Regional Carbon Programs: Why Consumer Allocations are Needed in Power Sector Cap and Trade

Vermont House

Committee on Natural Resources and Energy

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Richard Cowart

The Regulatory Assistance Project

50 State Street, Suite 3
Montpelier, Vermont USA 05602
Tel: 802.223.8199
Fax: 802.223.8172

177 Water St.
Gardiner, Maine USA 04345
Tel: 207.582.1135
Fax: 207.582.1176

Website:
http://www.raponline.org

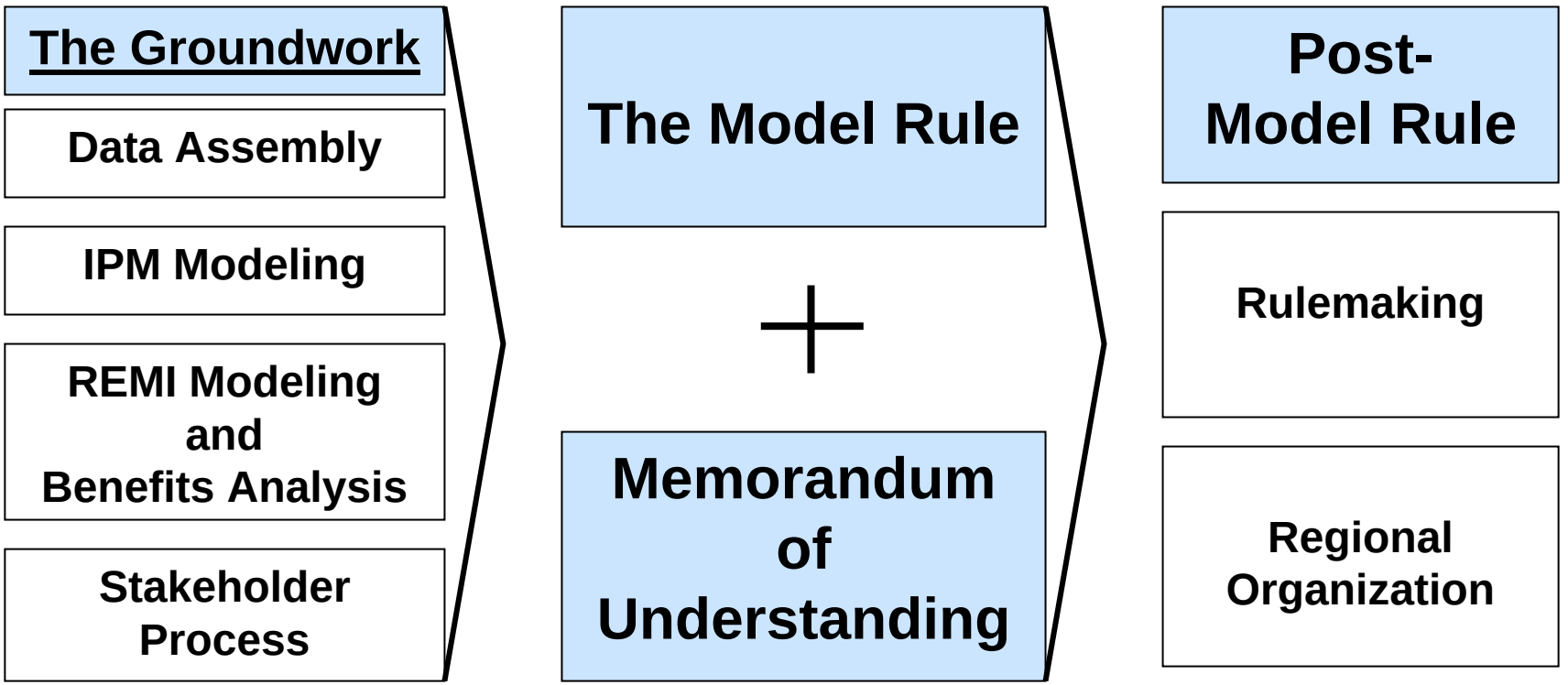
The Northeast Regional Greenhouse Gas Initiative (RGGI)

- 7 states engaged
- 4 other states (MA and RI out for now) (PA, MD) are observing
- Begun 2003
- MOU signed by 7 Governors 12/05
- Model Rule -- coming soon
- State-by-state adoption 2006
- Launch 2009

Cap and trade issues for legislators

- How much will the program cost?
- Who will pay, and who benefits?
- Effects on reliability?
- How to mobilize low-carbon resources: efficiency, renewables, green markets?
- Will “leakage” undermine the program?
- Looking ahead: Will RGGI create a template that is good for our region if adopted nationally?

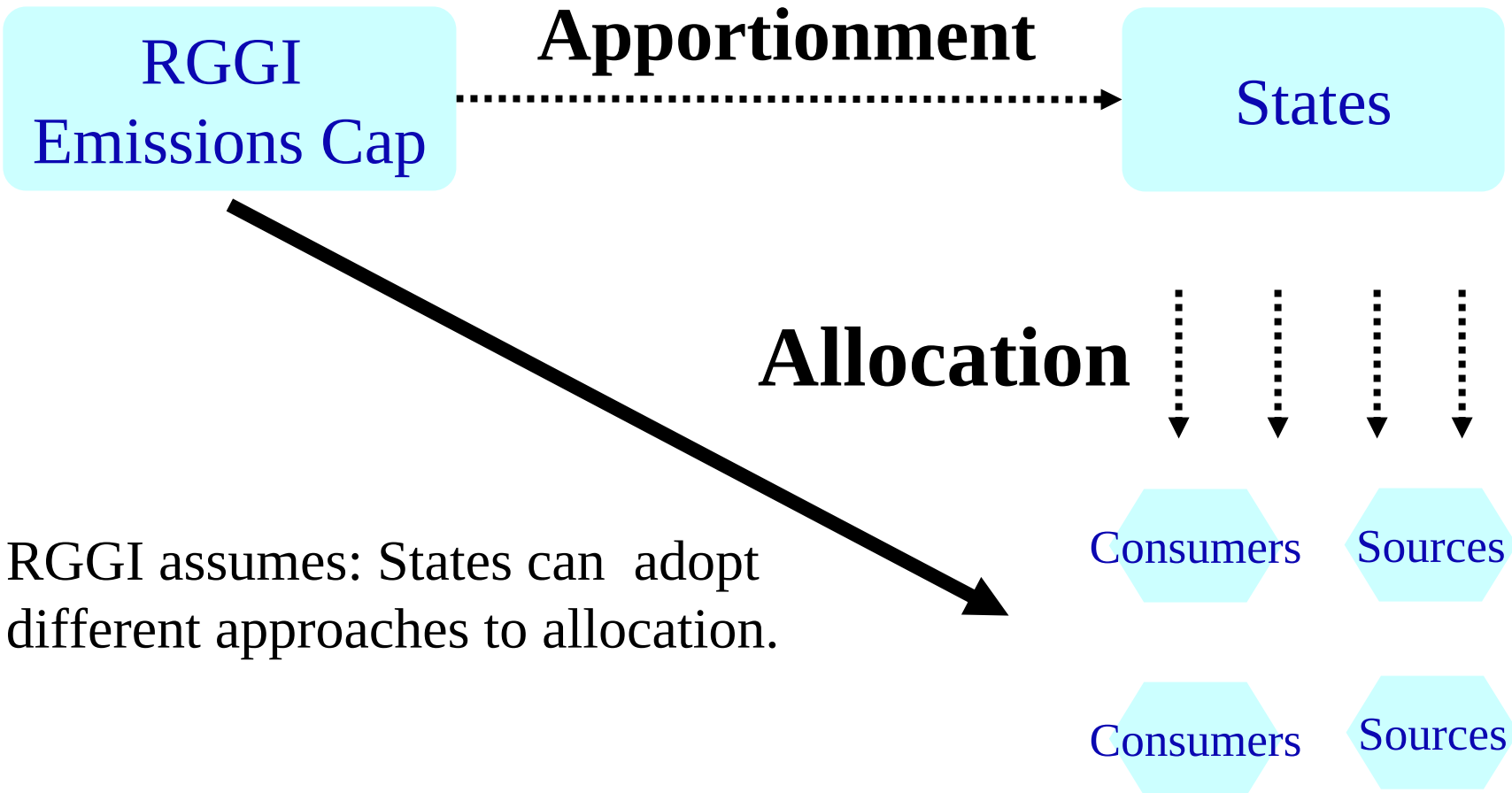
Key Program Components



Major RGGI program elements

- Regional cap and market, but tons “belong” to states, are allocated by them
- Begin rulemakings now, launch program in 2009
- Stabilize at ~120 million tons 2009-2015
- Reduce by 10% by 2020
- Offsets restricted by type but permitted generally
- Commitment to minimum consumer allowance (25%)
- Leakage to be monitored, no program element yet

Initial Distribution of Allowances



RGGI assumes: States can adopt different approaches to allocation.

Pro-rationing Methods: Percent of Total RGGI Cap

State	Emissions RGGI Units 2000	Heat Input RGGI Units 2000	Fossil Generation RGGI Units 2000	All Generation 1999-2001 Avg.	Total Consumption 1999-2001 Avg.	Population 2000	Gross State Product 1999-2001 Avg.
Connecticut	9.6%	9.2%	8.3%	9.6%	8.9%	8.1%	9.1%
Delaware	5.8%	4.8%	3.1%	2.0%	3.2%	1.9%	2.1%
Massachusetts	17.6%	19.4%	18.1%	12.2%	15.1%	15.1%	15.8%
Maine	3.0%	3.2%	2.3%	4.8%	3.5%	3.0%	2.1%
New Hampshire	4.2%	3.3%	2.7%	4.8%	3.0%	2.9%	2.6%
New Jersey	10.3%	8.7%	15.7%	18.1%	20.9%	20.0%	20.1%
New York	46.7%	47.2%	46.1%	44.5%	41.5%	45.1%	45.1%
Rhode Island	2.4%	4.0%	3.6%	2.1%	2.2%	2.5%	2.0%
Vermont	0.4%	0.3%	0.2%	1.8%	1.6%	1.4%	1.0%

Source: Derek Murrow, Environment Northeast, “Apportioning the Regional Cap Among States: Allocation Options and Equitable Solutions” RGGI Allocation Workshop, Boston, October, 14, 2004

Three Lessons from RGGI

- 1.The Acid Rain program design – smokestack-based, free allocations based on historic emissions – is not the best design for a carbon cap/trade system for the power sector.
- 2. An effective power sector carbon program requires focus on the load side of the power system, not just the generation side.
- 3. Energy efficiency is not a “collateral energy policy,” it is key to success of the carbon program.

Ways to include LSE and consumer choices

- Key point: A carbon program that directly mobilizes end use efficiency **will cost less and achieve more** than one that focuses only on smokestacks.
- Two possible techniques to reveal the carbon value of efficiency and renewables:
  - "Plan A": Load-side cap and trade (Oregon and CA)
  - "Plan B": Consumer allocation (RGGI region)

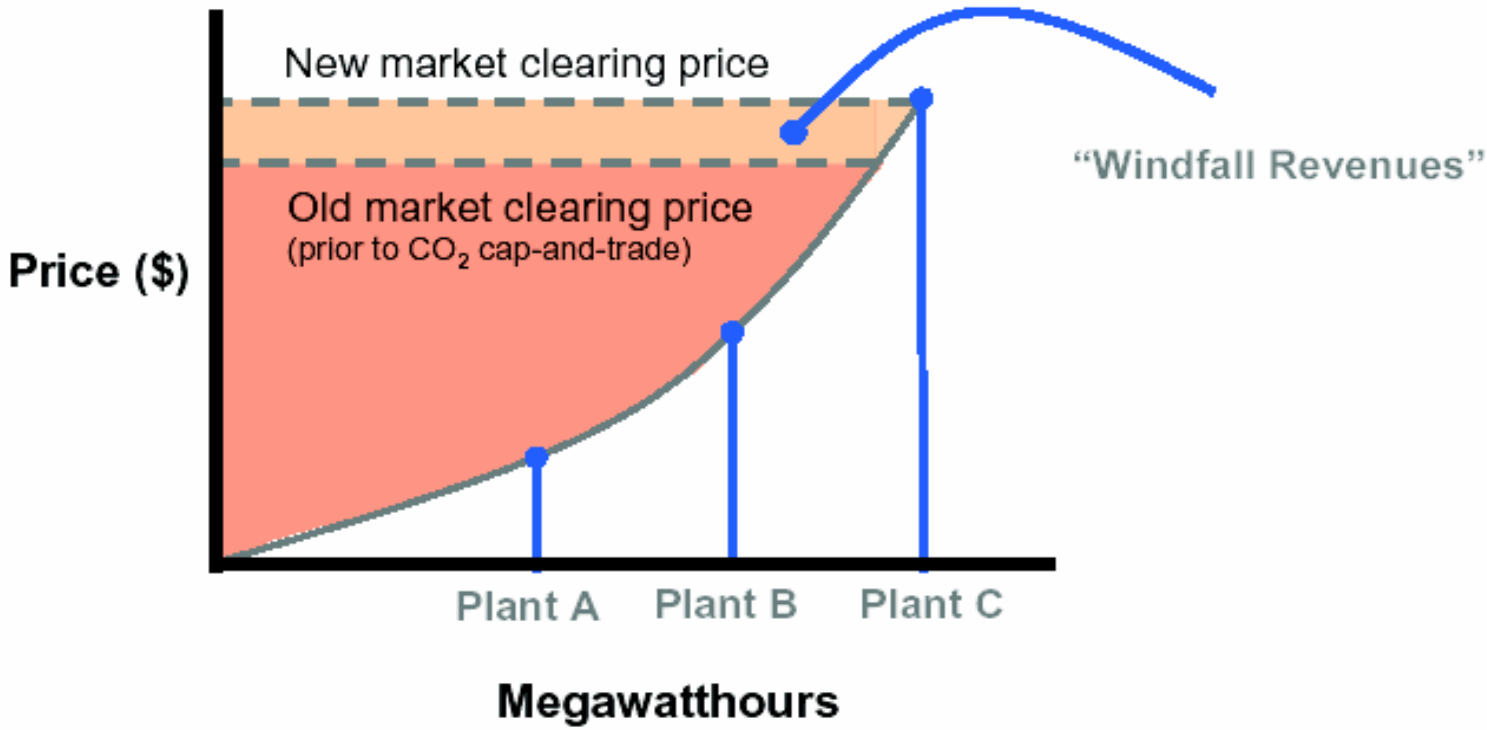
Wrong assumptions

- 1. Generators lose money under carbon cap and trade, so give them allowances for free
- 2. Just manage pollution, price increases and demand elasticity will deliver the efficiency
- 3. Smokestack cap and trade (eg Acid Rain model) is best model for carbon

Historic allocation and the generator windfall problem

Theoretical representation of "windfall revenues"

A fossil unit on the margin increases the market clearing price (i.e., the price paid to all generating units dispatched) to reflect the cost of CO_2 compliance



Who Pays for Carbon Reduction? Who Benefits?

- Key question: Will ***consumer payments*** exceed generator ***compliance costs***?
- RFF Analysis:

"Who wins and loses from the policy varies across the different approaches to allocation. Producers in the RGGI region gain substantially under a historic approach and in the aggregate they are better off than in the absence of the program."

"Producers outside the region tend to benefit considerably due to the higher electricity price in the RGGI region..."

"Consumers both inside and outside the region are adversely affected under all approaches to allocation [but less under some approaches than under others.]"

Source: *Allocation of CO2 Emission Allowances in the Regional Greenhouse Gas Cap-and-Trade Program* RFF Report for RGGI, Dallas Burtraw, Karen Palmer and Danny Kahn Version: December 24, 2004

RGGI is not the only one to notice

>>"Producers would have to receive only a modest portion of the allowances to offset their costs from a cap on carbon emissions **Thus, a decision to give all of the allowances to [generators] would more than compensate them for their costs and could provide them with substantial profits."**

Source: "Issues in the Design of a Cap-and-Trade Program for Carbon Emissions," US Congressional Budget Office, Nov. 25, 2003 (emphasis added)

>>**"We also note that the use of grandfathering as a means to allocate emissions permits is likely to result in substantial windfall profits through the EU**. …[Advocates also point out] that the profits are likely to be particularly large in the UK due to the deregulated nature of the market here."

Source: UK House of Commons Environmental Audit Committee, March 2005 (emphasis added)

RGGI innovation: Consumer Allocation

- Allocate 50% --100% of initial credits to consumer representatives (eg, distribution utilities, Efficiency Utility)
  - RGGI MOU - state minimum commitment is 25%
  - Most states will be higher – Vermont can be 100%
- Generators need to purchase allowances, recycling the windfall revenue BACK to consumers
- PUCs supervise use of the $$ for benefit of consumers
- Best result: focus on investments that lower carbon (EE &RE)
- Result: lower program cost, greater efficiency

What are Vermont's carbon credits worth?

- Under the RGGI MOU Vermont is permitted to issue credits of 1,225,830 tons of carbon annually.
- At a market price of
  - $3/ton: $3.5 million per year
  - $7/ton: $8.5 million per year

Free historic allocation: How much do generators need?

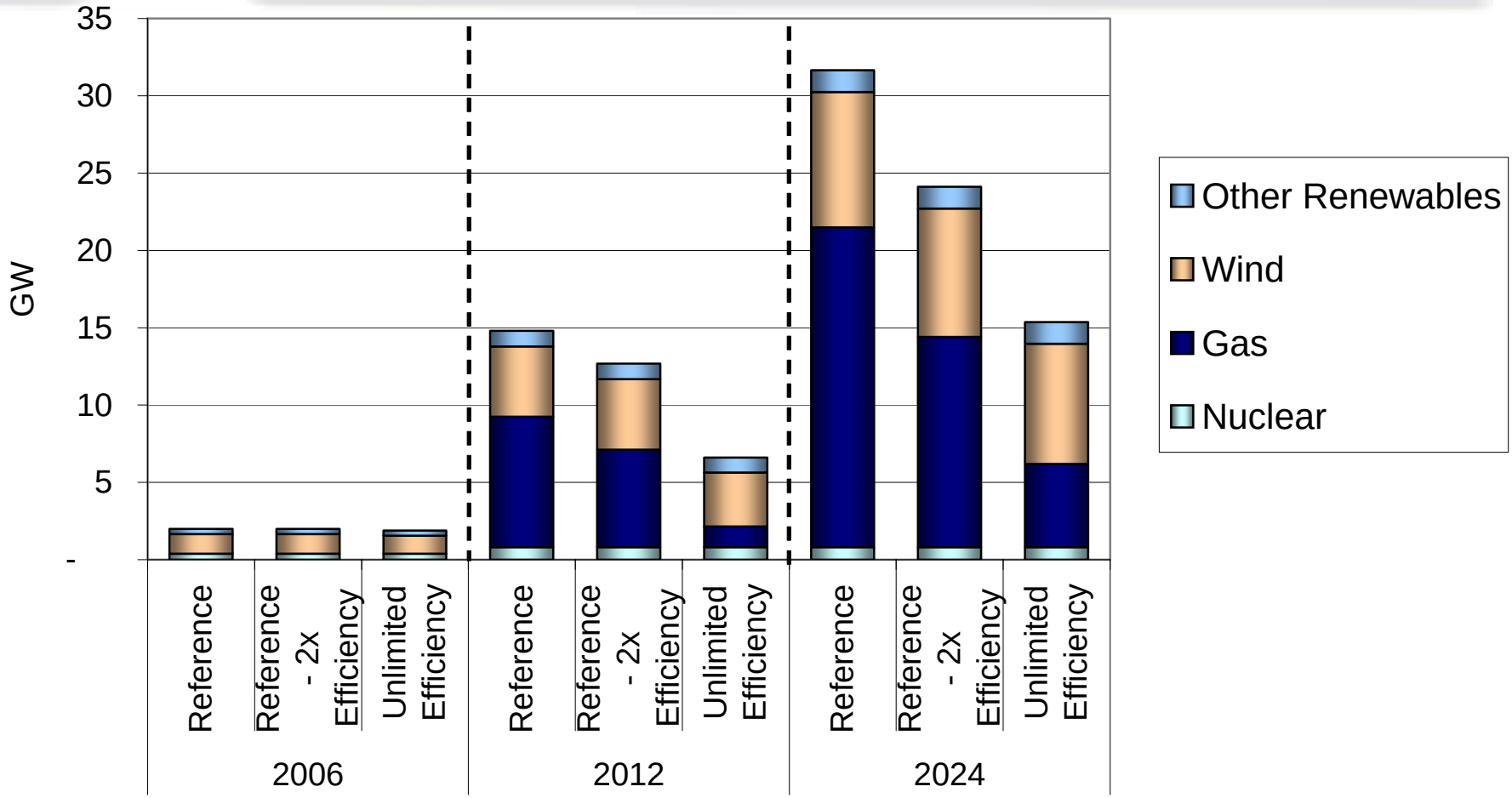
- Range of studies:
  - 13% (Goulder/Stanford)
  - 20% to 30% (RFF & CBO)
  - At 50% producers come out ahead (RFF)

- Remember: Political pressures are not just from generators:

- NASUCA letter: "Tolerating a transfer to power generators of 100% of the value of emissions allowances is, in our opinion, a fundamental policy mistake and one that is likely to jeopardize the acceptability of the RGGI proposals. We therefore urge … a requirement that the allocation of allowances be directed to states for public sector demand reduction programs and other programs to mitigate directly the ratepayer impacts which follow from the imposition of "cap and trade" requirements."

- Distribution companies and large consumers are also weighing in.
- Bottom line: a substantial consumer allocation is justified and needed.

RGGI Cumulative Capacity Additions



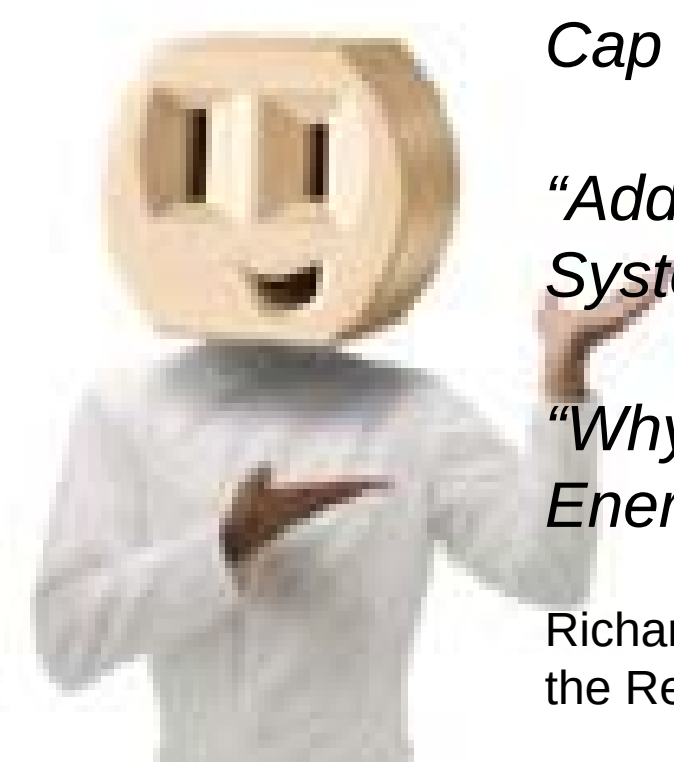
Conclusions

- Fossil generators don't deliver efficiency or supply renewables – consumers purchase them.
- RGGI: Consumer allocation provides a revenue source for efficiency and renewables
- Efficiency is the key to power sector carbon reduction
  - Some economists: "just raise the price of power"
  - DSM reality: ***Programs*** are needed to surmount market barriers to efficiency
  - $ spent through programs will deliver 5x the efficiency savings of $ spent in higher prices

Conclusions (con't)

- Allocate 100% of Vermont's RGGI credits to a Consumer Allocation with two parts:
  - Vermont utilities need allocations to cover fossil generation *that is part of least-cost plans (so far, about 25%)*
  - Allocate remaining allowances to consumer trustees to enhance low-cost carbon reduction – on a competitive basis.
  - Trustee options: Efficiency Vermont, Fiscal Agent, Clean Energy Fund, etc.
- Commit to "take it off the top" credits for voluntary green market power sales.

For more information…



"Another Option for Power Sector Carbon Cap and Trade Systems – Allocating to Load"

"Addressing Leakage in a Cap-and-Trade System: Treating Imports as a Source"

"Why Carbon Allocation Matters – Issues for Energy Regulators"

Richard Cowart, Regulatory Assistance Project – Memos for the Regional Greenhouse Gas Initiative (RGGI)

--Posted at www.raponline.org

Email questions to *RAPCowart@aol.com*