

National Coal Council Report and CO₂-EOR EOR Carbon Management Workshop

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Introduction

Hunton & Williams LLP

- Founded in 1901, Richmond, VA
- 800+ lawyers, 19 offices, 6 countries
- Dallas, Houston, Austin
- Strong focus on energy and environment, particularly air

Personal

- Partner, Hunton & Williams LLP 2005 - present
- Decade experience on Capitol Hill
- Counsel, House Committee on Energy & Commerce
- Represent utilities, oil and gas, other energy clients on energy/environment
- Founded CCS Alliance in 2008



What We Will Discuss

1. National Coal Council Report and CO₂-EOR
2. General status of federal policy for CCS and CO₂-EOR
3. If time – 111(d) rule (Clean Power Plan)

National Coal Council

- Federal advisory committee
- Technical advice to DOE
- Not an advocacy organization
- Similar organizations for oil
 - National Petroleum Council
 - Unconventional Resources Technical Advisory Council
- Advice to Secretary is given upon request

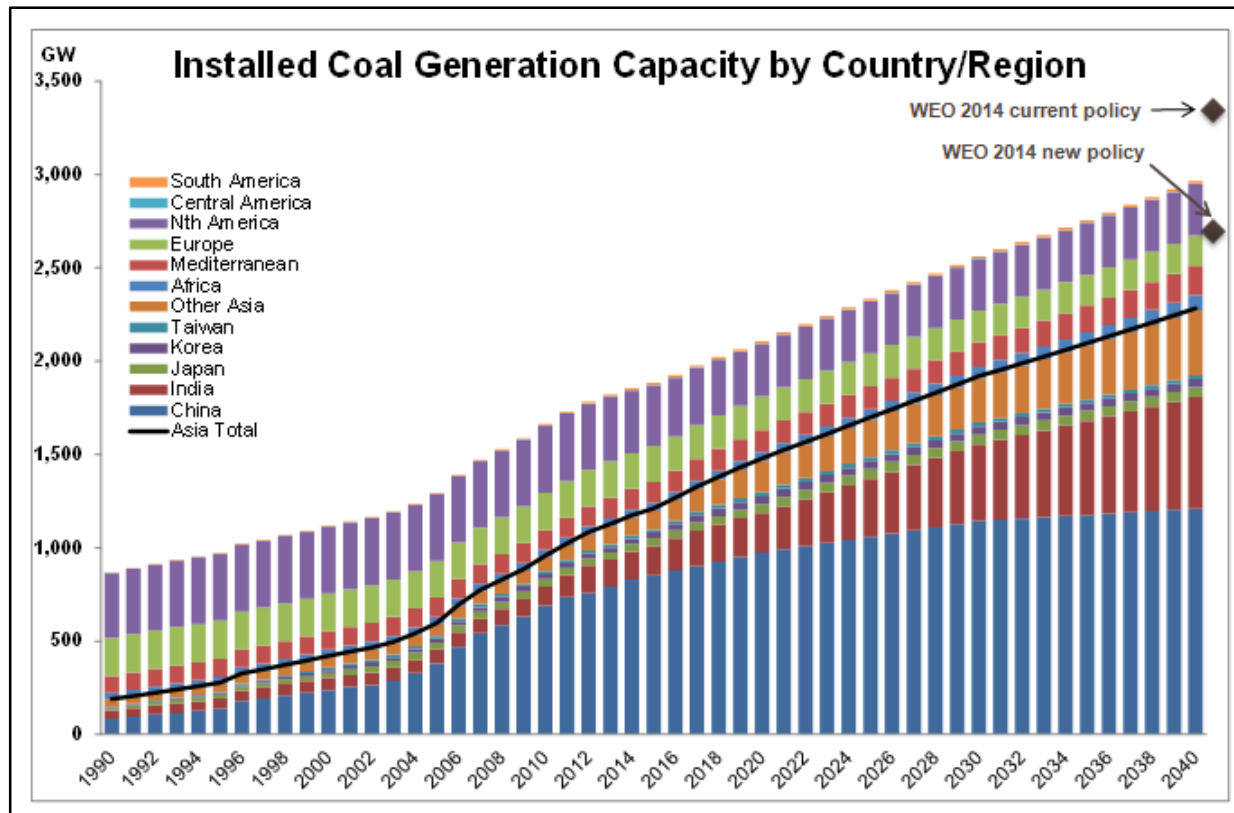
Recent National Coal Council Reports

- May 2014: Reliable & Resilient: The Value of the Existing Coal Fleet
- January 2015: Fossil Forward: Revitalizing CCS
 - Bringing Scale and Speed to CCS Deployment
 - Called for “policy parity” for CCS
- November 2015: Leveling the Playing Field: Policy Parity for Carbon Capture and Storage Technologies
 - What is “policy parity?”

Leveling the Playing Field

- The predicates:
 - Secretary of Energy requested the answer
 - Can't reach carbon emission reduction goals without CCS/CCUS
 - Timeliness of request
 - Recognition of need for U.S. leadership
 - Recognition existing programs aren't sufficient
 - Why is intermittent generation flourishing at the expense of reliable clean generation (especially one with a significant subsidiary benefit)?

Why We Need CCS/CCUS

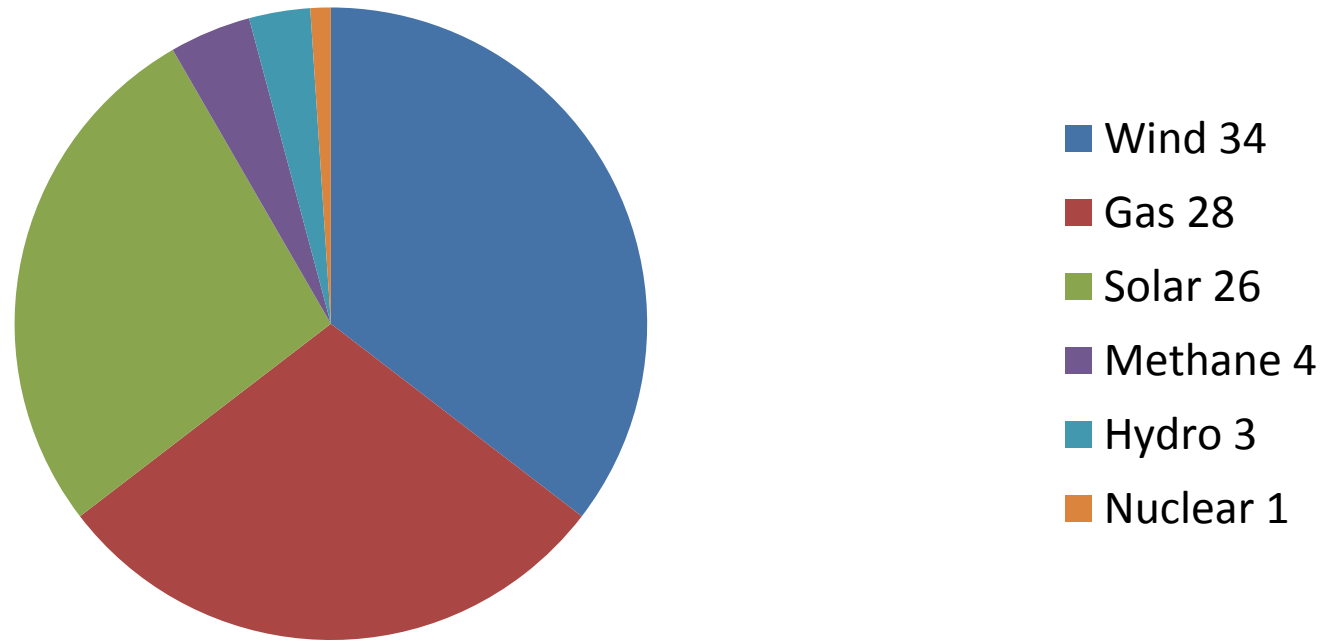


Renewables Versus CCS

INCENTIVE	RENEWABLES	CCS
DOE Budget (2012-2016)		
FY 2016 (Requested)	\$645 Million	\$224 Million
FY 2015	\$456 Million	\$188 Million
FY 2014	\$450 Million	\$200 Million
FY 2013	\$480 Million	\$186 Million
FY 2012	\$480 Million	\$182 Million
Total DOE Budgets:	\$2.5 Billion	\$980 Million (CCS Demonstration: \$0)
Tax Credits (2010-2014)		
Investment Tax Credit	\$2.1 Billion	\$1 Billion
Production Tax Credit	\$7.6 Billion	\$0
ARRA §1603 Grants in Lieu of Credit	\$24 Billion	\$0
Investment in Advanced Energy Property	\$2.1 Billion	\$0
Accelerated Depreciation for Energy Property	\$1.5 Billion	\$0
Total Revenue Cost:	\$37.3 Billion	\$1 Billion
Other Federal Programs		
Loan Guarantees (EPACT '05 §1703)	Yes (\$13.9 billion)	No
Mandatory Purchase Requirement (PURPA § 210)	Yes	No
Siting and Interconnection Preferences (e.g., FERC Order 792)	Yes	No
Clean Energy Credits (EPA, 111(d) Existing Power Plant Rule)	Yes	No
State Programs		
Net Metering	44 states	0 States
Renewable Energy Standards	29 states	5 States (CCS applied to standard: 0)

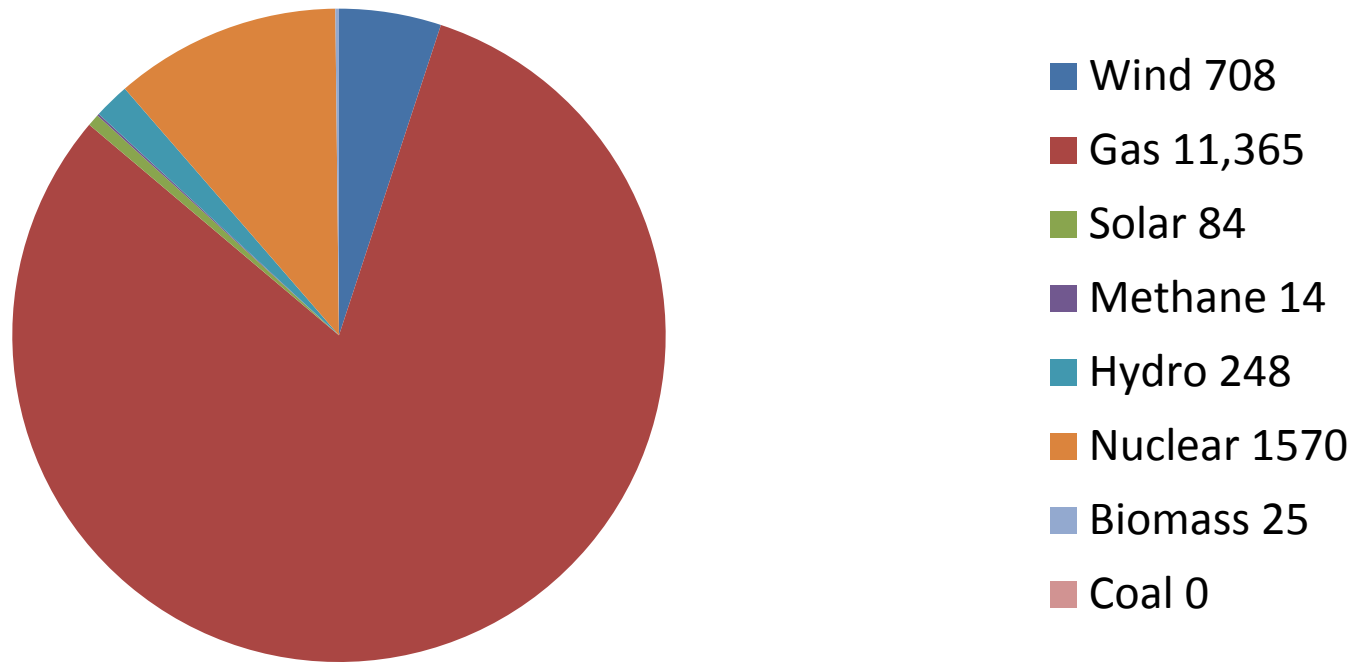
PJM Generation Under Construction

Number of Projects: Coal = 0



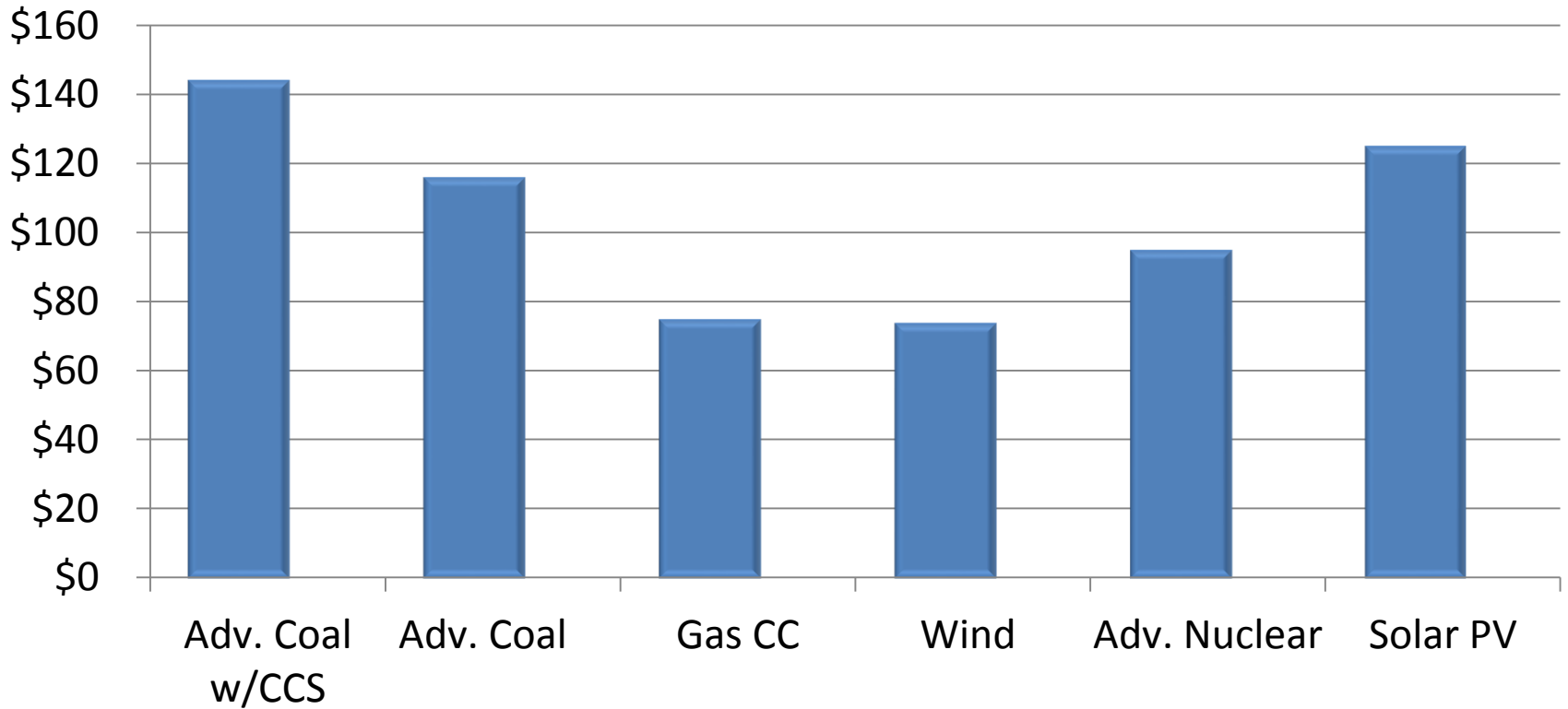
PJM Generation Under Construction

Transfer Capacity Requested



Cost of New Generation

EIA Data



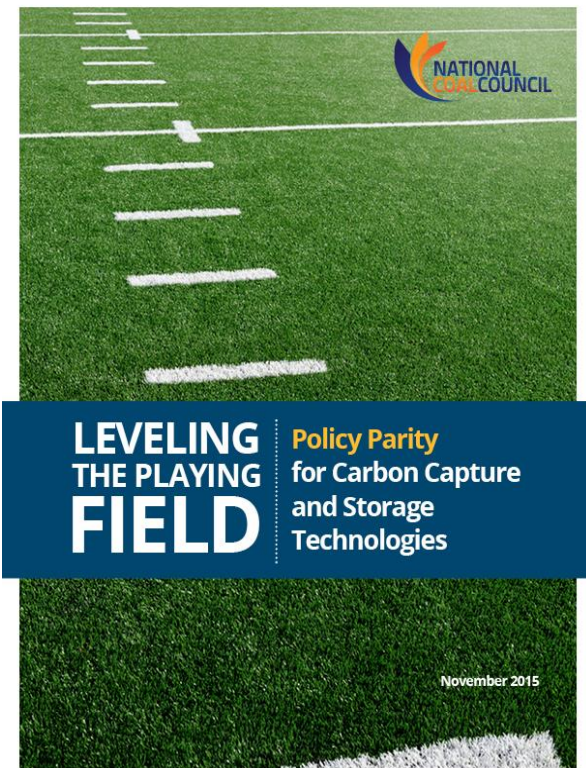
Existing CCUS Incentives

- Section 45Q tax credit
 - \$21.51/ton for non-EOR storage
 - \$10.75/ton for EOR storage
 - Limited to 75 million tons
 - Complications from storage rules
- DOE Clean Coal Program – RD&D
- Loan guarantees – None made for fossil

Leveling the Playing Field

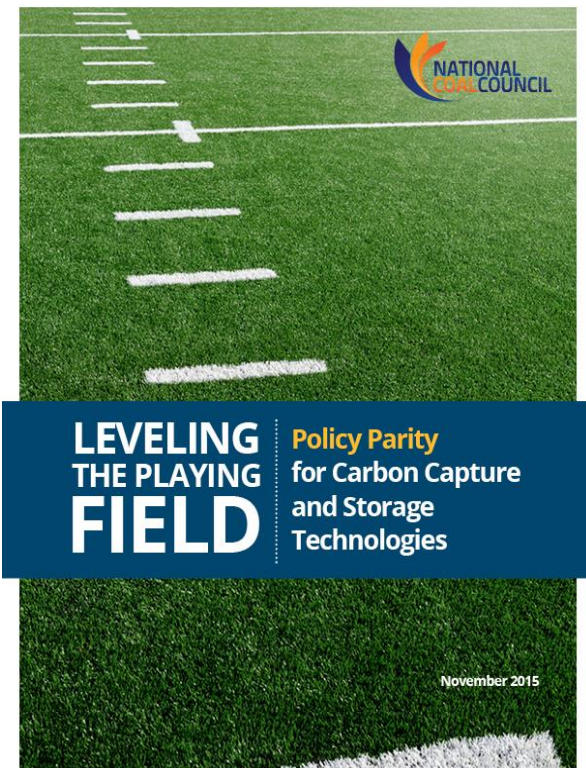
- **Recommendations**

- Financial incentives need to be substantially increased
- Streamline regulation, remove regulatory barriers
- Fully fund RD&D, get projects underway immediately
- “Vigorously explain reality”



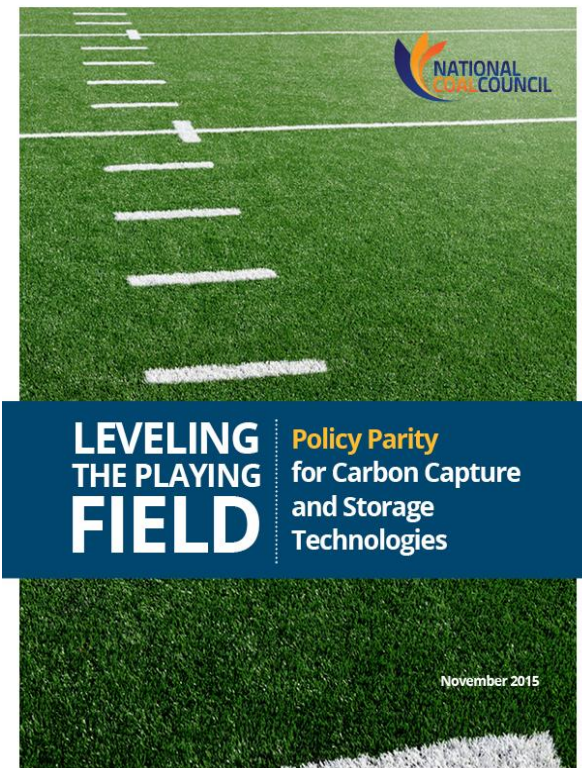
Leveling the Playing Field

- **Financial incentives**
 - Large menu of incentives
 - Tax incentives – PTC, ITC
 - Enhance 45Q credit
 - Private activity bonds
 - Increase DOE grants
 - Market set-aside (RPS)
 - Mandatory purchase (PURPA)
 - CFD structure: competitive contract with DOE to provide projects with CCS/CCUS



Leveling the Playing Field

- **Regulatory Barriers**
 - Establish a regulatory streamlining blueprint
 - Don't discriminate against CO₂ from "regulated" sources (Subpart RR issue)
 - Consider federal eminent domain authority for CO₂ pipelines – backstop authority



Other Policy Developments

- Other studies and reports
 - Global CCS Institute, Brookings Institute, Third Way
- Congress
 - Heitkamp and Manchin bills
 - S. 2089 – Cantwell, Reid, Durbin and Schumer
 - Portman/Bennet private activity bonds bill
 - Effort underway to revise 45Q tax credit in the omnibus spending bill

Heitkamp Bill – S. 601

- Heitkamp Bill
 - “Contract for differences” – variable price support for CCUS based on price of oil
 - 30% tax credit for sequestration costs
 - 25% of DOE loan guarantees to coal
 - Clean Energy Coal bonds (tax credits for sequestration and efficiency)
 - Revise DOE coal R&D programs
 - CCS risk management proposal

Legal Issues with 111(d) Rule

- Improper emission reduction assumptions
 - “Building blocks” assume unrealistic reductions
- Section 111/112 Issue
- Incentive Program
 - EPA has no authority to establish special incentives for construction of wind and solar in low-income communities

Legal Issues with 111(d) Rule

- “Outside the fence line” regulation
 - “best system of emission reduction . . . adequately demonstrated”
- Improper emission reduction assumptions
 - “Building blocks” assume unrealistic reductions
- EPACT '05 restriction
- Section 111/112 limitation -
 - EPA may only require standards of performance for an air pollutant “which is not . . . emitted from a source category which is regulated under [section 112] of this title.”

111(d) Rule Seeks to Exponentially Expand EPA's Role

- EPA becomes the supreme energy regulator
 - Dispatch order now becomes a function of environmental regulation, not energy regulation.
- EPA requires that State regulators order remedies they are not authorized to require
 - Environmental dispatch
 - Ordering purchase of renewables
 - Ordering use of third-party generation generally



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