The Role of State Policies and Utility Infrastructure Development

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Public Utility Research Center

Research

Expanding the body of knowledge in public utility regulation, market reform, and infrastructure operations (e.g. benchmarking studies of Peru, Uganda, Brazil and Central America)

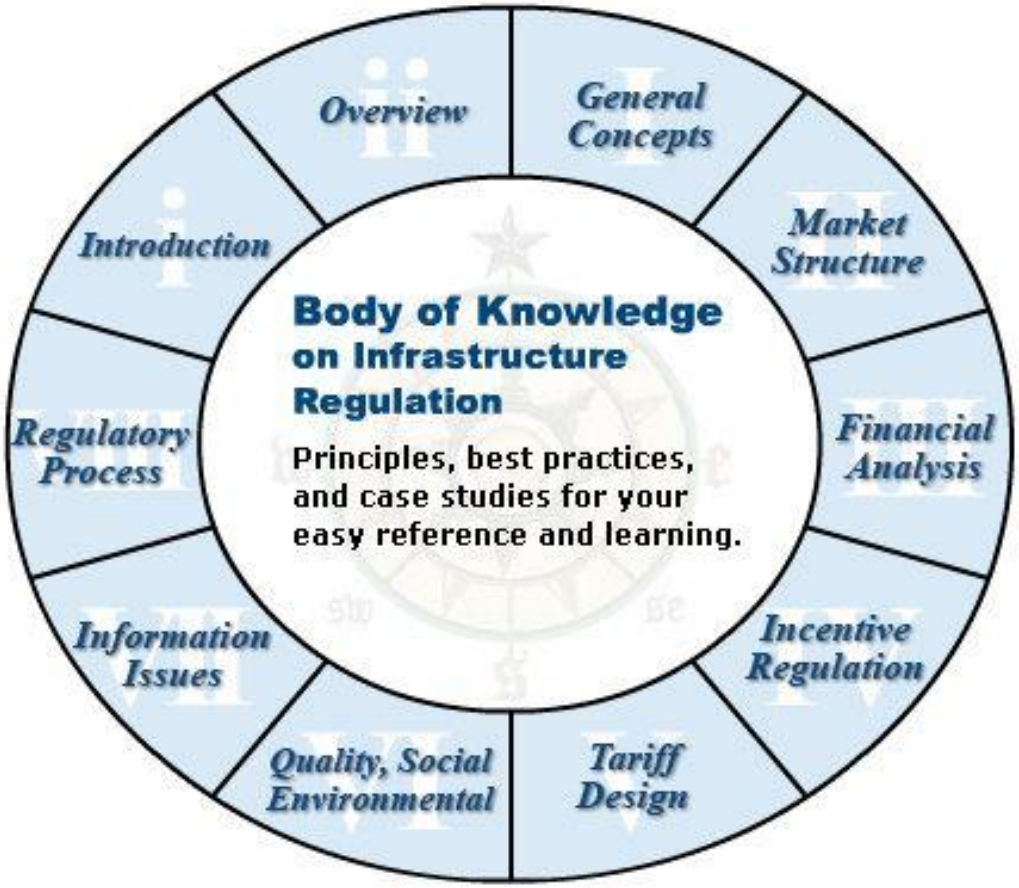
Education

Teaching the principles and practices that support effective utility policy and regulation (e.g. PURC/World Bank International Training Program on Utility Regulation and Strategy offered each January and June)

Service

Engaging in outreach activities that provide ongoing professional development and promote improved regulatory policy and infrastructure management (e.g. in-country training and university collaborations)

The Body of Knowledge on Infrastructure Regulation



Acknowledgement

This presentation is based on a forthcoming paper in the *Bulletin of Atomic Scientists* with Dr. Lynne Holt of the PURC

"We may not need any, ever"

–FERC Chairman Jon Wellinghoff speaking about nuclear and coal power plants on April 22, 2009

Summary

- The Brief, Happy, (and not so Happy) History of Nuclear Power
- Challenges in Capital Markets
- Florida's Energy Market
- Federal and State Policies to Promote Investment
- Challenges and Opportunities in Policy Implementation

Obninsk 1954

“The China Syndrome” 1979

Source: IPC Pictures

Three Mile Island 1979

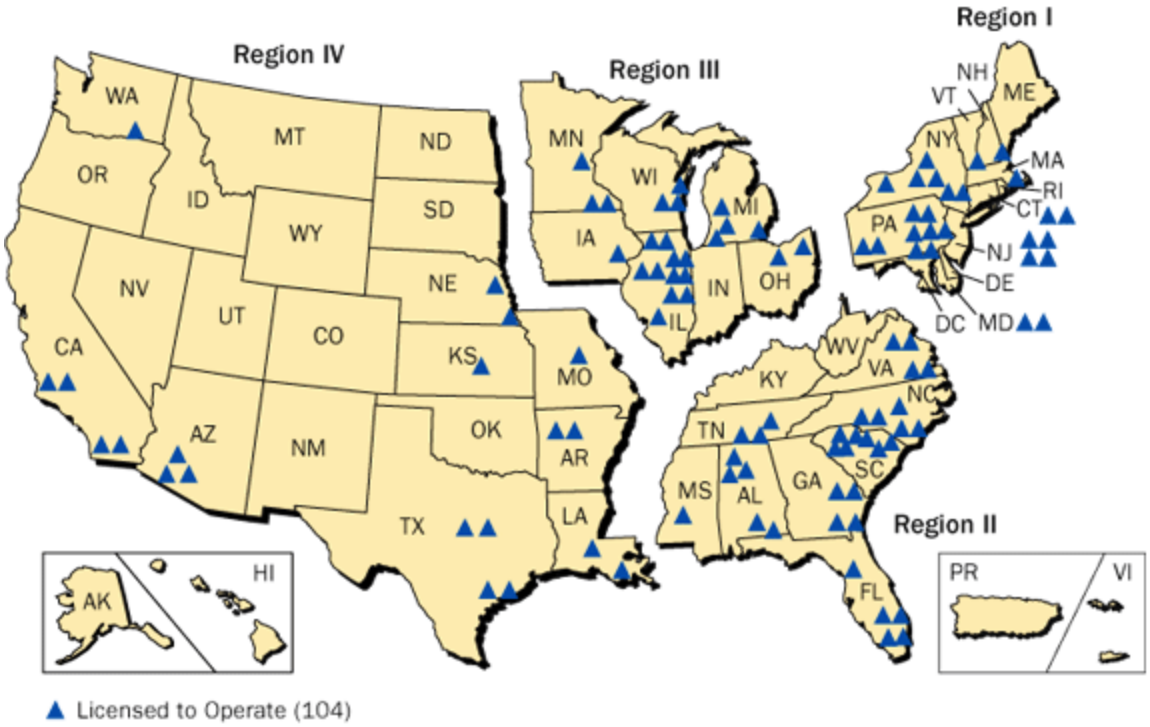
Source: York Daily News

Chernobyl 1986

Seabrook Nuclear Station

Source: AP Photo – Jim Cole

Operating Reactors in the U.S.



Source: Nuclear Regulatory Commission

Utility Challenges

- Status of environmental legislation
- Potential (sizable) need for infrastructure investment
  - Generating units
  - Transmission to bring renewable resources to grid
- Recession increases business risks
- Access to capital markets
- Opportunities to issue equity

Capital Markets Today

- Commercial paper markets are thin – utilities facing expiring credit facilities are at the greatest risk if markets do not improve
- Fewer participants in the financial markets decreases liquidity
- Utilities may have to find alternate sources of liquidity
- Utilities with credit facilities through 2011 or 2012 are in the best position to weather capital market uncertainty

Capital Markets Outlook

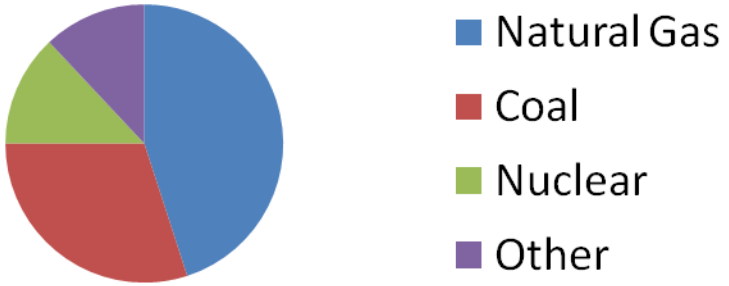
- Average tenors will probably decrease
- Smaller credit facilities
- More restrictive financial covenants could increase costs
- Wider bid/ask spreads
- Credit pricing may be tied to volatile indices
- Expect more secured financing

Utility Consequences

- Lower demand may lead to lower revenues to cover fixed costs
- Lower demand may weaken liquidity or debt service coverage ratios
- More uncertainty in capital markets leads to higher costs
- Local government budget pressures may increase financial burden on municipal utilities (more general fund transfers)

Florida's Electricity Market

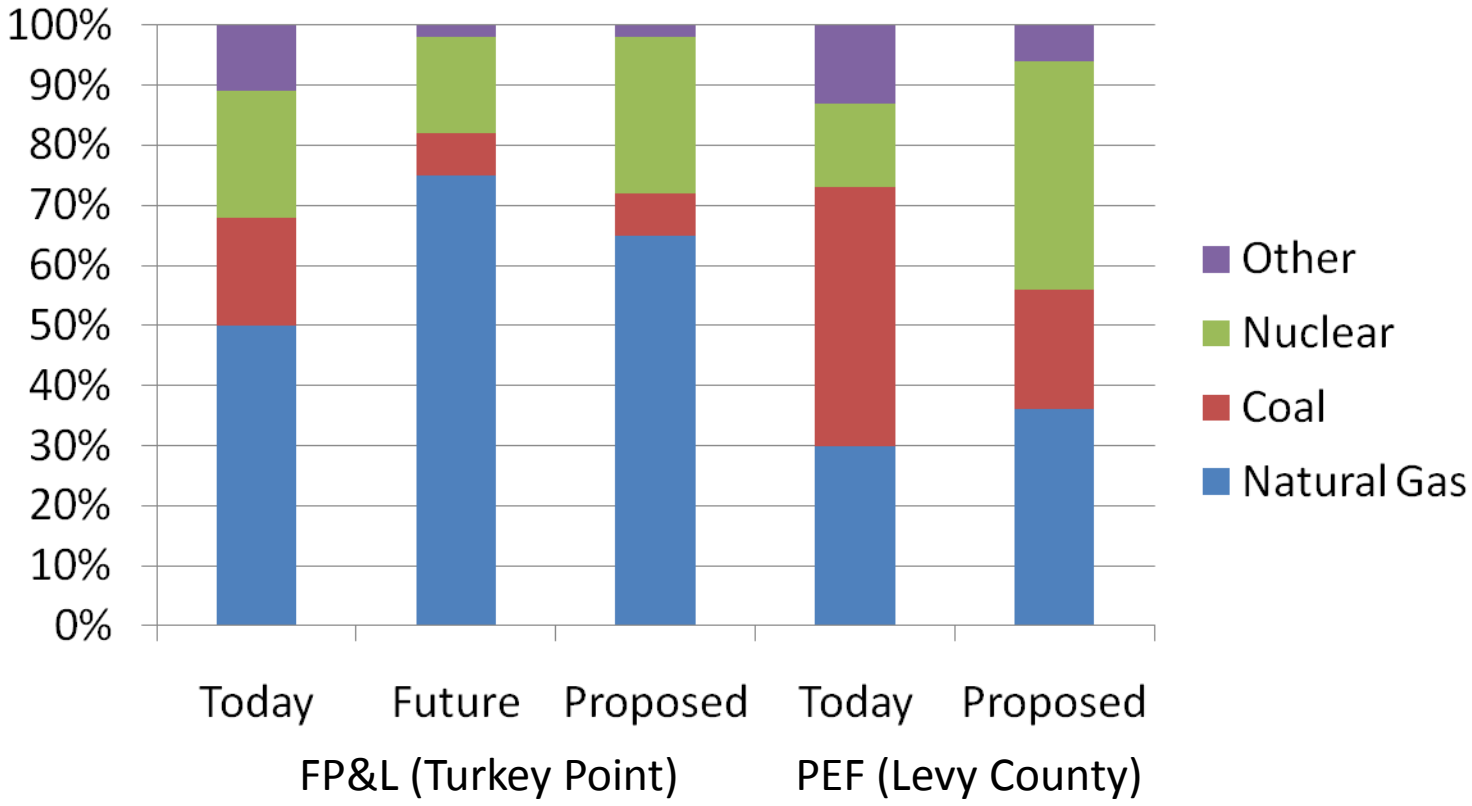
- From 2000 through 2006…
  - Florida's population increased by almost 400,000 people each year
  - Electricity demand grew over 18%
- 2007 to 2008 growth less than 1% (127,000)
- 2008 to 2009 may be negative (first time since WWII), but current forecasts flat
- 2007 Fuel Mix



Florida Executive Orders

- Executive orders issued by Governor Charlie Crist on July 13, 2007
- 07-126: Reduce greenhouse gas emissions from state government 10% by 2012, 25% by 2017, 40% by 2025
- 07-127: Reduce greenhouse gas emissions from state of Florida to 2000 levels by 2017, 1990 levels by 2025, and 20% of 1990 levels by 2050
- 07-128: Establish Florida Governor's Action Team on Energy and Climate Change to develop a comprehensive Energy and Climate Change Action Plan

Florida's Fuel Mix – Present and Future



Uncertainty in Nuclear Plant Construction

- Average construction time of 9.3 years
- FP&L estimates $12-$18B for 2200 MW of new capacity at Turkey Point
- Market capitalization of FPL *Group* is ~$22B
- Progress Energy estimates $14B for 2200 MW of new capacity at Levy County
- Market capitalization of Progress Energy (including Carolinas) is ~$10B

EPAct 2005

- Providing that a nuclear project meets certain development and construction goals, it may be eligible for:
  - Risk insurance to cover certain construction delays
  - Loan guarantee program (already $122B in requests for $18.5B in funding)
  - Production tax credits of 1.8 ¢/kWh for the first 8 years of the plant's operation

Components of the ARRA

- $3.4B Fossil Energy R&D
- $6.0B Innovative Technology Loans
  - Renewable energy systems
  - Advanced fossil energy technology
  - Hydrogen fuel cell technology
  - Advanced nuclear energy facilities
  - Carbon capture and sequestration
  - Efficient electrical generation, transmission, and distribution systems
  - End-use technologies
  - Production of fuel efficient vehicles
  - Pollution control equipment
  - Refineries

Florida Statutes and Cost Recovery

- F.S. 366.93 – Cost Recovery for Nuclear and IGCC Power Plants
  - Utility may petition for accelerated recovery of certain costs once a determination of need is made
  - Recovery of siting, preconstruction, and construction costs associated with plants or transmission lines required by plants
  - Prudent costs are recovered even if plant is abandoned later (regardless of why)
- F.S. 403.519 – Determination of Need Proceeding
  - Reduce Florida's dependence on fuel oil and natural gas
  - Reduce air emission compliance costs

Accelerated Cost Recovery

- Not widely seen as a "customer-friendly" policy
- Essentially a question of "You can pay me now, or you can pay me later"
- $400 million in expenses deferred for 10 years at a weighted average cost of capital of 10% grows to $1 billion once recovery begins
- So do you pay $400 million now, or $1 billion in 10 years?
- Utility capital is available to make additional investments

Regulatory Uncertainty

- Transparent and consistent regulatory framework helps utilities make decisions
- Kansas Corporation Commission's Wolf Creek decision (1985)
  - Total plant cost of $2.9B
  - $1.5B disallowed for excess capacity
  - $256M disallowed for imprudence
  - $411M disallowed for economic value
  - Some costs subsequently allowed
- Florida, Kansas, and Iowa, for example, have adopted predetermined ratemaking principles

Credit Agency Outlooks

Company	S&P	Moody's	Fitch
Florida Power & Light Co	A	A1	A
Georgia Power Co	A	A2	A
Alabama Power Co	A	A2	A
Duke Energy Carolinas, LLC	A-	A3	n/a
South Carolina Electric & Gas Co	A-	A3	A-
Virginia Electric & Power Co	A-	Baa1	BBB+
Northern States Power Co	BBB+	A3	A-
Progress Energy Carolinas Inc	BBB+	A3	A-
Progress Energy Florida Inc	BBB+	A3	A-
Pacific Gas & Electric Co	BBB+	A3	A-
Southern California Edison Co	BBB+	A3	A-
Detroit Edison Co	BBB	Baa1	BBB
Entergy Arkansas Inc	BBB	Baa2	BBB-
Entergy Gulf States Inc	BBB	Ba3	BB+
Entergy Louisiana Inc	BBB	Baa2	BBB-
Indiana Michigan Power Co	BBB	Baa2	BBB-
Exelon Generation Co LLC	BBB	A3	BBB+
Arizona Public Service Co	BBB-	Baa2	BBB-
Consumers Energy Co	BBB-	Baa2	BBB-
Union Electric Co	BBB-	Baa2	A-

Importance of Capital Market Access

- Uncertainty costs money
- Lower costs of borrowing flow through to ratepayers or shareholders
- Higher credit ratings reduce overall weighted average cost of capital applied to utility's rate base
- Access to long term funds helps the utility meet future infrastructure needs
- Access to short term funds can mitigate fuel price volatility and rate shocks

Ratemaking Standards

- "Used and Useful" Standard
  - Often applied in hindsight
  - Utility and shareholders are at risk if the investment decision is deemed imprudent
  - Customers pay for uncertainty through higher capital costs
- Prudent Investment Standard
  - If the decision is judged prudent at the time it is made, cost recovery is granted
  - Customers assume downside risk of non-performing asset

Risks of Accelerated Cost Recovery

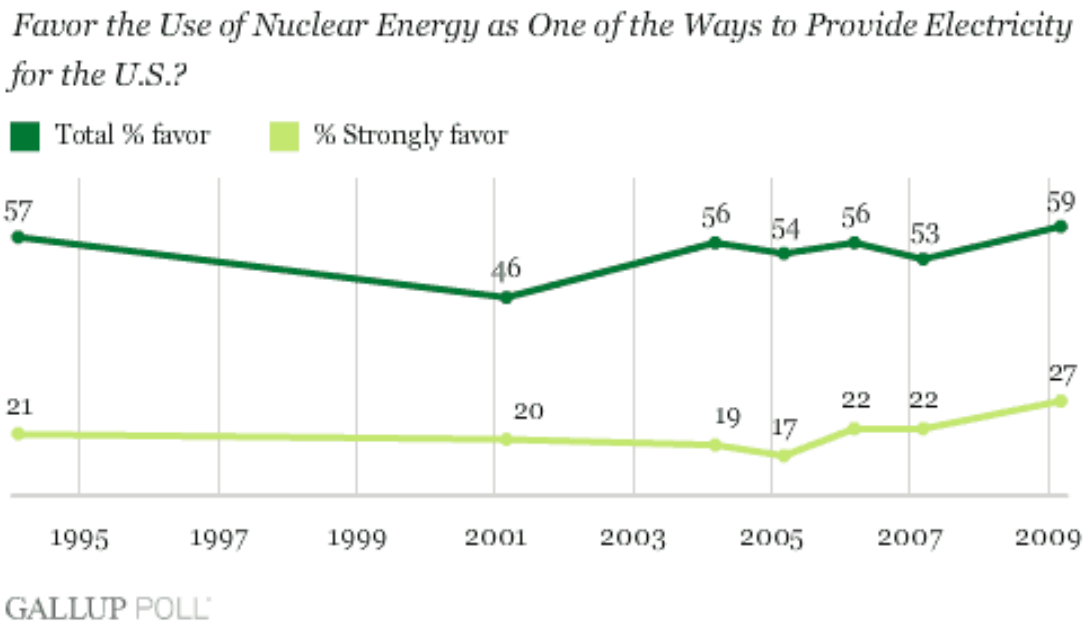
- Plant does not have to become "used and useful" for cost recovery to begin
- Determination of need and cost prudency procedures become even more important to protect ratepayers
- Note that Florida statutes made the question of "used and useful" moot

Scope of State Policies

- Policies similar to Florida's have been enacted or are planned for
  - North Carolina
  - South Carolina
  - Mississippi
  - Georgia
- Nuclear plants in these states have been proposed, but the policies have not yet been implemented
- AmerenUE announced the cancellation of Callaway 2 in April when the Missouri state legislature failed to pass an accelerated cost recovery measure

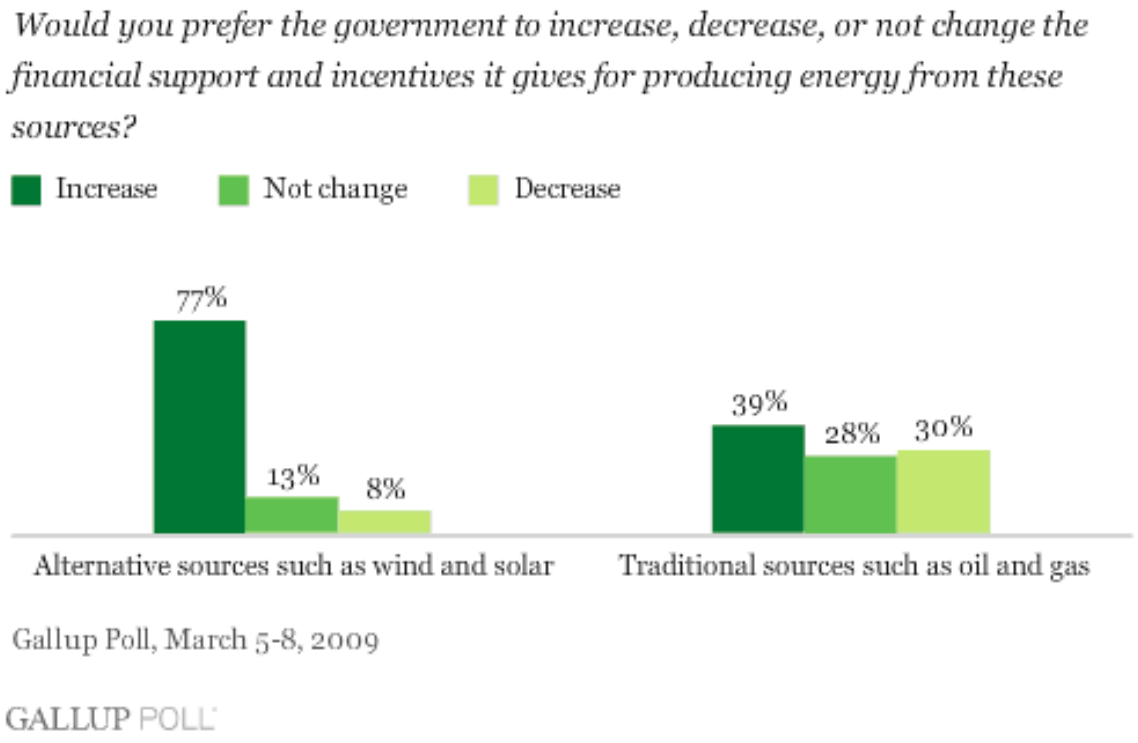
Changing Public Attitudes

- March 20 Gallup Poll showed approval for nuclear power at an all-time high



Public Attitudes in Development

- Promotion of new sources of energy



Challenges of Implementation

- On January 1, 2009 Progress Energy Florida tried to implement a 24% rate increase on residential bills of 1000 kWh
  - 13% related to fuel costs
  - 11% related to nuclear cost recovery
- Public outcry over increase resulted in legislative intimations to repeal the statute that authorized the accelerated cost recovery
- Progress delayed rate increase until 2010

Conclusion

- Utilities face pressures in capital markets and need to find alternate sources of liquidity
- Infrastructure investments require huge capital outlays
- Government policies can decrease the costs associated with securing capital, and these savings can be reflected in rates

Conclusion

- Government policies can necessitate additional safeguards
- Who pays and when to pay are critical questions, but all costs are ultimately borne by customers, shareholders, and employees

Thank You

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