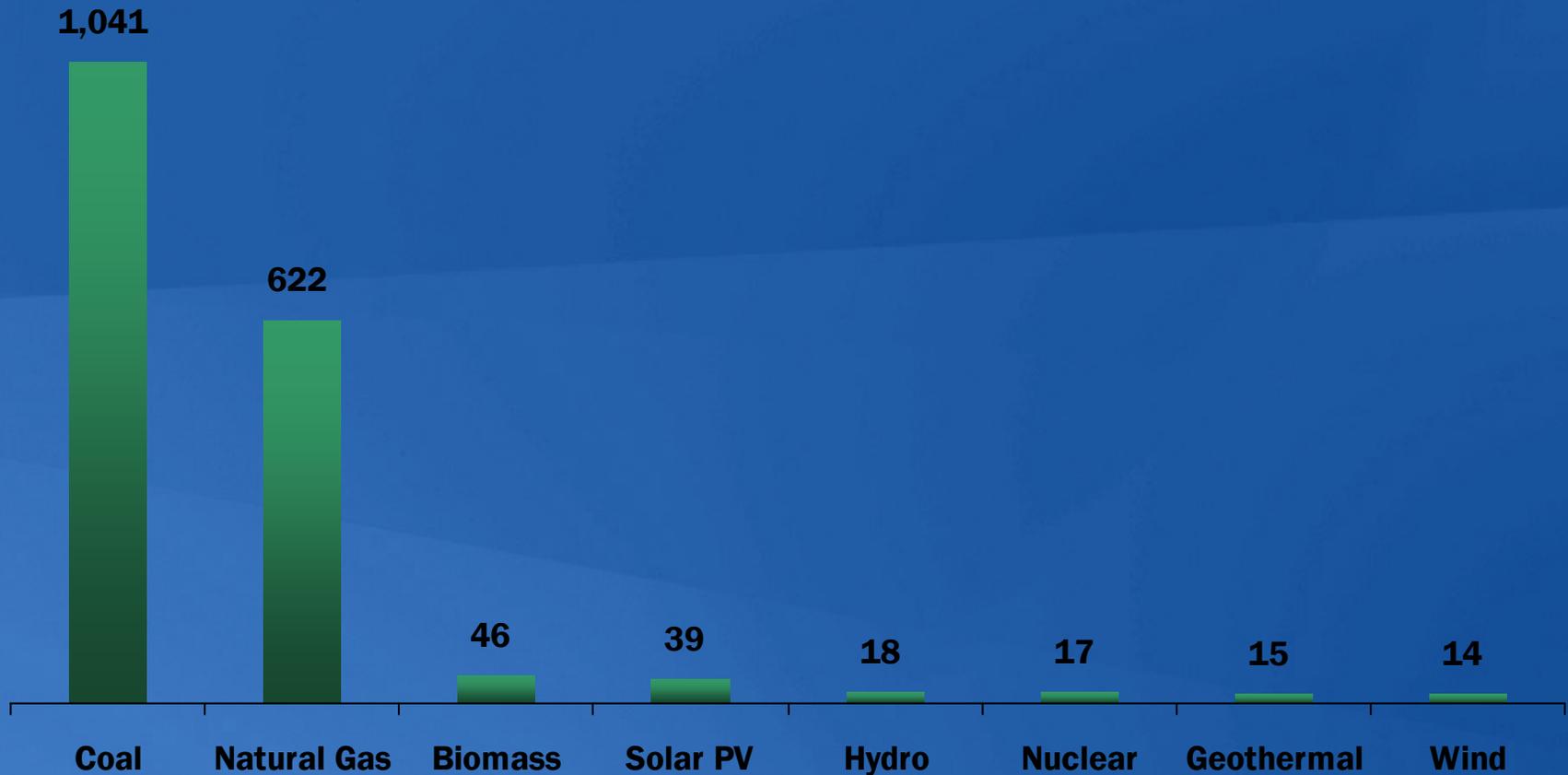
Solid Economic Performance Continues

U.S. Nuclear Production Cost, in 2007 cents/kWh



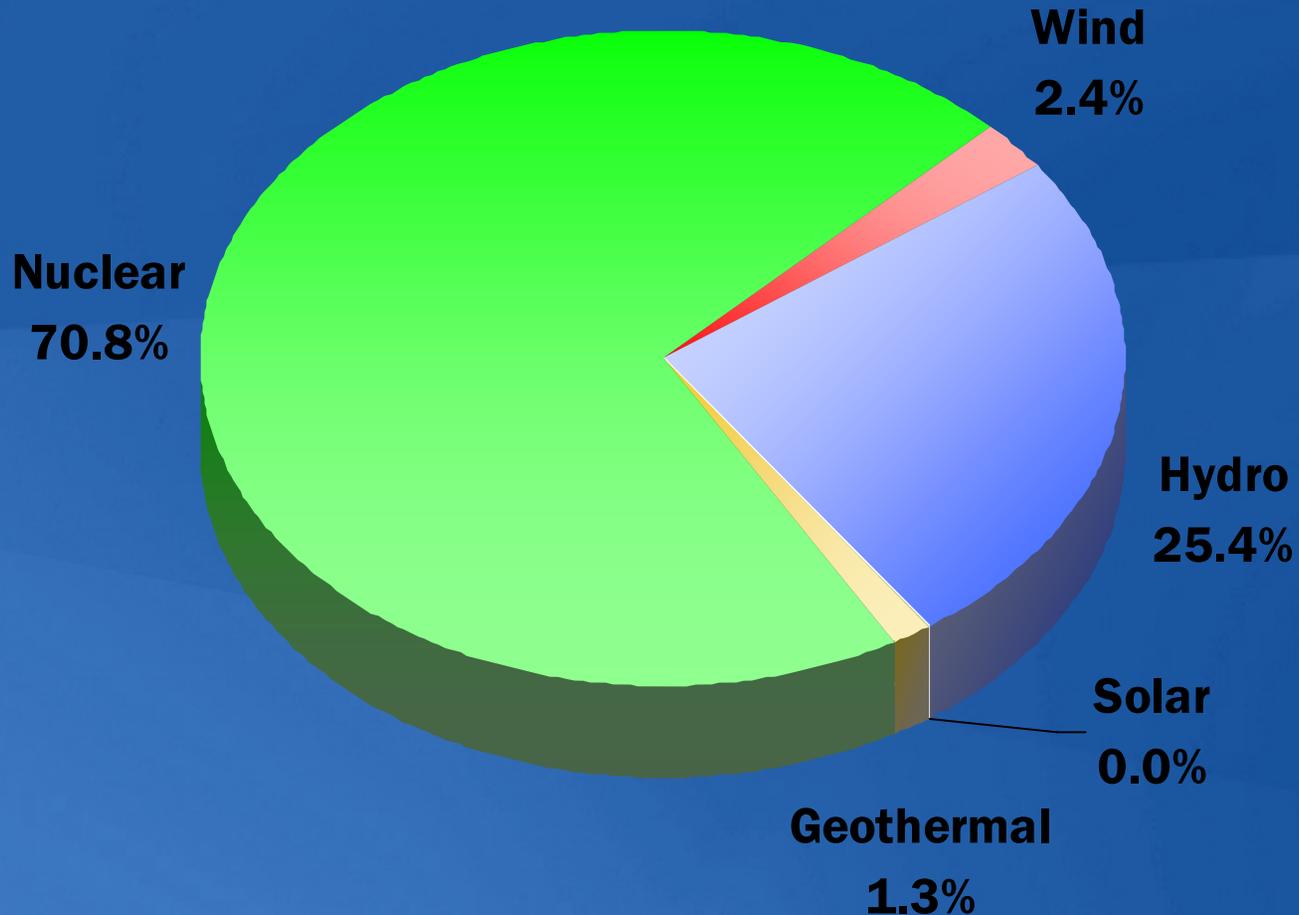
Comparison of Life-Cycle Emissions

Tons of Carbon Dioxide Equivalent per 1 million kWhs



Source: "Life-Cycle Assessment of Electricity Generation Systems and Applications for Climate Change Policy Analysis," Paul J. Meier, University of Wisconsin-Madison, August 2002.

U.S. Electricity Sources Which Do Not Emit Greenhouse Gases 2006



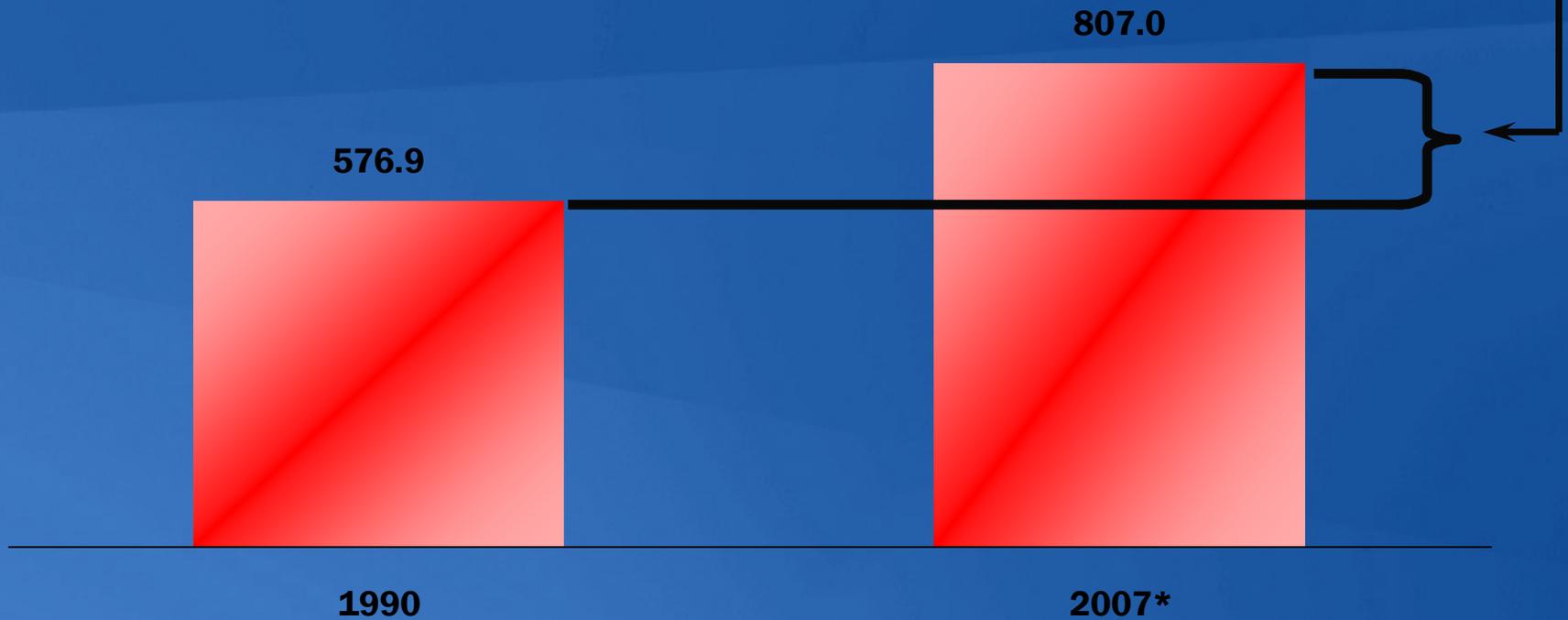
Nuclear Facts

- **104 operating commercial nuclear plants at 65 sites in 31 states (15 plants shutdown with fuel on site)**
- **All operating plants have received or are pursuing 20 year license extension**
- **Provide 20% of U.S. electricity generation, emits no controlled pollutants**
- **Average Production Costs Nuclear – 1.68 ¢/kWh, Coal – 2.37¢/kWh, Natural Gas – 6.75 ¢/kWh, Oil – 9.63 ¢/kWh**
- **One uranium pellet equals 17,000 cubic feet of NG, 1,780 lbs. of coal or 149 gal. of oil**

U.S. Nuclear Plant Output Growth

Billions kWh

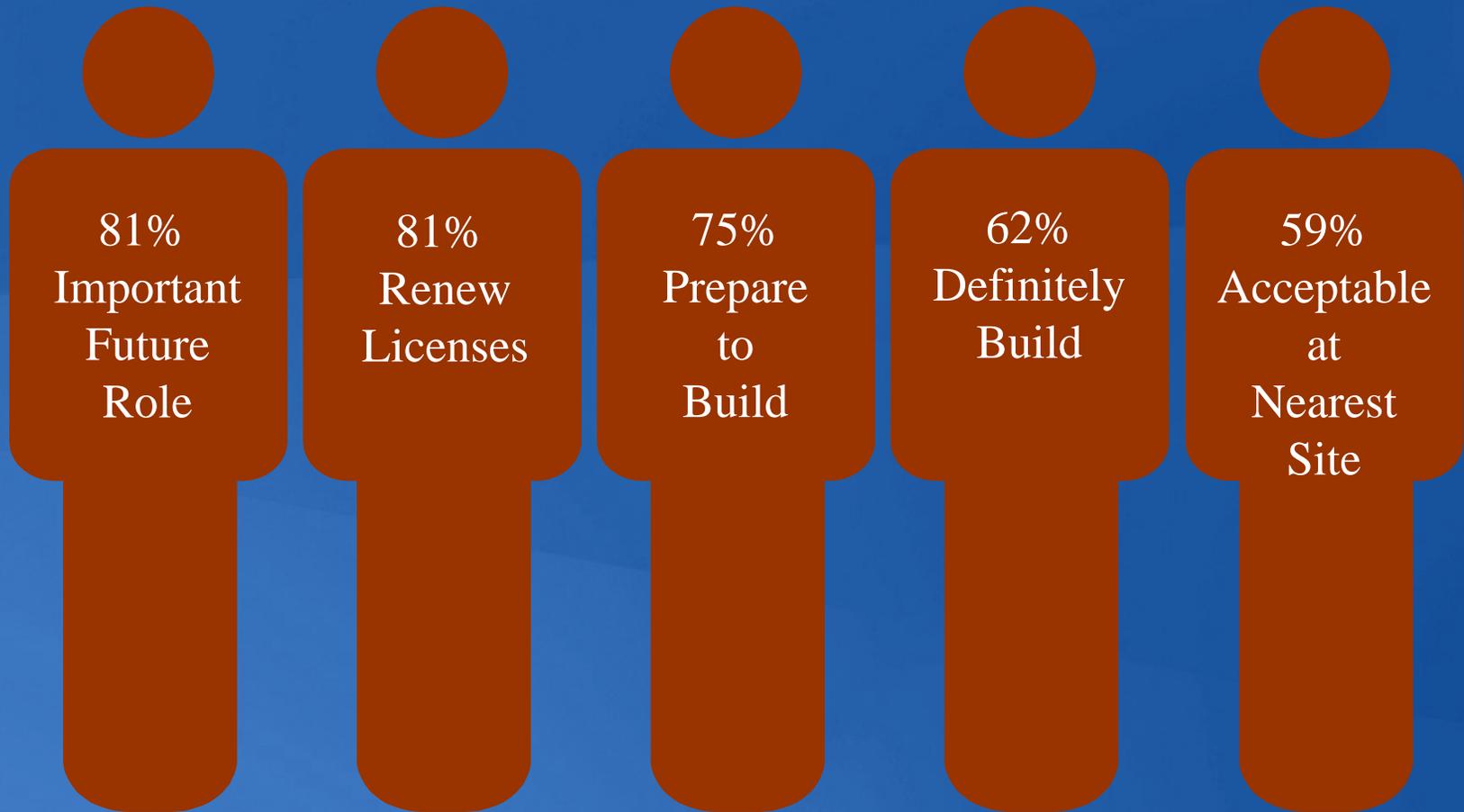
Equivalent to 29 new 1,000-megawatt power plants



Source: Global Energy Decisions / Energy Information Administration, * NEI Estimate

Updated: 2/08

Strong Public Support Continues



Policy and Politics

- **Bi-partisan support for nuclear**
- **Climate issues**
- **Presidential politics**

Preparing for New Nuclear Plant Construction

- Major investments in:
 - Design and engineering
 - Long-lead procurement
 - Expansion of U.S. manufacturing capability
- Licensing
 - Early Site Permits
 - Certified Designs
 - Combined Operating License

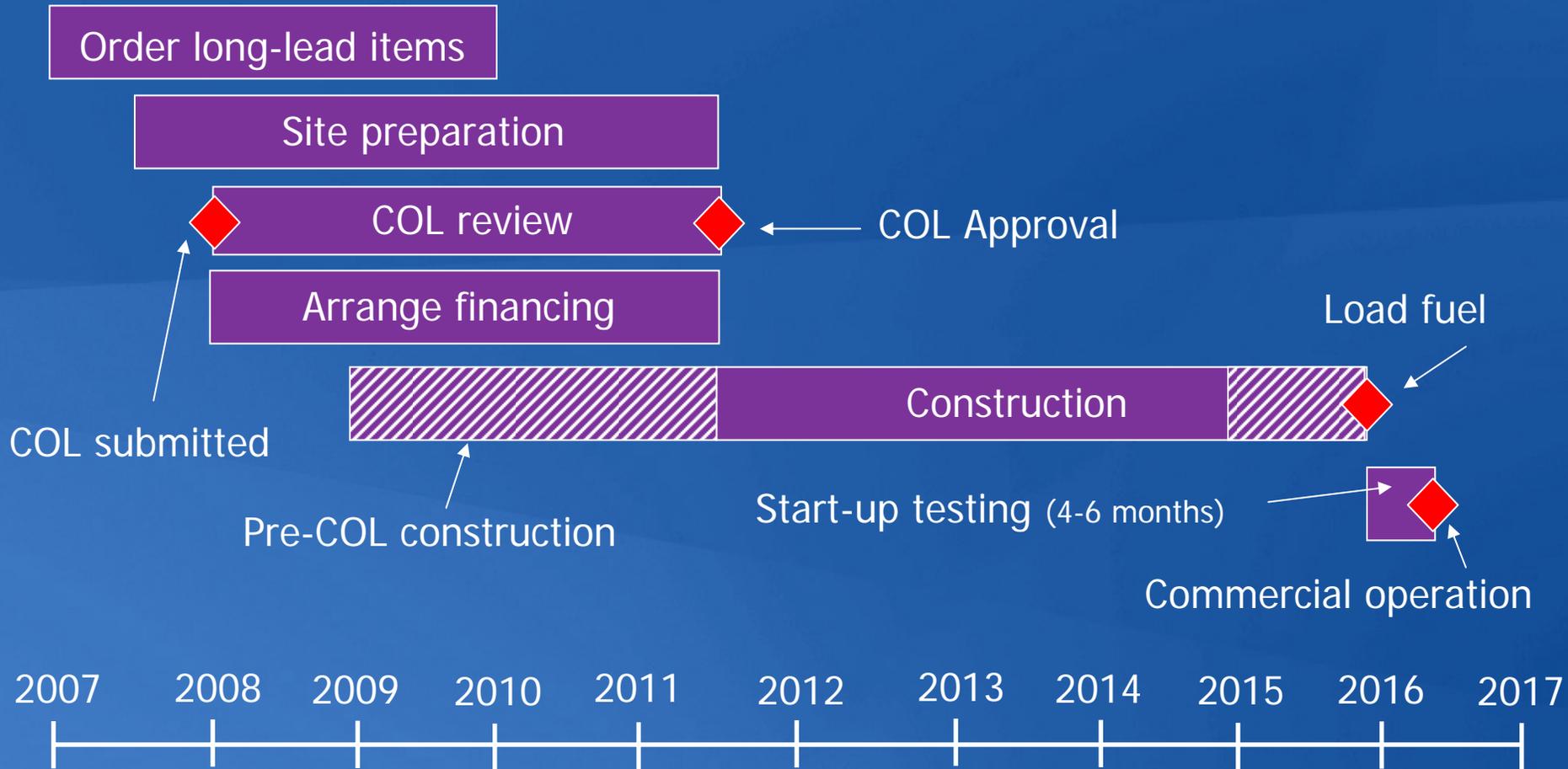
Is it Real?

- **Major investments in:**
 - **FPL signed design and engineering agreement**
 - **Utilities have started long-lead procurement**
 - **B&W is expanding its Ohio facility**
- **Licensing:**
 - **3 early site permits in 2007 (Exelon, Dominion, Entergy)**
 - **2 designs certified (ABWR, AP1000) , 2-3 more expected (ESBWR, EPR, US-APWR)**
 - **17 companies, consortia preparing license applications for as many as 30 reactors**

Other Signs

- **Fuel Supply**
 - **US mining and milling permits up**
 - **Honeywell expanded its conversion facility**
 - **National Enrichment Facility under construction in NM**
 - **American Centrifuge Plant under development in Ohio**
 - **GE announced it plans a US enrichment facility**
 - **AREVA announced it plans a US enrichment facility**

When will the new plants open?



Expectations for the Future

Initial wave: 4-8 plants on line by 2015-16

Suppliers ramp up component manufacturing capability

Second wave under license review, conducting pre-COL site work

Second wave begins construction when it is clear that first wave can be licensed and built on time and within budget



What's Next?

- **Your questions?**