10th Amendment States' Rights
Environmentalism and Regulatory Uncertainty –
What Really Happens When Some States and
Polluting Industries Actually Get What They Asked For

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ELPC drives policies that shift markets and help align economics, which in combination with technological innovations, can achieve powerful environmental solutions.
“You Can’t Always Get What You Want, But……”


2. Sebelius (Affordable Care Act case) puts Congress’ powers to legislate under the Commerce Clause at lower point since Lochner. Creates more room for states. Dormant Commerce Clause is other side of the coin.
“You Can’t Always Get What You Want”… And There’s More!

3. Federal Preemption is limited by the 10th Amendment. *FERC v. Mississippi* probably would be decided differently today in light of *SWANCC*, *Lopez*, *Morrison*, *Sebelius*. “Traditional areas of state regulation”: Land use, Utility regulation, traffic safety (AV policies?)

THREE GAME CHANGING ELECTRICITY MARKET DRIVERS

1. Energy Efficiency Is Driving Down Electricity Sales and Demand.
Cleaning Up the Midwest’s Electricity Sector: Developing Clean Energy and Reducing CO₂ Pollution

- Federal MATS and CSAPR standards and state mercury and clean air standards require retrofits of coal plants, which necessitate significant capital investments.
- CO₂ pollution reduction through Clean Air Act standards, Congressional legislation or carbon taxes drives up operating costs of coal plants.
- PJM and MISO EE/Demand Response programs alleviate peak pricing pressures, reducing most profitable market sales for coal plants at peak demand times.
- Expanded solar PV installations alleviate peak pricing pressures, reducing most profitable market for coal plants at peak demand times.
- State EERS, other federal and state policies, and technological advances in lighting and equipment reduce electricity demand by 15% by 2020.
- State RES and other policies support ramp up to 20% renewable electricity supply by 2020.
- Low natural gas prices result in combined-cycle gas plants displacing coal plants, and natural gas-fired peaking plants take out the most profitable market sales for coal plants at peak demand times.
- Upgrades to nuclear plants increase supply and offset shutdowns of a few old nuclear plants.

2010
2020

Nuclear  Natural Gas  Renewables  Coal  Energy Efficiency
ELECTRICITY SALES AND DEMAND ARE DECLINING DUE TO EFFICIENCY

Negative 0.5 - 1.0% annual is new reality (e.g., AEP, ComEd, DTE, Xcel) even though economy growing and utilities are adding new customers. Flat/declining sales reality has not been internalized by PUCs, policymakers, analysts, others.

Energy efficiency is working. All new and replacement lighting, appliances, HVAC, pumps, motors more EE.

PJM now forecasts flat load growth through 2032. Still too high. Saying negative would be totally disruptive.

LEDs, Solar + Storage coming in will reduce utilities’ sales. Greatly offsets EVs – even with off-peak charging.
## Total U.S. LED Forecast Results

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>Cumulative</th>
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</thead>
<tbody>
<tr>
<td>LED Market Share</td>
<td>11%</td>
<td>48%</td>
<td>72%</td>
<td>84%</td>
<td>-</td>
</tr>
<tr>
<td>Site Electricity Savings (TWH)</td>
<td>12</td>
<td>89</td>
<td>190</td>
<td>261</td>
<td>2216</td>
</tr>
<tr>
<td>Site Electricity Savings (%)</td>
<td>2%</td>
<td>15%</td>
<td>30%</td>
<td>40%</td>
<td>20%</td>
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</tbody>
</table>

## LED Market Penetration Forecast by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
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</thead>
<tbody>
<tr>
<td>Residential</td>
<td>3%</td>
<td>33%</td>
<td>71%</td>
<td>83%</td>
</tr>
<tr>
<td>Commercial</td>
<td>8%</td>
<td>42%</td>
<td>69%</td>
<td>82%</td>
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MIDWEST WIND POWER DEVELOPMENT SOARS AND MORE

Repowering the Midwest: Wind Power Soars

ELPC’s “Repowering the Midwest” and “Job Jolt” plans published.

Generating Capacity, Megawatts

- Data includes IL, IN, IA, KS, MI, MN, NE, ND, OH, SD, and WI
- * Includes all projects that are currently under construction
U.S. SOLAR ENERGY DEVELOPMENT SOARS

Figure 1.1 Annual U.S. Solar PV Installations, 2000-2016
SOLAR PANEL PRICES < 40 ¢ per watt
INSTALLED BIDS < (US) $1 per watt

Multicrystalline PV Module:
Global Average Price 2007-2016
MYTH #1: COAL WILL STILL RUN & MUCH IS NEEDED

NOT TRUE (unless natural gas prices soar)
50% of coal shut down already in Midwest. Much of the rest is on the bubble.
MISO auction price drops ($1.50/MW-day across footprint) even though coal plants have retired. PJM: no load growth thru 2032.
Energy efficiency is working. LEDs, Solar + Energy Storage coming in.
Supply greatly exceeds demand in the power market. Economics 101.
MYTH #2: ALL NUCLEAR POWER PLANTS ARE NEEDED AND ECONOMICALLY COMPETITIVE

NOT TRUE (unless even newer technology emerges that is economic, and there is an HLW solution)

Vogtle (GA) and VC Summer (SC), the first new nuclear plants built since 1979, are financial disasters. Westinghouse is in bankruptcy; Toshiba now verging.

Existing nuclear plants: some are economic, some are not. Market is shaking out with some early retirements.

Because some nuclear plants are economically uncompetitive, the plant owners are seeking huge out-of-market public subsidies in CT, IL, NJ, NY, OH, PA.

Night-time wind & day-time solar + storage beat and eat most nuclear power plants for lunch and dinner.
MYTH #3: CLEAN POWER PLAN IS VITAL FOR GHG POLLUTION REDUCTION IN UNITED STATES

NOT TRUE. CPP important, but not market driver
Most Midwest states largely complied with 2030 carbon pollution reduction requirements by the end of 2016. 14 years ahead!
Around 30 states in that position.
Goal: Protect endangerment finding and make EPA do a better plan if ditches CPP.
Clean Power Plan is very important for United States credibility in advancing global progress.
The Environmental Law & Policy Center is the Midwest’s leading environmental legal advocacy and eco-business innovation organization.

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