

*Re-Building Humpty:  
Generation Planning for the Next  
Generation*

Harvard Electric Policy Group

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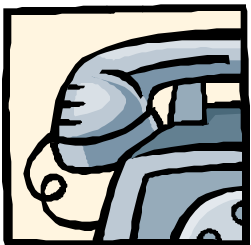
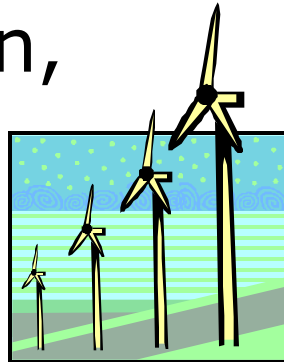




# OCC MISSION



OCC is an independent state agency with statutory responsibility to represent customers of Connecticut's five regulated utilities – electric, gas, water, telephone, and cable television, primarily in matters before the Department of Public Utility Control (DPUC) (and also at FERC).

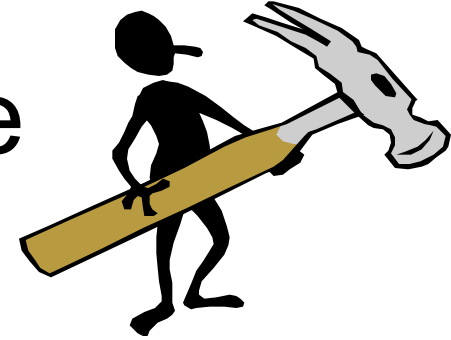


# Can you Re-Assemble Humpty, the Old Utility?-Part I



- **Yes. Slowly. One or two new plants at a time is best.**
- Avoid proposals of massive, forced buybacks of existing plant.
  - the capital required will likely invite opposition;
  - the expertise to run the plants is no longer with the utility (but give it time);
  - authorizing some utility-owned generation may temper the energy and capacity markets sufficiently – add more as necessary.

# Can you Re-Assemble Humpty? – Part II



- Yes. Start with one or two new peaking plants
  - Allows the expertise of the traditional utility to be rebuilt and demonstrated
  - Peaking plants, although less capital intensive than larger plants, are unduly risky for merchants to finance (small surplus= bust, small shortage = boom; 5 hot days= bust, 30 hot days = boom)
  - market power and strategic bidding risks are greatest with merchant peakers (as part of larger fleets)
  - Utilities bidding at cost-of-service and giving back excess margins should temper the peak power price



# The Baseload Scramble -Part I

- Who will Build?
  - If a merchant already owns a fleet in a region, it won't build a baseload unit without extravagant overpayment – all existing merchants benefit more from a shortage—why build?
  - That leaves new entrants—but existing merchants own almost all the most viable sites
  - Merchants can threaten to build on fallow, permitted sites, creating additional financing risks that discourage potential new entrants, then cancel the purported building “plans”

# The Baseload Scramble – Part 2

- How does one *really* finance a new baseload unit?
  - Energy Markets – LMP – no
  - Capacity Markets- 5 year payment stream (FCM) or here today, gone tomorrow demand curve-doubtful
  - Long-term contract with utility – getting warmer
  - Utility-owned generation – now you're talking



# True Beliefs Sometimes Seep Out of the Carton



- ISO statement at NECPUC –'06–  
Governors have to choose what fuel the new baseload plants would use. Thanks for the honesty, but explain again why I need to send this giant payment (a/k/a price signal) to coal and nuclear units?
- CT DPUC claims to be against reregulation—but supports 15-year contracts paid by ratepayers. This is a weak form of regulation—pay now and hope for the best – no prudence protections. This is not deregulation.

# An Aside on the New, New England Capacity Market (FCM)

- The FCM settlement was negotiated with existing generators, not the people who will replace them.
- Not surprisingly, the FCM is therefore primarily about maintaining existing generation, not financing new generation.
- Transition payments to existing generators with already fabulous earnings.
- Insecure payment stream for financing.
- Cheaper than LICAP—it's a deal!!





# Coal, Nuke or Nat. Gas-The King will Choose (Not Any of “Youse”)

- If a new nuclear unit is going to be built in New England, it will be only after an extensive political struggle (siting, waste disposal, security), and financing will be assured through traditional rates or a very long-term contract.
- Same for coal, but arguably even harder to build, absent new technology upgrades.
- Natural Gas is the default choice
- Financing new baseload still seems to require a lengthy backstop –risk shifting is a red herring.



# Will the *Market* Deliver “Green Eggs”—Renewable Plants?

- Based on the project economics and the difficulty of participation of intermittent resources in bid-based markets—probably not.
- Yet we have growing RPS and other renewable mandates—we’re not letting market forces choose the fuel source.
- Again, to meet the mandates (or come close) will require long-term contracts and/or utility-owned units.



# The Moral of the Tale



- All major electric infrastructure development involves a complex bundle of politics, law (local, state, national, perhaps international), regulation, economics, physics, finance, technology.
- Something called the “market” is largely not going to plan the electric system (even if you think that would be best).

# Hard-Boiled Version of the Moral

- The physical reality is that we have a unitary electric system that serves all customers.
- The political reality is that the electric generation system reflects a bundle of hard choices.
- The customer's reality is that it receives the benefits and burdens of these choices.
- The rate reality should be that each customer pays a just and reasonable rate for such choices.



# Wake up, Smell the Coffee



Some hard lessons of restructuring:

- If you want to effectively plan for a system for an essential product like electricity, your best bet is not to plan with those who strongly prefer a shortage.
- If you want to solve the peak power price problem, you may not want to rely solely on those whose business plan depends on the existence of a peak power price problem.

# Retail Choice as Imposter King

- Retail choice denies the physical reality of the unitary system.
- Retail choice seeks to deny the political reality that generation arises from a bundle of legal and political choices about fuel, siting, interconnection, etc.
- There is no “secret stash” of power or “secret wires” to bring it to you.
- If you like new technology, put in TOU rates.
- All should pay fair share for the system.



# The State—Once and Future King

- States are deciding on their RPS and will decide how much power they want from fossil or nuke sources
- As capacity gets short, States are choosing and will choose long-term contracts and utility-owned generation.
- The burdens of these choices will fall on citizens of the State.
- The State will also seek to retain the benefits of such arrangements (e.g., sell all output and credits to State's EDC).
- State elected and appointed officials face the music when reliability goes down or costs go up.
- Regional generation planning may be the best economic answer in theory—but its outlook is bleak.

