

The Utility of the Future; Part 2: The Regulatory Response

## **RESEARCH AND DEVELOPMENT SPENDING AND INNOVATIVE COST-RECOVERY MECHANISMS**

# HISTORICAL VIEW

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## ✕ Pre-1973 Oil Embargo

- + Heavy build-out and the incremental marginal gains in efficiency improvements were significant
- + Declining cost environment

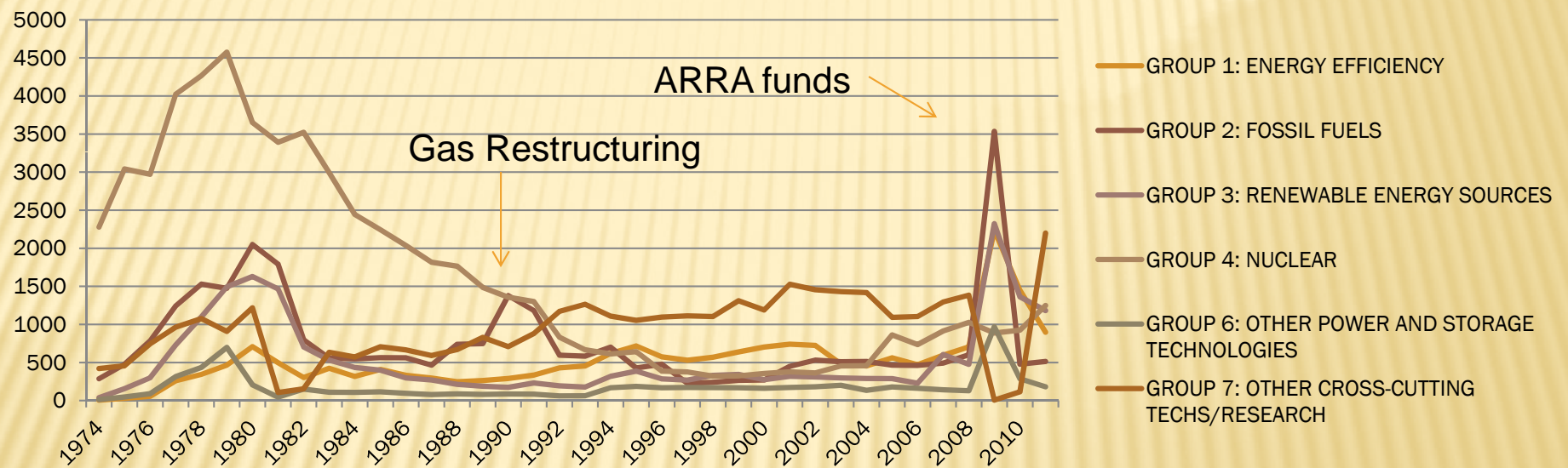
# HISTORICAL VIEW

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- ✕ Post-1973 Oil Embargo
  - + Environmental Requirements
  - + FERC Policies (wholesale power markets)
  - + Interest in Renewable Energy Sources
  - + Recession

# HISTORICAL VIEW

## ✕ Post-1973 Oil Embargo



\*Data from International Energy Association

# TYPICAL SPENDING

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- ✖ Natural Gas industry R&D funding down 78.6%\* after 1992 FERC Order 636 restructuring the Natural Gas Industry
  - + Order dropped mandatory funding to the Gas Research Institute through wholesale rates on transportation.
- ✖ Electric Industry funding of EPRI

\*Powering Progress: Restructuring, Competition and R&D in the U.S. Electric Utility Industry ; Paroma Sanyal and Linda R. Cohen; 2009, The Energy Journal

# UTILITIES NEED TO SPEND ON R&D?

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- ✗ R&D on efficiency programs counter-intuitive
  - + A business wanting customers to use less of its product?
  
- ✗ In non-restructured States, outside a R&D spending mandate, what's the point?
  - + Monopoly service with captured customers
  - + Justification and results oriented
  - + Political risk
  - + Statutory restrictions

## STATE COMMISSIONS NEED TO VIEW R&D AS AN ESSENTIAL MEANS OF MEETING STATUTORY OBLIGATIONS

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- ✗ Compliance with increasingly stringent EPA mandates
  - + Investments in new technology to keep generation available
- ✗ Increasing concern for resilience, reliability, quality and security
- ✗ Integration of intermittent resources, demand response, energy efficiency, distributed generation and other new technologies

# IDEAS

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- ✖ Should utilities be encouraged to participate in R&D spending?
  - + Public Interest/Political Environment
- ✖ How to encourage this spending – Innovative Cost Recovery
  - + Having utility partner with the customer and ‘split’ the savings... (lost revenue incentive for energy efficiency programs)

# IDEAS

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- ✖ Encourage utilities to try test or pilot programs
  - + Assure partial or full return of and on capital spent *without* assured outcomes
- ✖ Encourage rate-design that holds the utility harmless in the event of customer adoption of technology
  - + Northeaster REMC\* (flat access and facilities charge for net metering customers)
  - + Sur-charge on customers that opt-out of Smart Meters

\*Not under IURC Jurisdiction

## KEY QUESTION?

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- ✗ Should the utility be the one to conduct the R&D (cost-recovery mechanism) or simply be encouraged to not impede adoption of new technologies by customers (innovative rate design)?