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Linking Ends and Means in Energy & Environmental Policy:
Intended and Unintended Consequences

(And Assorted Observations that Reveal Why I'm in Boston Rather than D.C.)

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May 28, 2009
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Cambridge, MA

Context: Our panel's (impossible) assignment

Linking Regulatory Means and Environmental Ends: Intended and Unintended Consequences

The turn towards a green energy revolution provides an uncommon opportunity to avoid a common mistake. "To forget one's purpose is the commonest form of stupidity." (Nietzsche) The source of a market failure, structure of an externality, or statement of a goal should affect the design of an intervention. A little reflection on the experience with the Fuel Use Act of 1978 should provide humility in mandating an answer (prohibiting use of natural gas) rather than targeting a market failure (the structure of natural gas price regulation). New opportunities abound for better policies. If GHG emission control is inexpensive, then a low safety valve could be appropriate as a risk reduction mechanism. If market penetration by a new technology produces large learning benefits, then initial subsidies should be both large and quickly disappearing. If there are multiple objectives, then there may be a need for multiple instruments. What is the right way to frame the connection between the diagnosis and prescription? How can we target diseases rather than symptoms? Faced with uncertainty, how can regulations, incentives, and subsidies best stimulate innovation? How can internalizing externalities balance competing agendas and diverse preferences?

Summing up –

1. **Energy policy 101 – a short history**
2. **Public policy 101 – a conceptual framework, with respects paid to "The Public Interest"**
3. **Energy politics: "Everything's local"**
4. **Policy cycles: why it's hard to ever get it "right"**
5. **Final Observations**

Duct tape glasses – a useful lens for observing the development of policy

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"The tendency of bureaucracy is to find purpose in whatever it is doing." John Kenneth Galbraith

"What's good economics is bad

"History does not move in a straight line, but by zigzags." Vladimir Lenin

Actually, a government bureau is the nearest thing to eternal life we'll ever see on this earth." Ronald Reagan

1.
2.
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6.
7. Baer, "Baer's Quartet." In Paul Dickson, comp., *The Official Rules*, p. 27, 1978
8. Lenin (1870-1924), In Raymond Garthoff, *How Russia Makes War: Soviet Military Doctrine*, 10, 1954.

#1 –
Energy policy 101 –
A brief history

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"National Energy Policy" – A quilt without a grand design

Shifting rationales for the role of government in energy policy:

- **Energy policy as strategic investment**
- **Energy as a lever of social change**
- **Energy policy as protection against market power**
- **Policy to address external effects of energy production, use**
- **Energy policy as an enabler of markets**
- **Energy as means to protect our (economic, national) security**

E.g., "Atoms for Peace," TVA & BPA

More recently: EPACT §XVII Loan Guarantees, ARRA transmission funding

E.g., rural electrification in the New Deal.

More recently: EPACT Indian Energy Title V

E.g., Trust busting, utility regulation, price controls, SPR reaction to OPEC

More recently: CAFÉ, biofuels

E.g., Clean Air & Water Acts

More recently: bills to cap CO2 emissions

E.g., natural gas deregulation, IEA/OPEC, electric industry restructuring for competition

More recently: EISA market manipulation provisions

E.g., limitations on imports of sugar cane ethanol

More recently: competitiveness provisions in climate bills

"National Energy Policy": A quilt without a grand design

- Policy is not so much about making markets work better.
- "National Energy Policy" is the result of a very sticky web of discrete laws, regulations, programs, and so forth, with each new layer one folded on top of the others over time
- It's hard to find a unified theory to explain what underpins energy policy.

#2 –
Public policy 101 –
a brief conceptual framework

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Typology of public policies (with thanks to T. Lowi, Wilson, Schlozmann & Tierney)

Policy type	Characteristics of the policy	Characteristics of the arena	Examples	Energy example

"Anchor points on a continuum, rather than completely discrete categories"

Defining "The Public Interest" – Theory and Practice

- The public's "common well-being" or "general welfare"
- A fundamental concern of the management of government
- Certain economic activities are "imbued with the public interest" – providing vital goods or services.
  - But the definition of what is vital may change over time with changing conditions
- "The public interest" is revealed through actions of agency decision makers as they apply the concept in decisions involving real actors and constellations of interests.
- There is little, if any, consensus on what exactly constitutes the public interest.

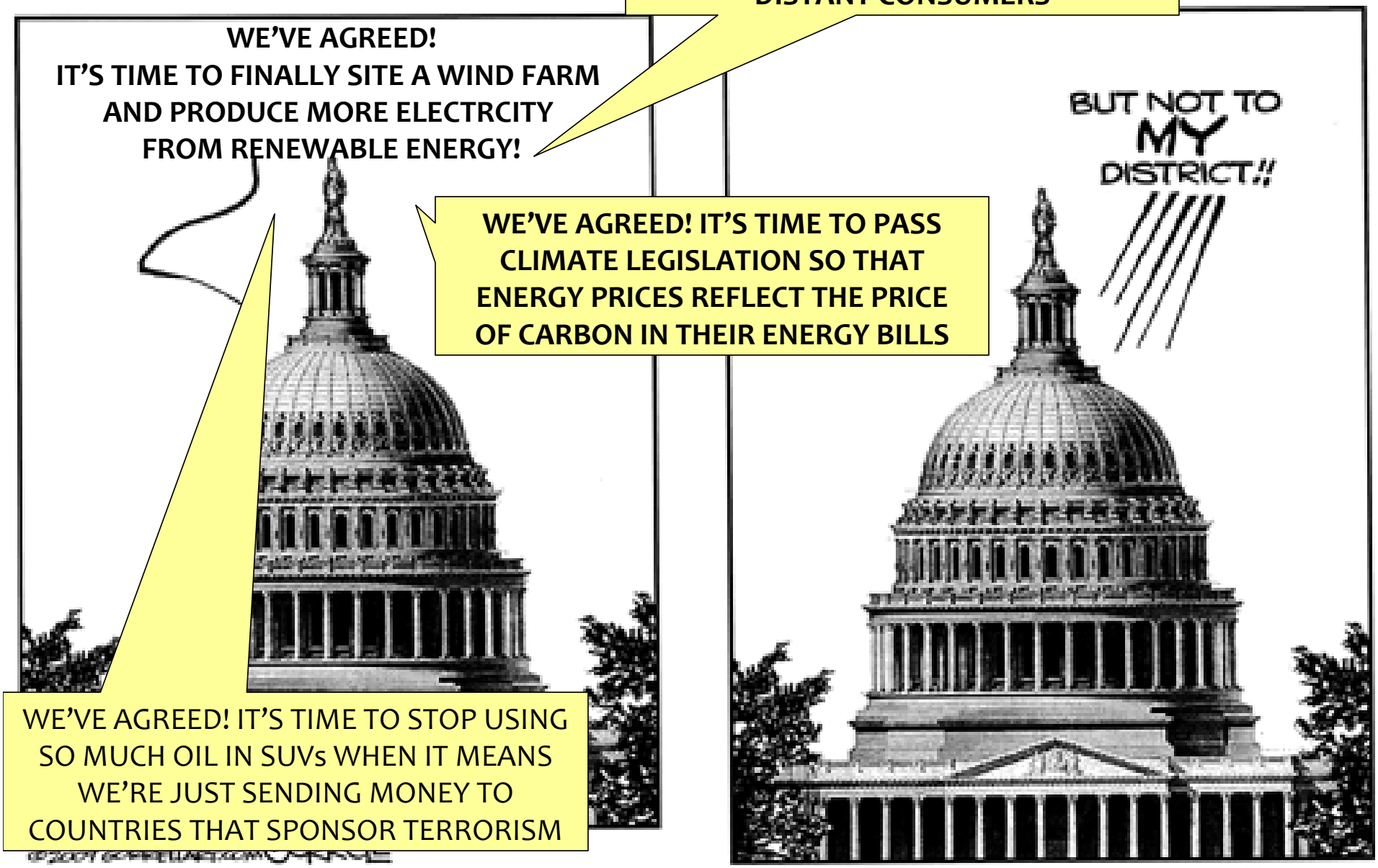
It is either wisdom or the collective convenience that causes policy makers to revert to this language in order to reach agreements on statutes

#3 – Energy politics: "Everything's local"

Domestic energy politics and politics: Highly geopolitical, highly local

- Regional disparities in natural resources, energy demand, environmental attitudes, labor attitudes, etc.
- Differences often reflected in energy politics – e.g.,
  - Producer states v. consumer states
  - Low-cost v. high-cost states
  - "Green states" v. "brown states"
  - Rural v. urban

Less often purely ideological in a sustained way (e.g., pro-market in a way that trumps other values)


WE'VE AGREED! IT'S TIME TO FINALLY ADD MORE POWER LINES TO BRING WIND POWER FROM THE PLAINS TO DISTANT CONSUMERS
WE'VE AGREED! IT'S TIME TO FINALLY SITE A WIND FARM AND PRODUCE MORE ELECTRCITY FROM RENEWABLE ENERGY!
BUT NOT TO MY DISTRICT!!
WE'VE AGREED! IT'S TIME TO PASS CLIMATE LEGISLATION SO THAT ENERGY PRICES REFLECT THE PRICE OF CARBON IN THEIR ENERGY BILLS
WE'VE AGREED! IT'S TIME TO STOP USING SO MUCH OIL IN SUVs WHEN IT MEANS WE'RE JUST SENDING MONEY TO COUNTRIES THAT SPONSOR TERRORISM

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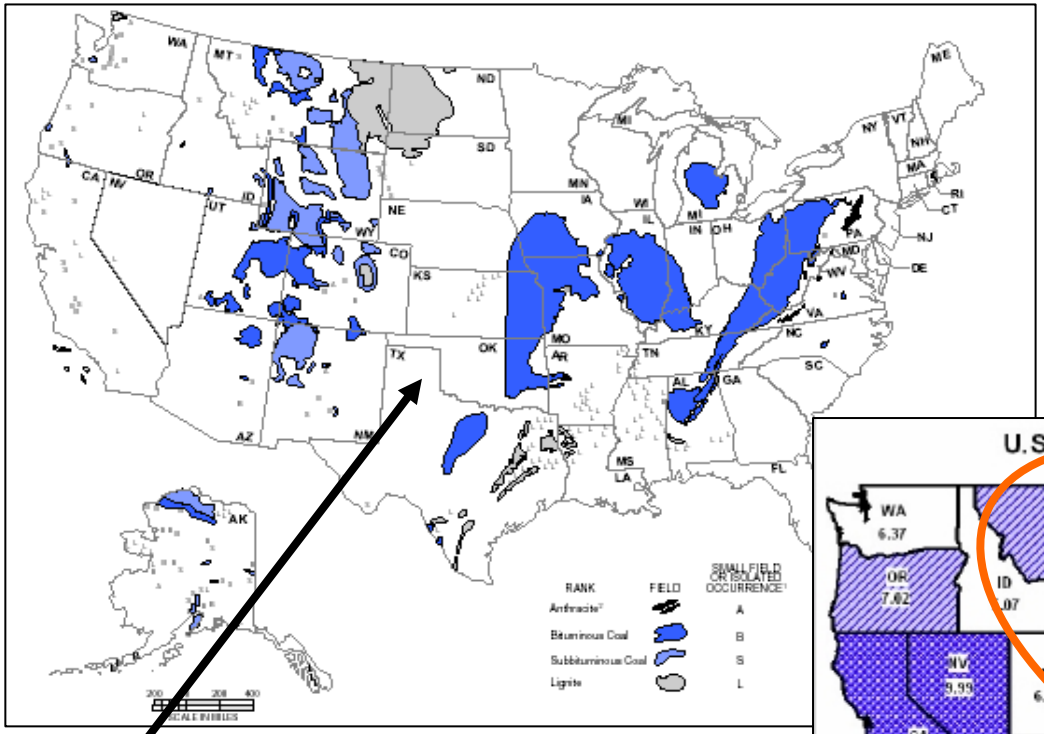
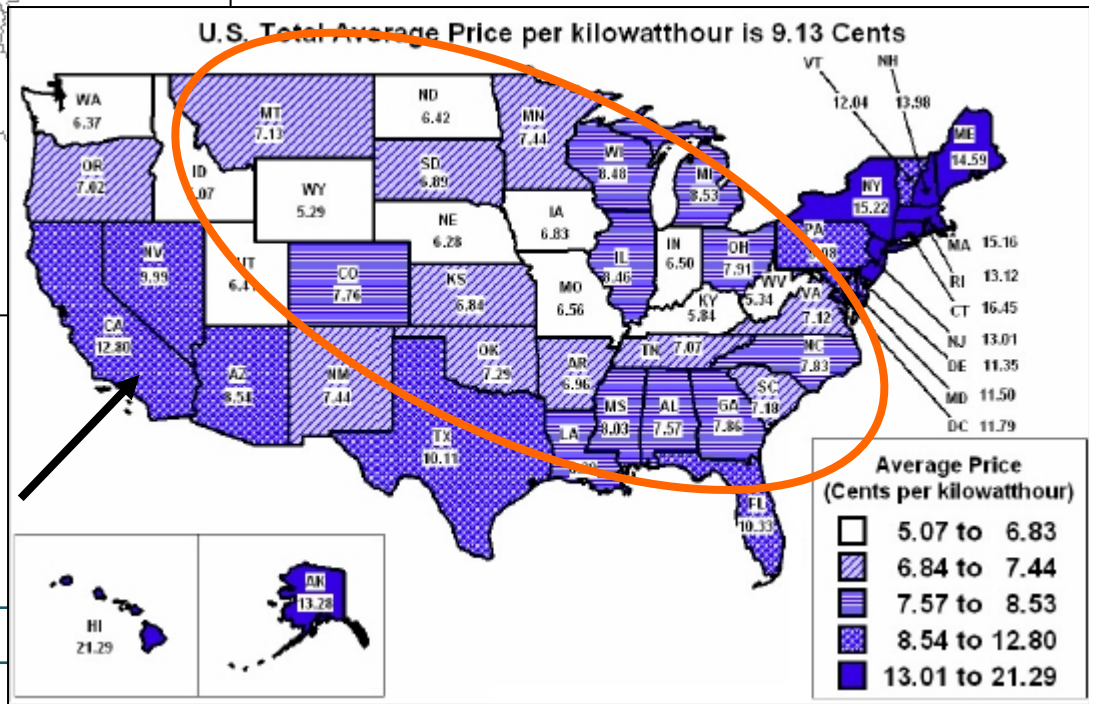
Geopolitics of U.S. energy policy/politics: Two maps say a lot…



Coal basins [dark color]

Regions that produce coal and use it for power have low prices, more carbon; regions relying heavily on natural gas have higher prices, less carbon.



Price of Electricity [dark is higher price]

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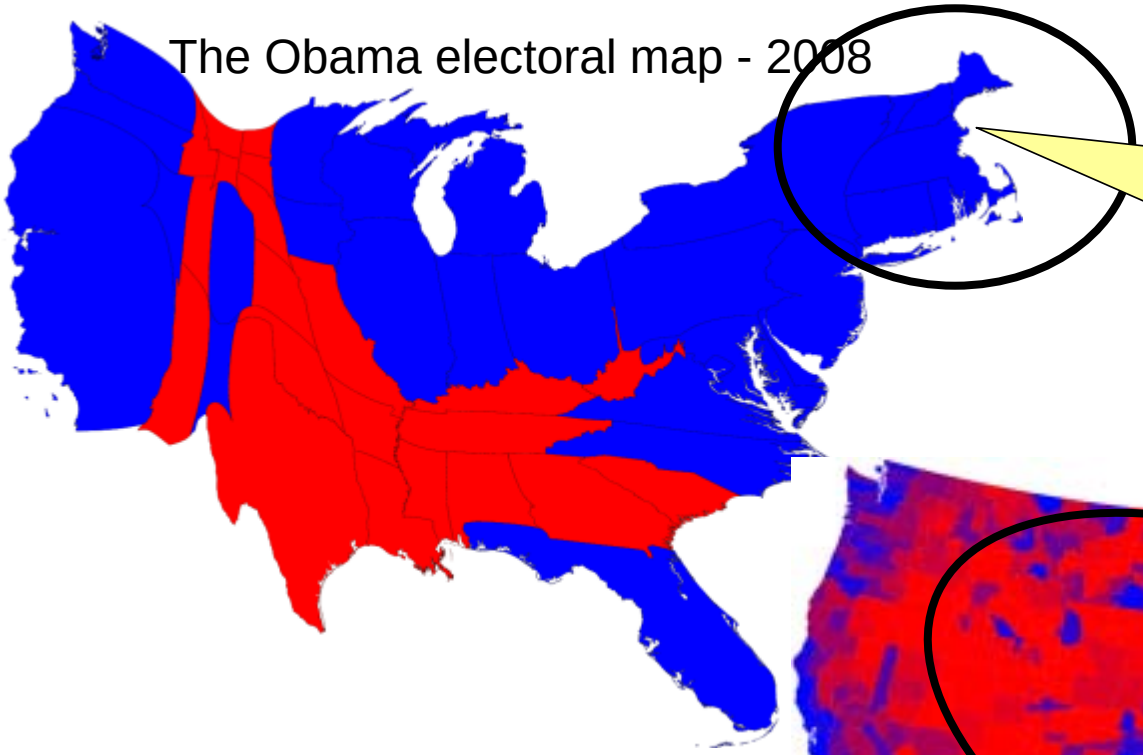
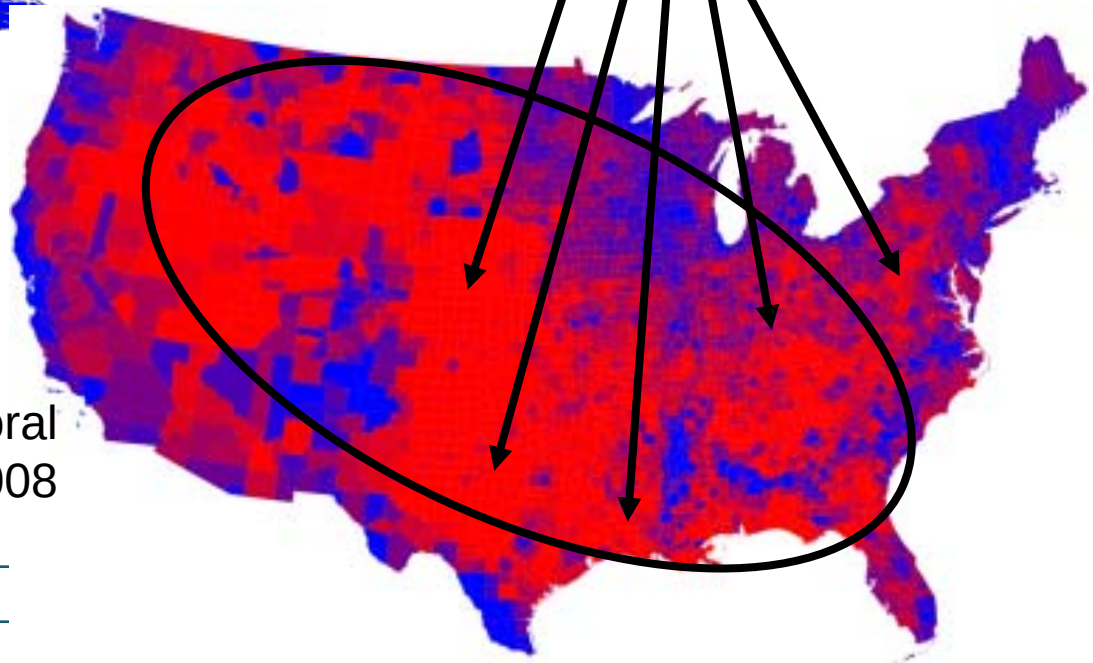
Washington support for “green energy”?

The Obama electoral map - 2008



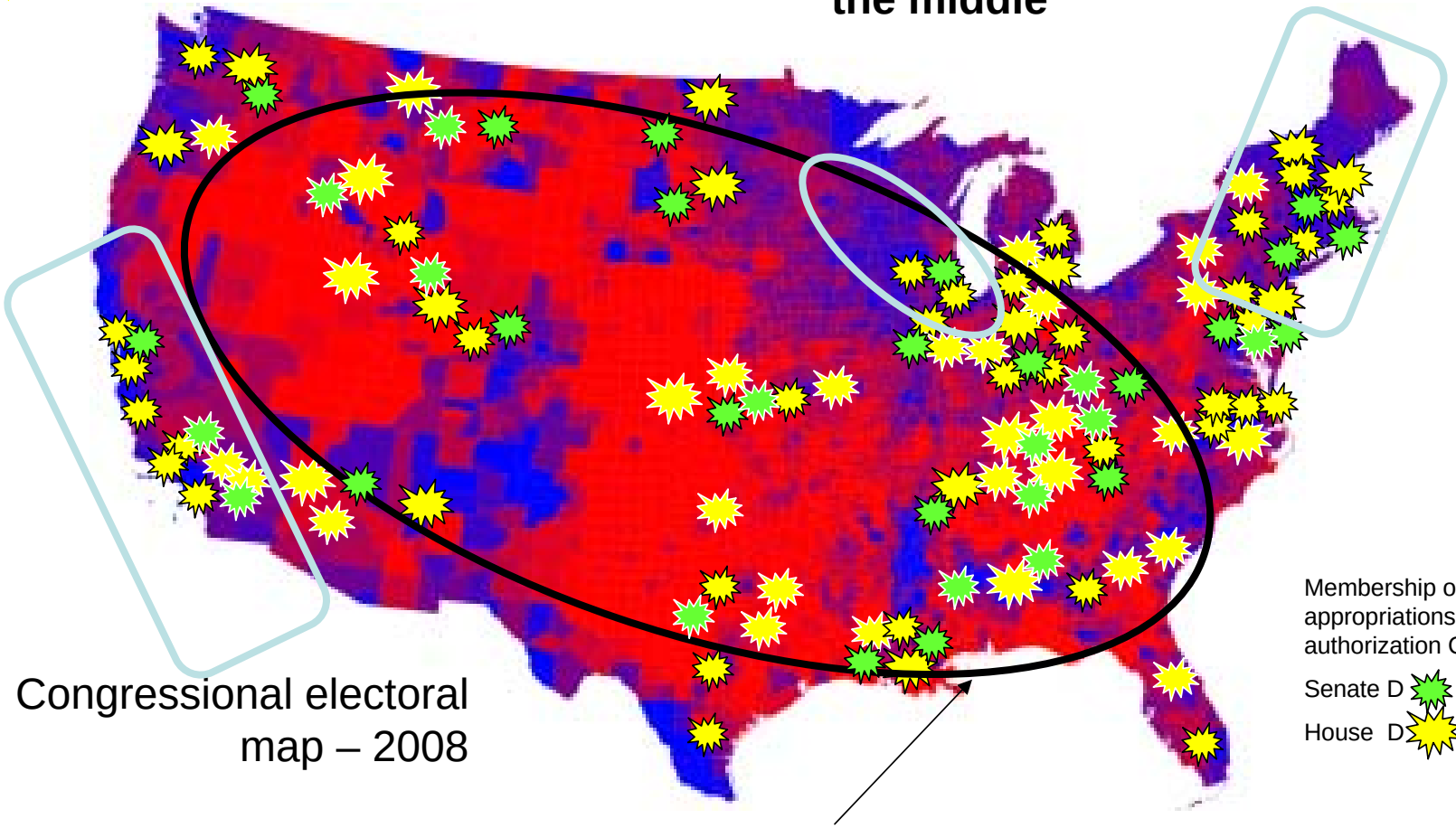
The “consumer” regions are pushing for change in basic energy systems, but they need to bring along the traditional producer regions.



Congressional electoral map – 2008

Washington support for "green energy" and carbon controls?

Deals need to be struck in the middle



Congressional electoral map – 2008

Traditional energy producing regions

Membership on an appropriations or authorization Committee:

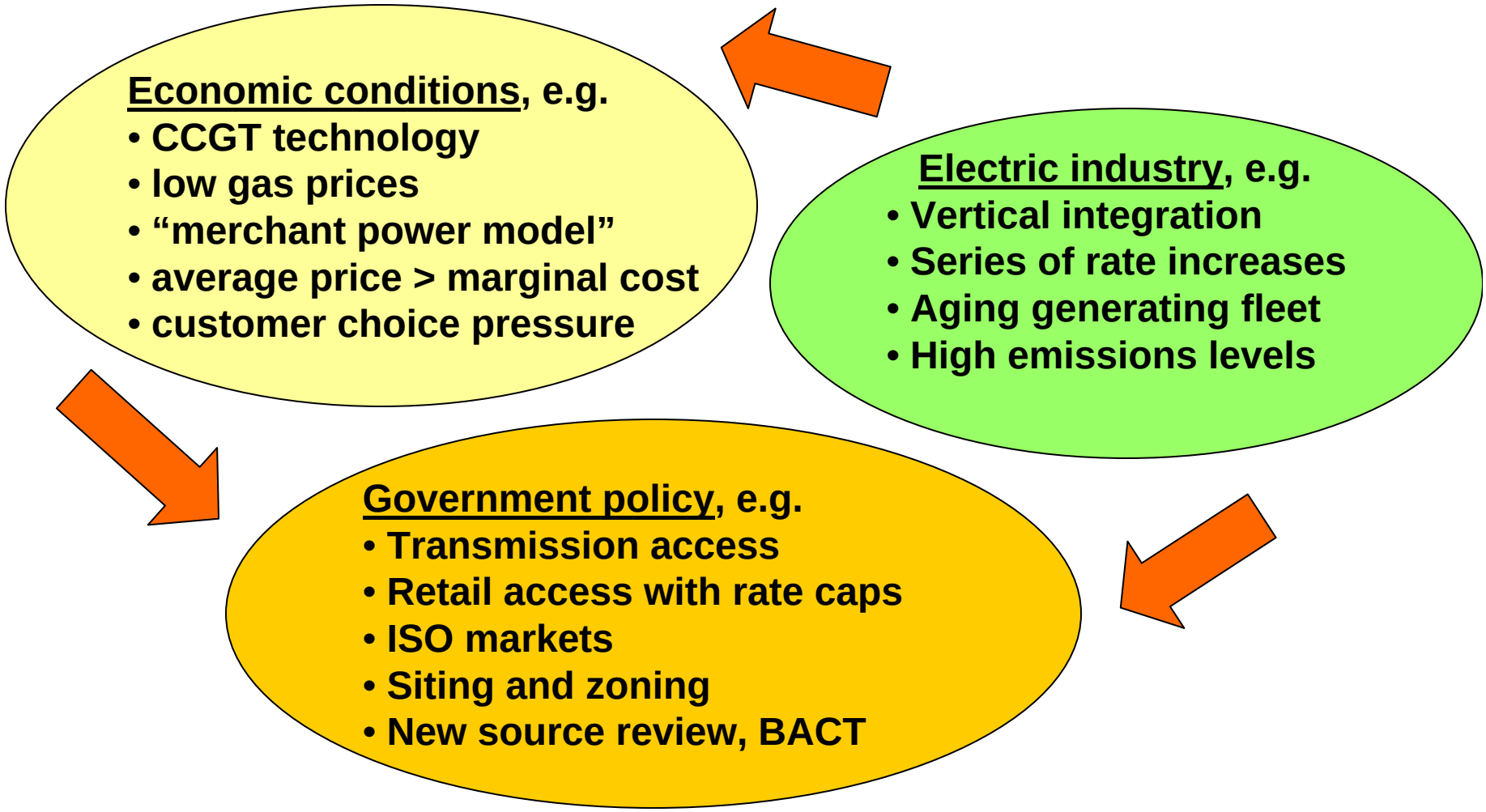
Senate D R

House D R

#4 – Observations on policy development cycles: Getting it "right" is hard

Policy ⇦⇨ Electric Industry Interactions: Example #2a

Electric Industry Restructuring – mid 90s



Policy ⇦⇨ Electric Industry Interactions: Example #2b

Electric Industry Restructuring – ~ 2006-2009

mid-decade
Economic conditions, e.g.
- **High natural gas prices**
- **Generator investment risk**
- **Market manipulation concerns**
- **Average price < marginal cost?**
- **Electronic gadgets galore**

Mid-decade:
Electric industry, e.g.
- **Much divested generation**
- **~10,000 MW of new capacity (NG)**
- **Gas sets prices ~85% of hours**
- **Post-rate-cap price increases**
- **Few retirements of old plants**
- **Little customer migration**

Politics and policy, e.g.
- **Long-term contracting & competitive Procurements, & Forward Cap Markets**
- **Need for national carbon control**
- **Re-regulation v. continuation of mkts**
- **Energy investment as economic stimulus**
- **Next chapter for transmission policy**

2008-2009 Financial and Economic Crisis

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#5 –
Some final observations

In theory, there are many interesting policy design tools

- **Many ways to build into original policy design mechanisms to allow them to surgically address changing conditions over time – e.g.,**
  - **General "public interest" language**
  - **Sunset or "conditionality" clauses**
  - **Triggers (e.g., formulaic, discretionary)**
  - **Collars, caps, floors**
  - **Equivalent to "force majeure" clauses**
  - **Variance provisions**

But in practice, policy making is never so clean – either at the beginning or over time

- Our ability to imagine the way(s) that the economy and society will respond is inherently, severely impaired
- That doesn't stop the need for policy makers to act in the face of problems or public (or clientele) demands
- Policy-making (a.k.a., sausage-making) is built on the need to reach agreements – which often requires silence on things that would disrupt the deal
  - Doing the deal is sometimes just as important as the specifics of the whole package
- There's rarely a constituency (i.e., or "consistency police") for assuring that a law has internal integrity

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Example:
Implications for policy on electric transmission?

Is it a strategic investment?

- To create jobs in this economic climate?
- To support development of renewable development for national needs?
- To modernize the system, making the grid "smarter" for the 21st Century?
- To guard against infiltration from cyber attacks, terrorists?

It is a tactical investment?

- To enable further support for efficient power markets?

Is it to be inhibited so as to further other outcomes?

- To prevent equalization of inter-regional power prices?
- To ensure that demand-side measures have a chance to flourish on their own?

These objectives lead to very different outcomes for: siting authority, cost allocation, terms of access …..

So, return to the words of wisdom…..

Only in Wonderland

- "Begin at the beginning," the King said, gravely, "and go till you come to the end; then stop." Lewis Carroll
- "No government ever voluntarily reduces itself in size. Government programs, once launched, never disappear. Actually, a government bureau is the nearest thing to eternal life we'll ever see on this earth." Ronald Reagan.
- "History does not move in a straight line, but by zigzags." Vladimir Lenin

1. Carroll, *Alice's Adventures in Wonderland*, 12, 1865.
2. Reagan, "A Time for Choosing," television broadcast, 27 October 1964.
3. Lenin (1870-1924), In Raymond Garthoff, *How Russia Makes War: Soviet Military Doctrine*, 10, 1954.

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Thank you –

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