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Protecting the Midwest's Environment and Natural Heritage

# **Electric Power Law and Policy: Impacts on Water Resources**

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# Overview - Key Developments and Trends



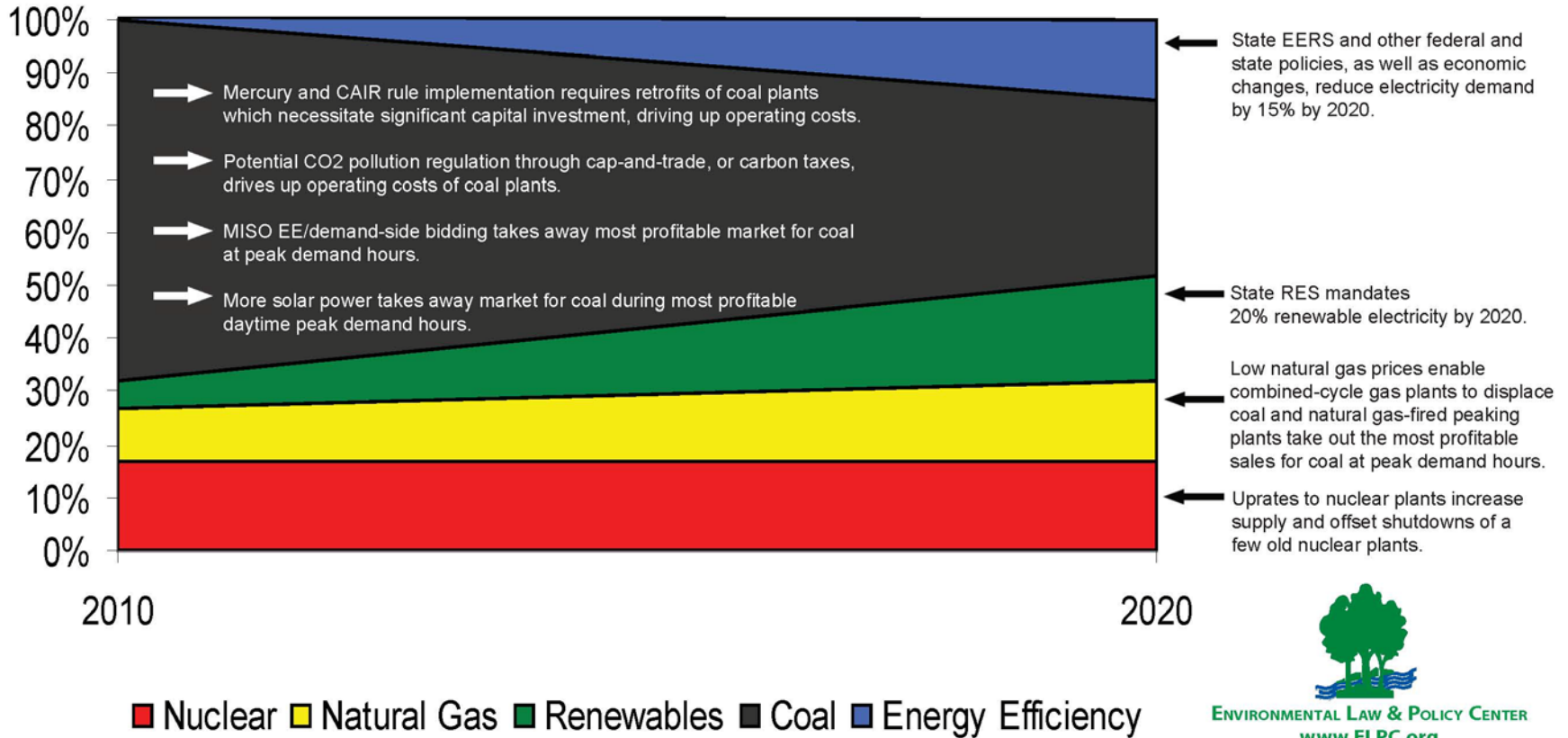
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- **State:**
  - Growth of Renewable Energy and Energy Efficiency standards in last 10 years.
  - Some states “restructured” electricity markets to encourage competition but lost ability to factor water impacts into energy acquisition decisions.
- **Federal:**
  - Federal Energy Regulatory Commission (FERC) more assertively promotes regional electric system planning, integration of efficiency and renewables into the grid.
  - Recent US EPA air and water standards will reduce coal power plant use – but much capacity will remain.

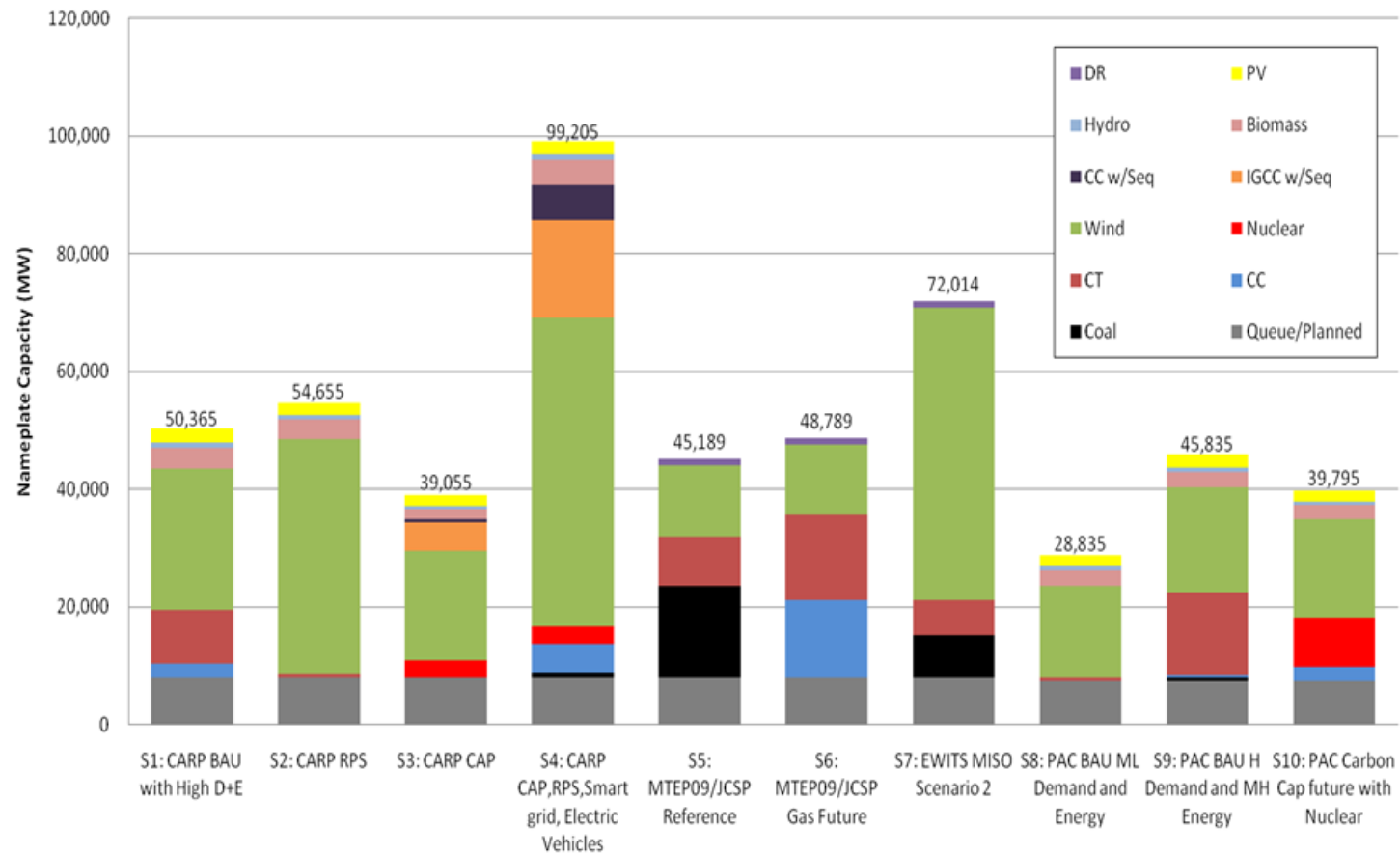
# New Policies and Low Natural Gas Prices Influence Resource Mix



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# Different Energy Futures Will Have Different Water Impacts



# Major Federal Drivers and Gaps

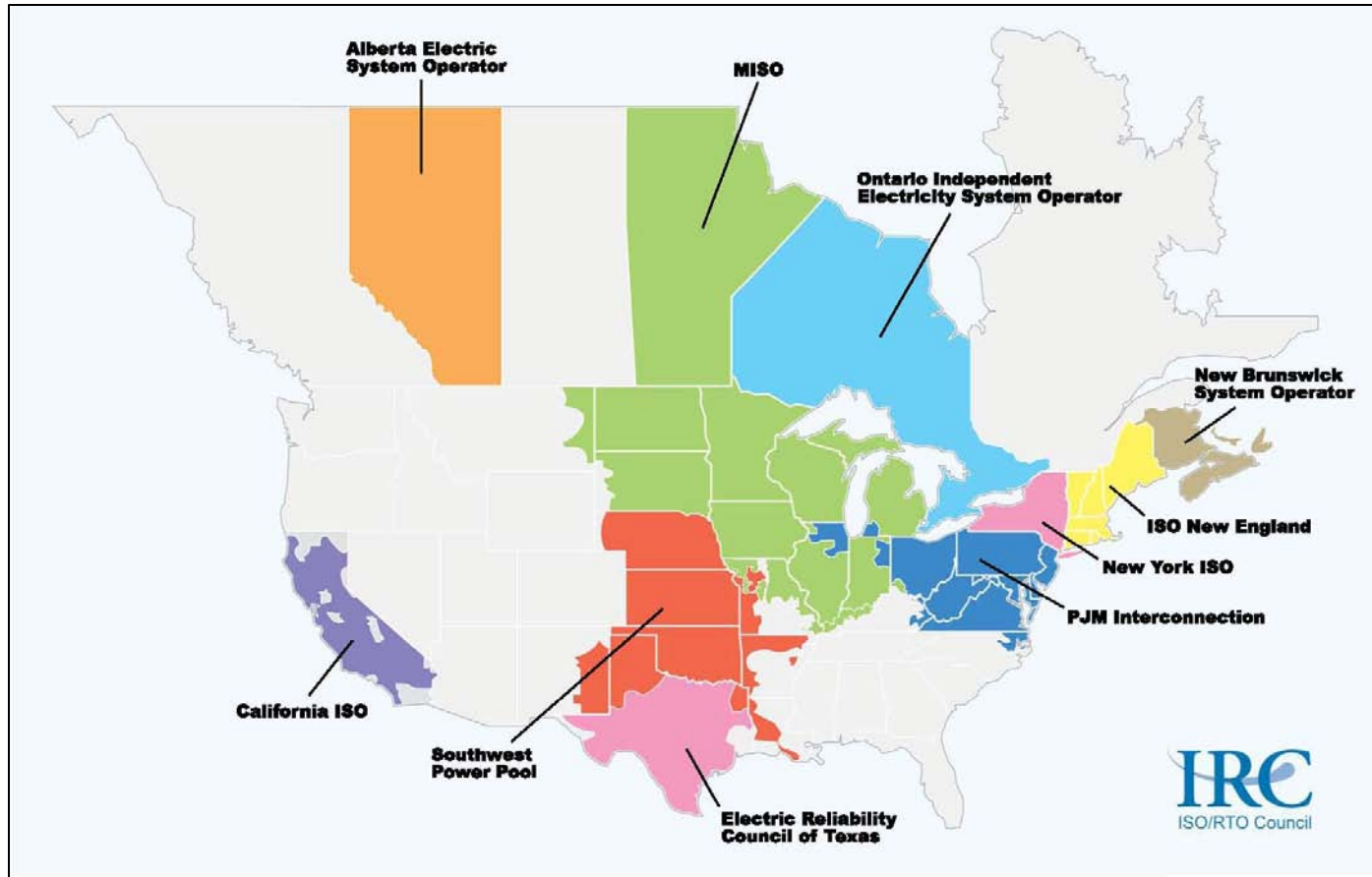


- Federal Energy Regulatory Commission
  - Flexing regulatory muscle to promote more competition, more holistic regional planning, regional cost allocation of lines.
  - Order 1000 (July 2011): important ruling – requires all utilities and regional transmission organizations to conduct transparent, comprehensive planning processes; cost allocation.
- Regional Transmission Organizations (RTOs)
  - Stakeholder-driven planning, markets and reliability organizations; FERC-regulated.
  - *Could be a useful regional forum for analyzing and predicting long-term environmental consequences of power generation.*

# Regional Transmission Organizations



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# Opportunities – Federal



- **Education:**
  - FERC Commissioners and electric policy staff – useful to help them understand the environmental impacts of new FERC rules and oversight of RTOs.
  - RTO staff and stakeholders – need to be able to quantify the water impacts of different generation futures.
- **Data:** Ask RTOs to estimate water use and consumption and pollution impacts on water resources.
  - RTOs (and utilities) include air emissions in their long-term planning forecasts – similar estimates should occur for water impacts (good opportunities at PJM and MISO).
  - Lifecycle estimates/factors also desirable to develop (EIPC stakeholder process does not currently include them).

# Opportunities – Federal



- Energy Information Administration also could provide more detailed data.
- **Planning and Operations:**
  - FERC Order 1000 authorizes RTOs to engage in system planning that takes into account all relevant public policies and laws authorized by state legislatures. After sufficient education, RTOs should be able to account for and minimize water impacts in the planning process (assuming that such goals are in public laws and policies).
  - RTOs and utilities should incorporate low-water sensitivity analyses into long-term planning.
  - Include “indirect” water use impacts in transmission line NEPA analyses where they occur.



# Major State Drivers



- Electric Industry Restructuring (Illinois, Ohio, Michigan, New York, Pennsylvania).
- Renewable Energy Standards/Energy Efficiency Standards.
- Integrated Resource Planning.

# Gaps



- General lack of opportunity for state utility commissions to consult early in planning process with state environmental agencies in energy planning.
- State utility commissions should give greater consideration of water resource impacts through both existing and new statutory authorizations. State environmental agencies can assist the utility commissions with this.

# Opportunities – State



- **Education**: Sensitize policy makers to the issues and promote more coordination.
  - Develop Phase I state-specific reports for utility commissioners; present Phase I report summaries at NARUC/MARC conferences and Midwest Governors Association.
  - Convene joint meetings of state environmental, natural resources and utility commission staff to report on Commission findings.
- **Laws**: Reward power generation with least life cycle water impacts; require coordination amongst different agencies.
  - Require consideration of water and other environmental impacts in generation siting (e.g., Minnesota’s “environmental externalities” law). (NY had similar law that became a victim of restructuring.
  - Include ecosystem services costs in electricity pricing – see forthcoming ECONorthwest policy paper for NGO caucus in EIPC.

# Opportunities – State



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- **Laws (continued):**
  - Annual accounting of energy-related water use and consumption from power plants.
  - Incorporate water impacts into integrated resource planning – include low-water impact generation as part of a balanced portfolio.