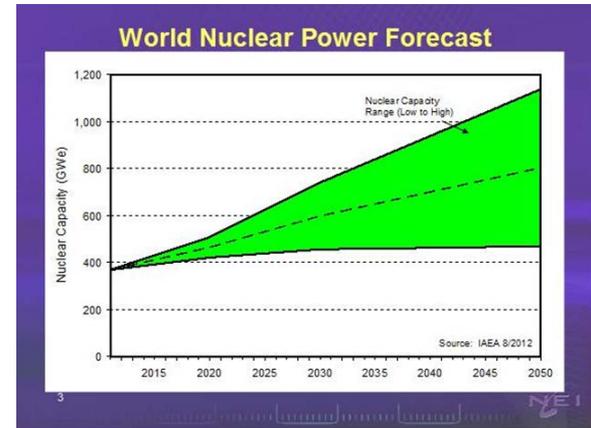
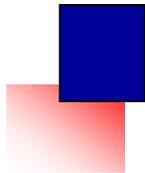


U.S. Nuclear Infrastructure Council Overview



David Blee

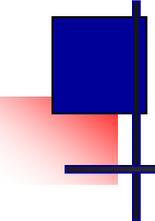
U.S. Nuclear Infrastructure Council

www.usnic.org

2015 Japan-United States Fukushima Recovery Forum

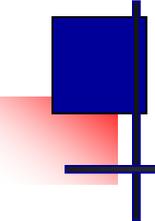
9-10 April 2015

Tokyo



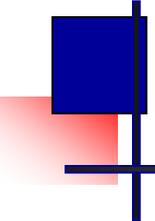
USNIC Overview

- Leading U.S. business consortium advocate for new nuclear and engagement of the American supply chain globally.
- Composed of sixty companies representing the “Who’s Who” of the nuclear supply-chain community.
- Member of the U.S. Department of Commerce’s Civil Nuclear Trade Advisory Committee and the 2014 U.S. Industry Delegation to the IAEA.
- Member of the advisory committee of the Bipartisan Policy Center Task Force on nuclear waste



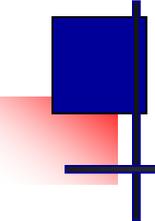
USNIC Business Portfolio

- Key U.S. mover deployment
- Manufacturing & supply-chain readiness
- Technology advancement
- Sustainable fuel cycle
- Licensing surety & costs
- International nuclear markets
- U.S. environmental management
- Fukushima D&D
- Outreach & education



USNIC Fukushima-related Initiatives

- Co-hosted three briefings in the U.S. market for IRID related to RFPs
- Sponsored a Fukushima briefing with the Japan Embassy Washington
- Participated in the inaugural Japan-US Fukushima Recovery Forum in 2014
- USNIC members in U.S. delegation for 2015 Forum
 - AREVA, CH2M Hill, Curtiss-Wright, Energy Solutions, NAC International, Pentek, Inc., Westinghouse
- Planning a program this summer with the Japan Embassy Washington on CSC



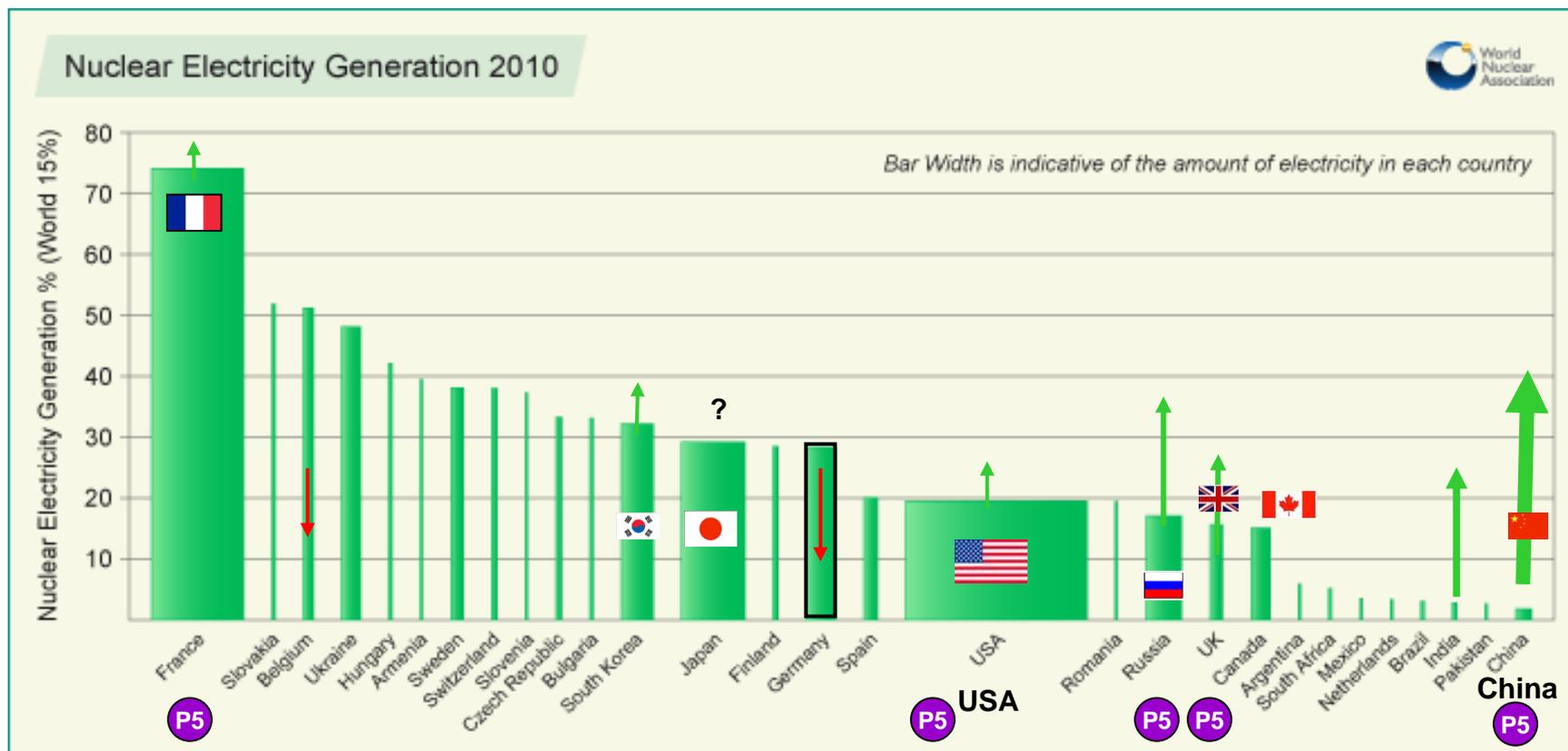
U.S.-Japan Common Ground

- Shared solidarity on the importance of Fukushima D&D and Japan Restart success
- Lessons learned from the U.S. environmental management experience from the DOE clean-up program and commercial reactor decommissioning as well as ongoing spent fuel management
- Fully harnessing the fruits of international cooperation with the involvement of the global nuclear energy community
- Support for the Nuclear Convention on Supplementary Compensation

P5 Elite UNSC “P5 Club”... still more than half all operating reactors

Nuclear Generation by Country - 2010

Portion of electricity from nuclear (vertical) by volume (width); **P5s still dominate**.
Though China is >50% of new reactor build, it is still over-dependent on coal.



P5 = UN Security Council Permanent Voting Member: USA, UK, France, Russia, China
US Nuclear Infrastructure Council

IFNEC: National Nuclear Cooperation

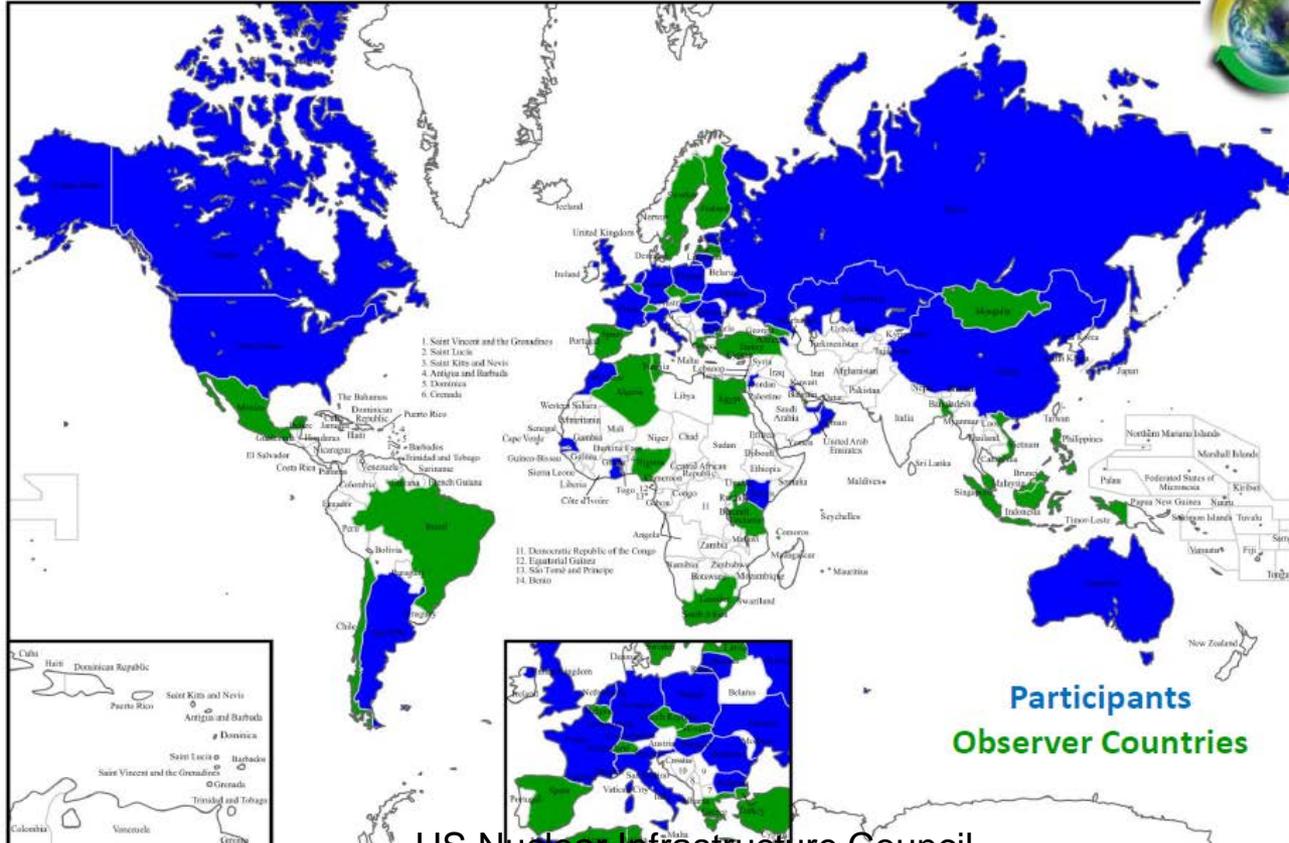
Despite Fukushima and higher costs, more countries are considering nuclear... why?



U.S. DEPARTMENT OF
ENERGY

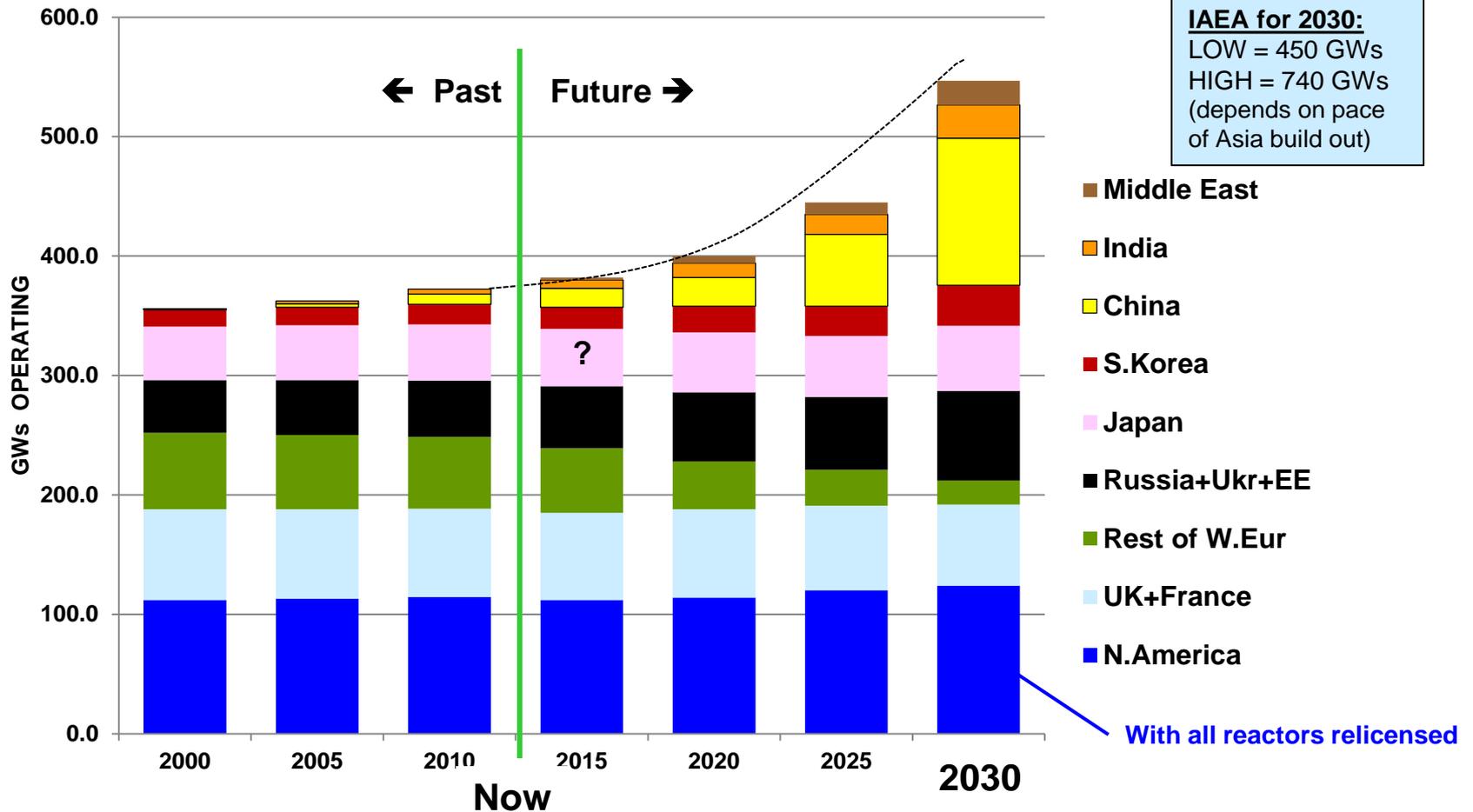
IFNEC Expanded to 61 Countries + 3 Int. Orgs
(31 Participants, 30 Observers)

Nuclear Energy



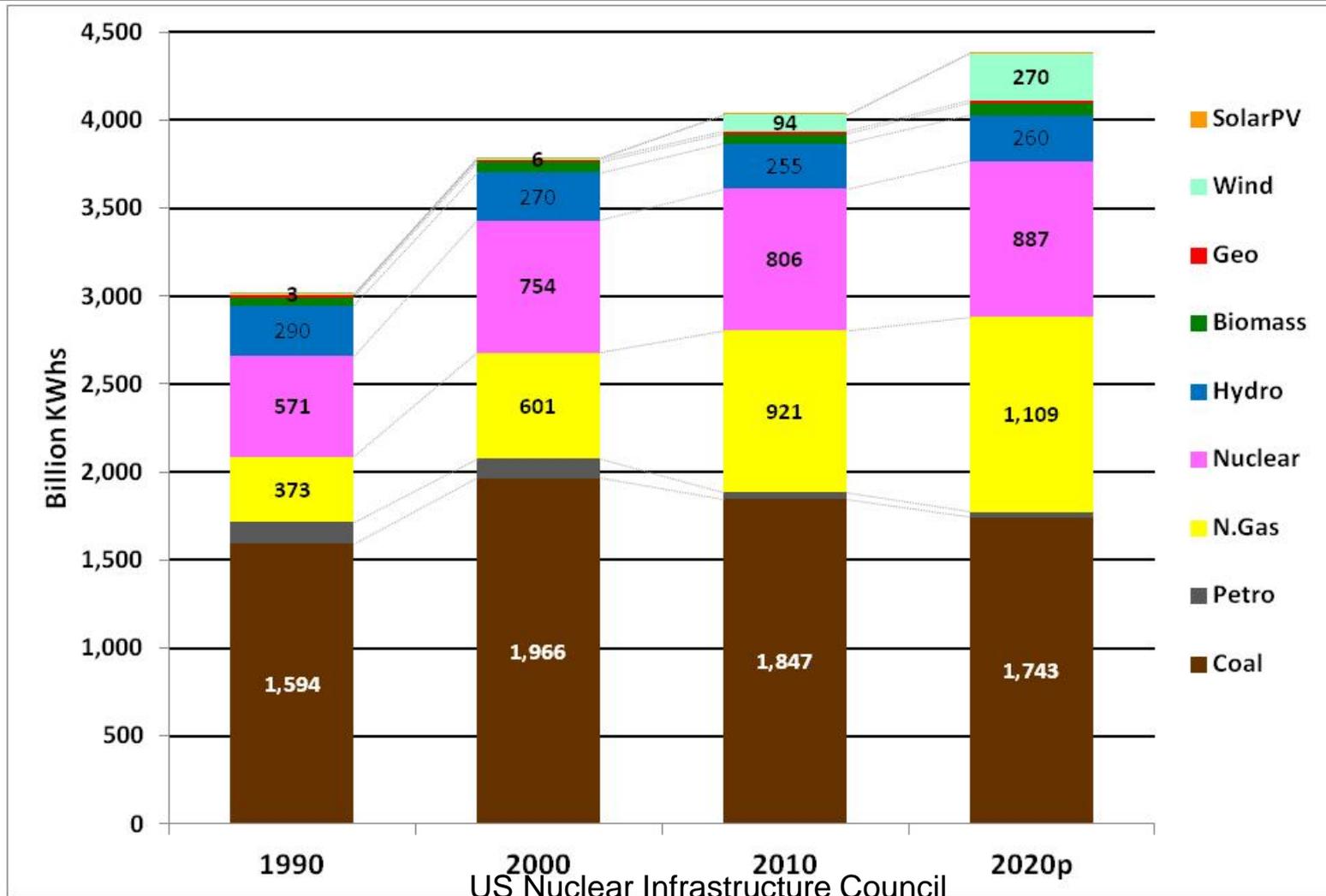
Low Projection for Global New Build, 2000-2030

Conservative projection shows Asia dominating new construction; EU sliding. **Global investment runs >\$120B a year**, with about \$40B of global procurement.



EIA Electricity Fuel Mix, 1990-2020 (AEO 2012)

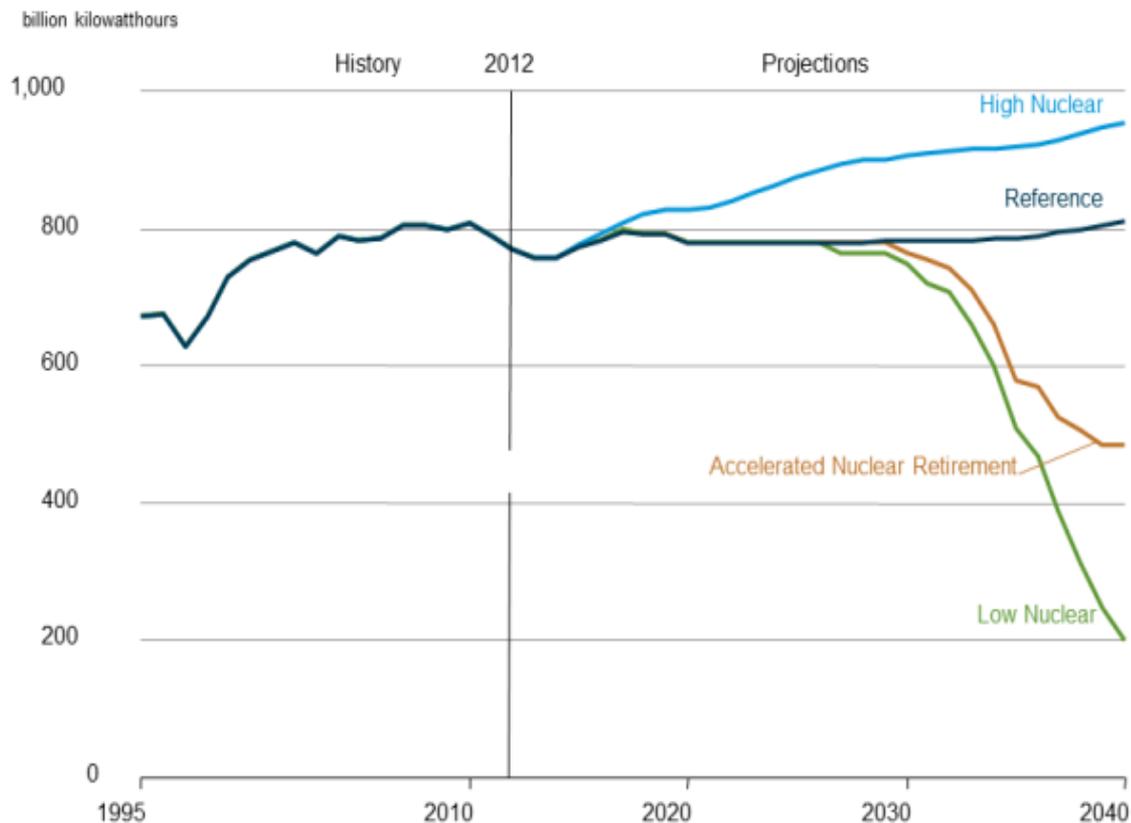
Nuclear Up But Natural Gas Triples by 2020 – Wind Gains, Coal Down

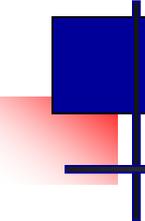


U.S. Nuclear Retirement Scenarios

Nuclear Plant Life After 60 an X Factor

Figure MT-35. Nuclear electricity generation in four cases, 1995-2040





Premature Retirement of US Reactors

5 reactors are slated for early retirement.

All announced in 12 month period (first since 1998):

California – San Onofre (2 units, 2150 MWe)

Wisconsin - Kewaunee (1 unit, 556 MWe)

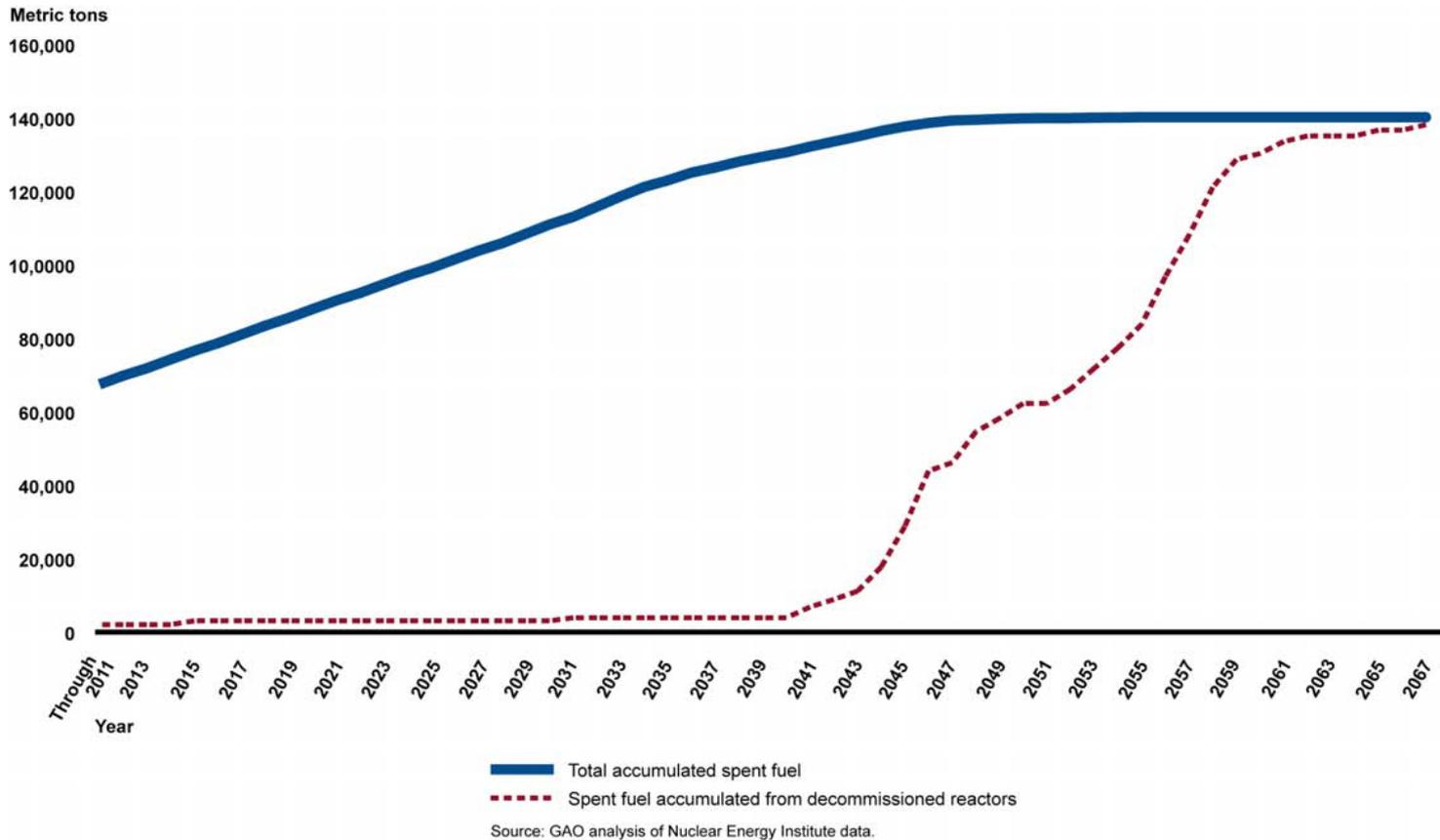
Florida – Crystal River (1 unit, 860 MWe)

Vermont - Yankee (1 unit, 604 MWe)

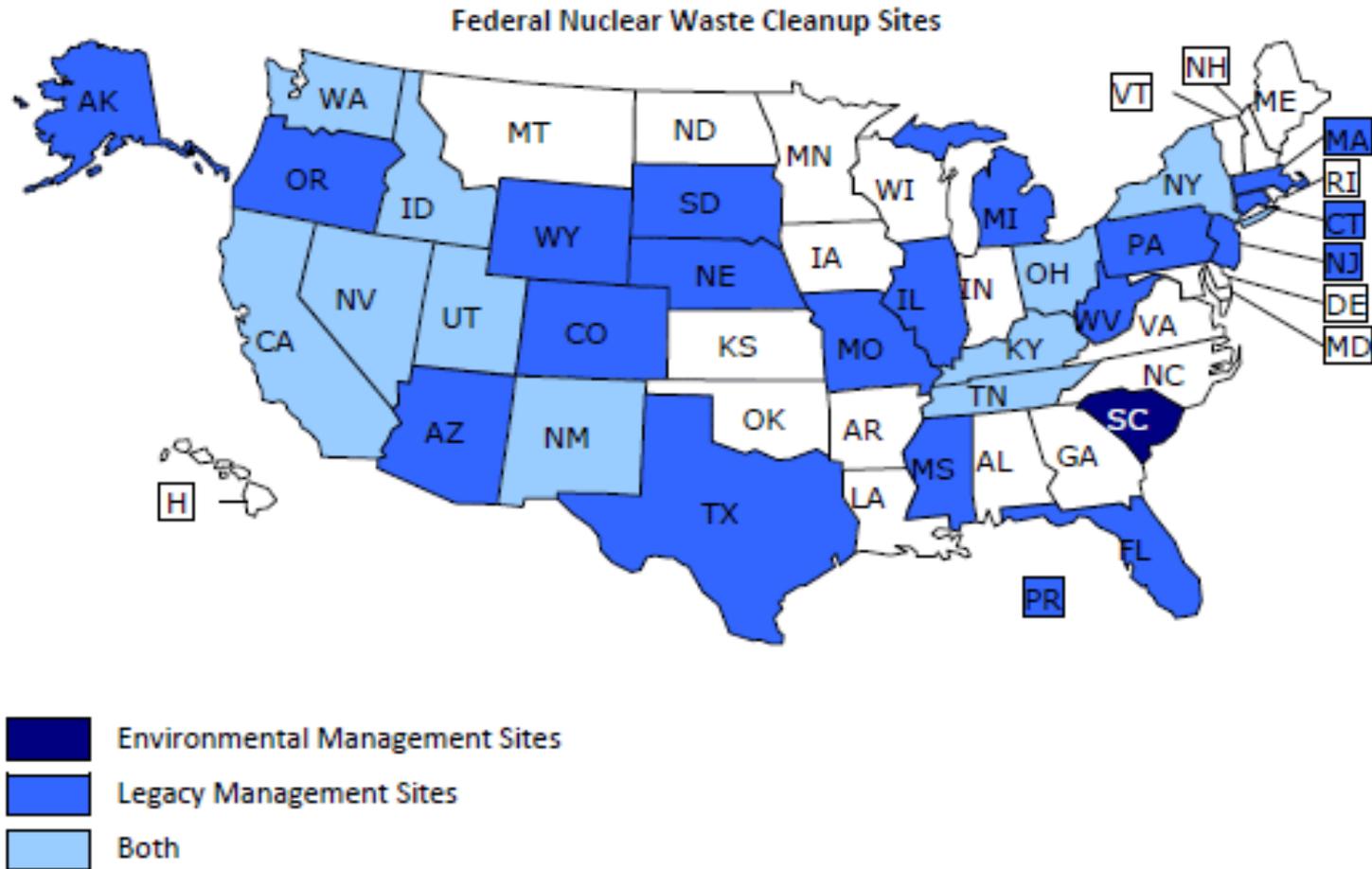
Considerations:

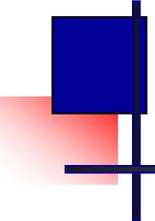
- Competition from lower-cost energy sources, mainly natural gas
- Declining demand (partially due to increase in other sources)
- Safety retrofit expenses
- Repairs and rising operating costs
- State Renewable Energy standards
- No value for emissions savings..

U.S. Total Spent Fuel v. Spent Fuel from Decommissioned Reactors



U.S. DOE Environmental Management Spending \pm \$6 Billion Annually for D&D





New Nuclear Snapshot in USA

- Debut of five new U.S. plants (2015-20)
- Competition with natural gas for clean energy base-load
- Replacement of outgoing coal base-load
- Obama Clean Power Plan rule incentives
- New Designs – AP-1000, ESBWR, GLE
- Small modular reactors... Deployment in mid-2020s targeted
- 2 DOE cost-share awards for \$452M for design and licensing
- Replacement of retiring U.S. nuclear plants -- window of opportunity
- Global market for reactors and supply-chain

New DOE Loan Solicitation for Nuclear: \$12Billion



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Department of Energy Issues Draft Loan Guarantee Solicitation for Advanced Nuclear Energy Projects

September 30, 2014 - 8:30am

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Department of Energy Issues Draft Loan Guarantee Solicitation for Advanced Nuclear Energy Projects

Washington D.C. — The Department of Energy has issued a draft solicitation that would provide up to \$12.6 billion in loan guarantees for Advanced Nuclear Energy Projects, supporting the Administration’s all-of-the-above energy strategy and bringing the nation closer to its low-carbon future. Once finalized, these loan guarantees will provide critical financing to help commercialize advanced nuclear energy technologies, supporting projects that are often unable to secure full commercial financing due to their scale and use of innovative technology. This draft solicitation represents another step in the Department’s commitment to help overcome the financial barriers to the deployment of next generation technologies that will diversify America’s clean energy portfolio.

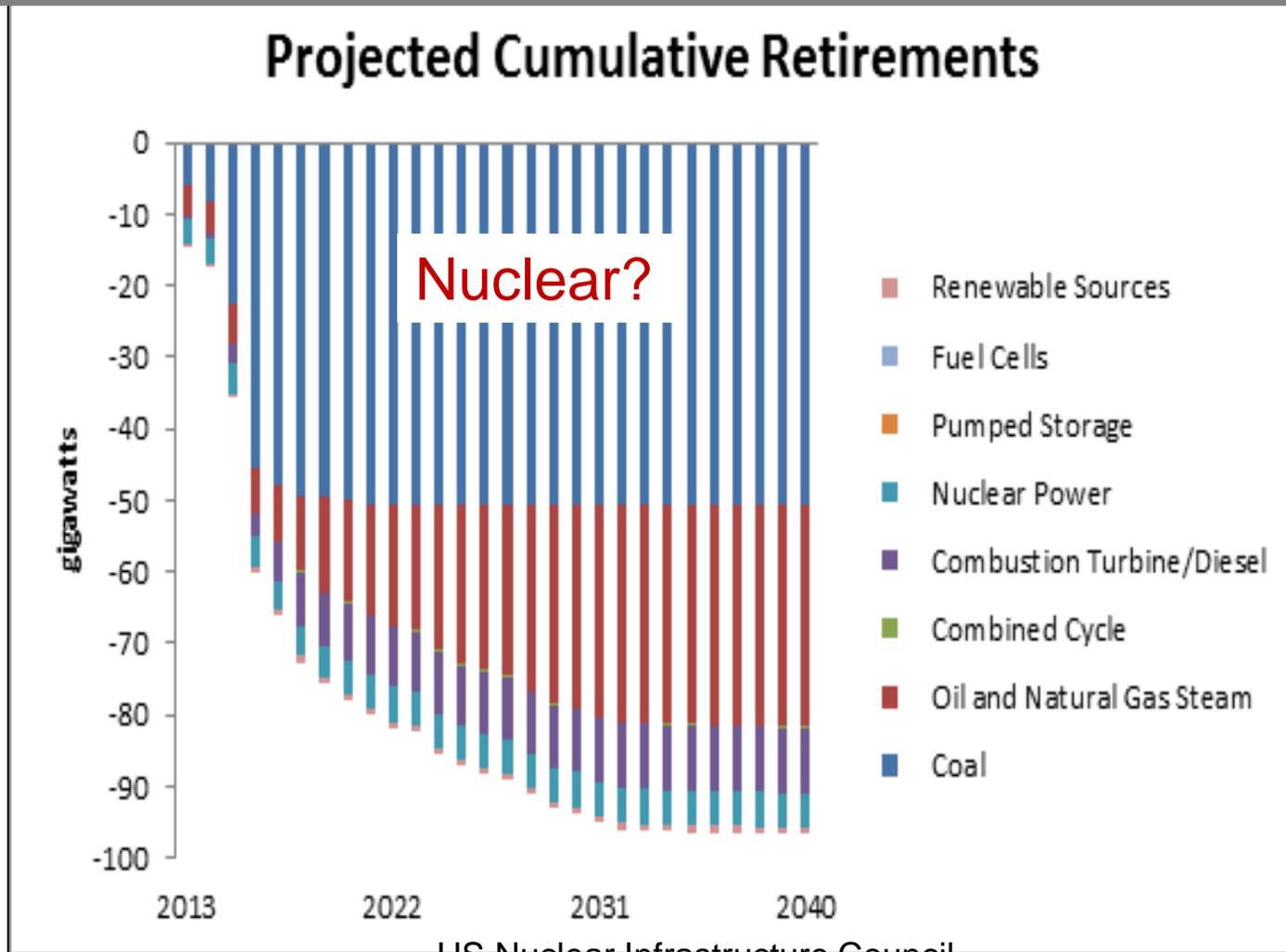
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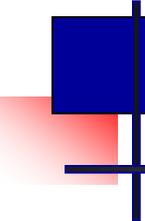
 [Fostering the Next Generation of Nuclear Energy Technology](#)

[Department of Energy Issues Draft Renewable Energy and Efficient Energy Projects Solicitation to Foster Clean Energy Innovation](#)

Projected Retirements

Market Window of Opportunity Looms for Baseload: Life After 60 for Nuclear?





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