

Energy Subsidies and Resource Mandates: Are They Essential to Electricity Reform or an Impediment to Wholesale Competition?

A presentation by:

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What Is ELCON?

- The national association for large industrial users of electricity in the U.S.
 - Founded in 1976
 - Members from a wide range of industries from traditional manufacturing to high-tech
- The views today are mine alone



Focus of the Roundtable:

- Role of market interventions in moving the U.S. electricity industry:
 - To a lower-carbon
 - More efficient sector
 - With a focus on wholesale market competition and ***benefits to consumers***
- How refreshing – to focus on competition that benefits consumers!
 - At least to me, currently we do not have competitive wholesale markets
 - And what we do have certainly is not bringing net benefits to consumers

Focus of the Roundtable (Cont.):

- AAI explicitly lists:
 - “Fuel subsidies, demand-side resource mandates, locational capacity requirements, and renewable and efficiency portfolio standards”
 - This certainly is not a complete list
 - As methods of “modifying the electricity supply portfolio to achieve current energy and electricity policy goals”
 - Taken literally, this is a very big challenge:
 - We currently have few federal policies directly requiring a movement towards lower carbon – and we won’t soon
 - Certainly, EPA is working on implementing several strict GHG rules that will have significant impacts
 - We also have many federal programs and other activities explicitly redirecting resources in the electric industry
 - And many state (and regional) energy policies
 - Each different both in requirements and timing



Focus of the Roundtable: Focus of the Roundtable (Cont.):

- The net effects of these policies and programs:
 - Is to substitute some form of government preferences for current private preferences
 - That may or may not reflect what consumers actually want
- There is no doubt that we face an increasingly complex electricity industry
 - Change certainly is coming

In the ideal world:

- We would have a truly competitive electricity market:
 - Where electricity buyers actually interact with electricity suppliers
 - The interaction of supply and demand would:
 - Allow consumers to “vote with their dollars” for the quantity and type of resources they actually desire
 - Establish prices at levels consistent with efficient production
 - New entrants would drive prices down to marginal costs

In the ideal world (Cont.):

- A truly competitive electricity market would (Continued):
 - Result in bi-lateral contracts that would give generators protection from low or negative prices and buyers protection from price spikes
 - Create a small balancing market that would assure reliable operation
 - Bring significant technological innovation
- There would be no need for subsidies or any other market interventions
 - As the “market” would produce both the quantity and quality of goods and/or services that consumers actually want

Why restructure?

- There were several reasons for restructuring:
 - However, one of the most important (at least to us) was to let market forces make the big decisions
 - Consumers “voting” with their dollars would assure both the quantity and quality of assets in the electric industry that were wanted by consumers
 - Government would not have to (and should not) intervene
- Unfortunately, we did not get anything like a real competitive market in electricity
 - State and federal governments simply will not leave decisions to consumers

FERC has not taken the initiative to improve the markets:

- Two recent events may force FERC to take action and actually bring net benefits to consumers:

First, FERC recently issued its final Order on Demand Response (DR):

- The FERC final Order requires the payment of full LMP to all demand responders 24/7
- Demand response can bring tremendous discipline to bids and lower clearing prices
- Thus, bringing substantial benefits to consumers
- The very strong opposition from generators verifies this point

FERC has not taken the initiative to improve the markets (Cont.):

□ (Continued):

Second, FERC soon will have an opportunity to demonstrate how new entrants can bring real consumer benefits

- A recent New Jersey law requires the construction of 2,000 MW of new generation just where it is needed
 - Knowing full well that entrance will drive down prices – in this case substantially
 - In fact, PJM's MMU estimated that consumers would receive \$3 billion in savings
- It will be very interesting – to say the least – to see how FERC handles this opportunity to benefit consumers



But – more to the issue of this Roundtable

- While continuing government intervention keeps the “markets” from being truly competitive:
 - We have all sorts of additional intervention including:
 - Subsidies and other policies and programs
 - With the intent to change the generation mix or stimulate alternative supply and demand options
 - Government subsidies are extremely addictive and have the effect of distracting the beneficiaries from more noble causes

What are the subsidies?

- In a 2008 study, EIA stated that the forms of federal subsidies are:
 - Direct Expenditures – direct payments to producers and consumers
 - Tax Expenditures – reduce tax liability
 - R&D – government selecting the next generation of technologies
 - Direct support to TVA, PMAs & RUS

What did this EIA study find?

- Total energy subsidies doubled between 1999 and 2007 – From \$8.2 billion to \$16.6 billion
 - By far, the greatest increase was directed towards “Renewables”
 - Where subsidies increased from \$1.4 billion to \$4.9 billion
 - However, the total supply mix changed little – Nuclear and coal still accounted for 68% of total net generation in 2007
- I emphasize that all of this is “pre-Obama”
 - And it could be somewhat different now

Change in subsidies: 1999 to 2007

	1999	2007
Coal	567	932
Refined coal	na	2,370
Natural gas and petroleum liquids	2,077	2,149
Nuclear	740	1,267
Renewables	1,417	4,875
Electricity (not fuel specific)	314	1,235
End Use	2,135	2,828
Conservation	191	926
Federal electricity programs	753	Na
Total	8,194	16,581

**Federal Energy Subsidies and Support by Type and Fuel, FY2007
(Million 2007 Dollars)**

BENEFICIARY	Direct Expenditu res	Tax Expenditu res	R&D	Federal Electricit y Support	TOTAL
Coal	-	290	574	69	932
Refined Coal	-	2,370	-	-	2,370
Natural Gas/ Pet.Liquids	-	2,090	39	20	2,149
Nuclear	-	199	922	146	1,267
Renewables	5	3,970	727	173	4,875
Electricity (Not Fuel Specific)	-	735	140	360	1,235
End Use	2,290	120	418	-	2,828
Conservation	256	670	-	-	926
Total	\$2,550	\$10,444	\$2,819	\$767	\$16,581

Source: EIA, Federal Financial Interventions and Subsidies in Energy Markets 2007, April 2008, SR/CNEAF/
2008-01 ("EIA 2008")



Change in total energy subsidies and production: 1999 - 2007

Table ES2. Total Energy Subsidies and Support, Selected Indicators, 1999 and 2007

Item	1999	2007	Percent Change 1999 to 2007	Average Annual Growth (Percent)
Energy Subsidies and Support (million 2007 dollars)	8,194	16,581	102.4	9.2
Energy Expenditures (billion 2007 dollars)	674	1,269	88.1	8.2
Energy Consumption (quadrillion Btu)	97	101	4.6	0.6
Energy Production (quadrillion Btu)	72	72	0.1	*

NOTE: * Value is less than one-tenth of one percent.

Sources: Energy Information Administration, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), Tables 1.1, 1.2, 1.3, 1.5, and D1; *Short-Term Energy Outlook* (Washington DC, January 8, 2008 release), <http://www.eia.doe.gov/emeu/steo/pub/contents.html>; *Annual Energy Outlook 2008 (Early Release)*, <http://www.eia.doe.gov/oiaf/aeo/index.html>, and this report.

But wait!

- The range and scope of subsidies in the electric industry greatly exceeds those set forth in the EIA study
- Additional forms of federal and state subsidies exclusive to utilities, including the new breed of merchant utilities include:
 - Incentive ROE
 - Lost Revenue Adjustment Mechanisms
 - CWIP
 - Performance Incentives
 - Revenue Stabilization & Trackers (e.g., decoupling)

But wait!

- ❑ Additional forms of federal and state subsidies (Continued):
 - Avoided Costs from “Virtual Power Plant” (combines cost recovery, lost revenue recovery and incentives into an avoided cost charge)
 - Recovery of Abandoned/Cancelled Project Development and Construction Costs
 - Out-of-Market Payments in Organized Markets and Other Market Design Features
 - Stranded Cost Recovery
 - Transmission incentives
 - Feed-in tariffs
 - Decoupling

Purpose of the subsidies

- It is this second list of subsidies that is of particular concern to industrial customers
 - And it is from this list that near-term changes in the electric industry may be driven
 - Or at least pretend to be driven
 - These subsidies are usually predicated on the need for some public good (e.g., less carbon)
 - And are almost always “justified” by selective inclusion of certain negative externalities

Purpose of the subsidies (Cont.)

- ❑ These subsidies are usually predicated on the need for some public good (e.g., less carbon) (Continued):
 - Decades ago there were attempts to quantify externalities. That is rarely attempted today (at least directly attempted)
 - ❑ Now it is implicitly done in the minds of regulators (or legislators)
 - ❑ Many seem to assume that there are no (or very few) positive externalities associated with the production of electricity from traditional baseload fuels
 - ❑ Electricity from those sources is demonized – especially coal

Purpose of the subsidies (Cont.)

- (Continued):
 - States are especially generous to utilities
 - By offering them all kinds of “lost revenues” for pretending to deliver public goods
 - Utilities that aggressively pursue energy efficiency programs typically spend up to about 5% of gross revenues on such programs – usually programs to reduce electricity sales
 - While 95% of gross revenues are still devoted to selling electricity

Decoupling

- Utilities have convinced regulators:
 - That utilities would do a better job spending that money if they are “made whole” for any lost sales – through some form of “decoupling”
 - They want revenue stabilization for 100% of their gross revenues
 - Thus, they want complete insulation from lost sales due to weather, economic downturns, etc.
- Some form of decoupling has been implemented or is pending in about twenty states



Do subsidies work?

- There is no evidence that subsidies work
 - And plenty to suggest they don't
- As simply an example:
 - Two very large states – California and New York
 - Recently reintroduced decoupling after abandoning it at the beginning of the ill-fated restructuring era

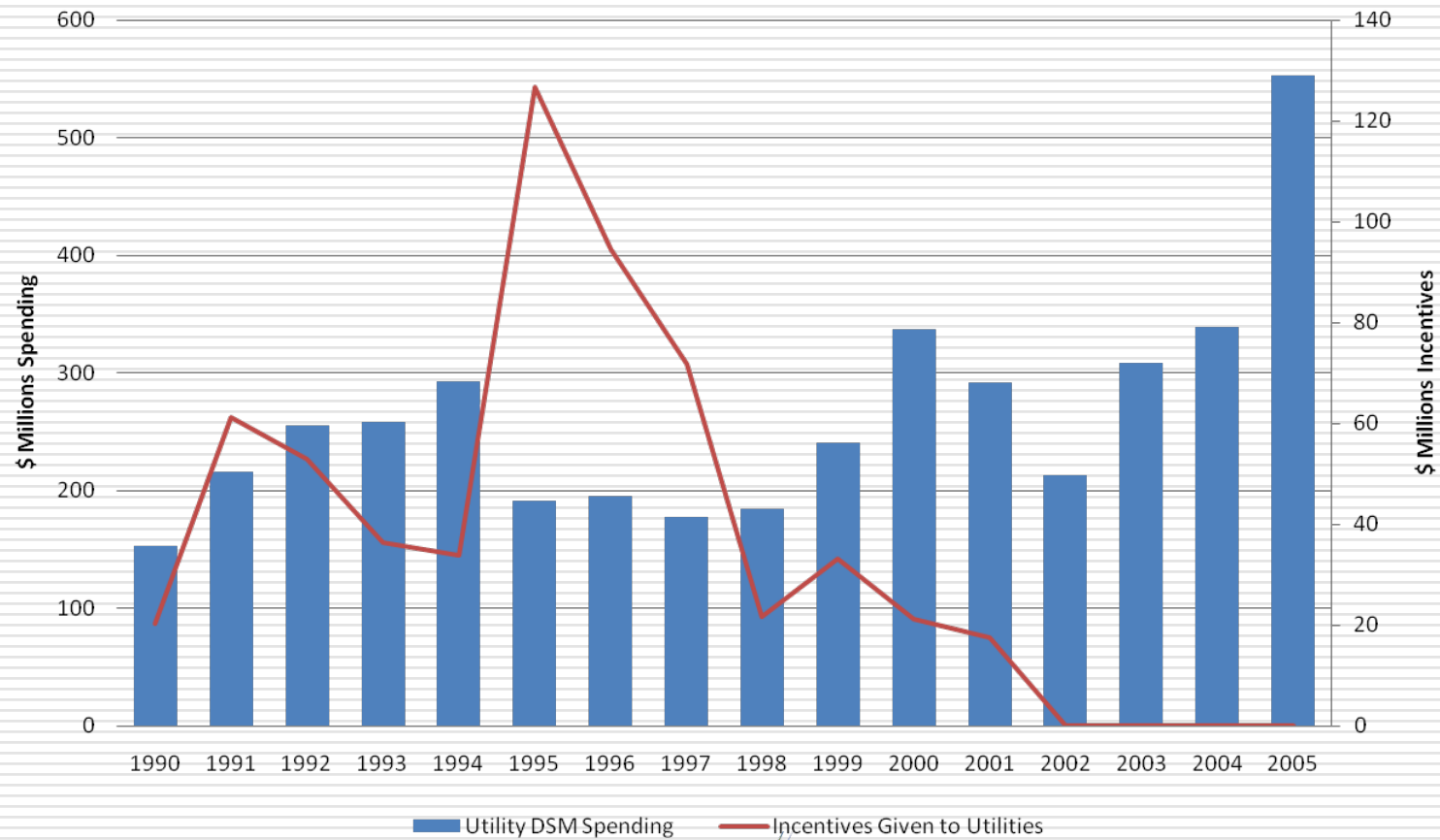
New York Experience

- New York perhaps unwittingly provided a “controlled experiment” on the effects of decoupling on promoting DSM as measured by utility expenditures on such programs
 - In response to a 1988 New York Public Service Commission order, three New York electric utilities (O&R, Niagara Mohawk and ConEd) were decoupled between about 1991 and 1997
 - Four other electric utilities (RG&E, NYSEG, CHE&G and Lilco) in the state were not decoupled
 - Yet the ten-year planned DSM expenditures of those four utilities actually exceeded (by a small amount) the three decoupled utilities over the same ten-year period.

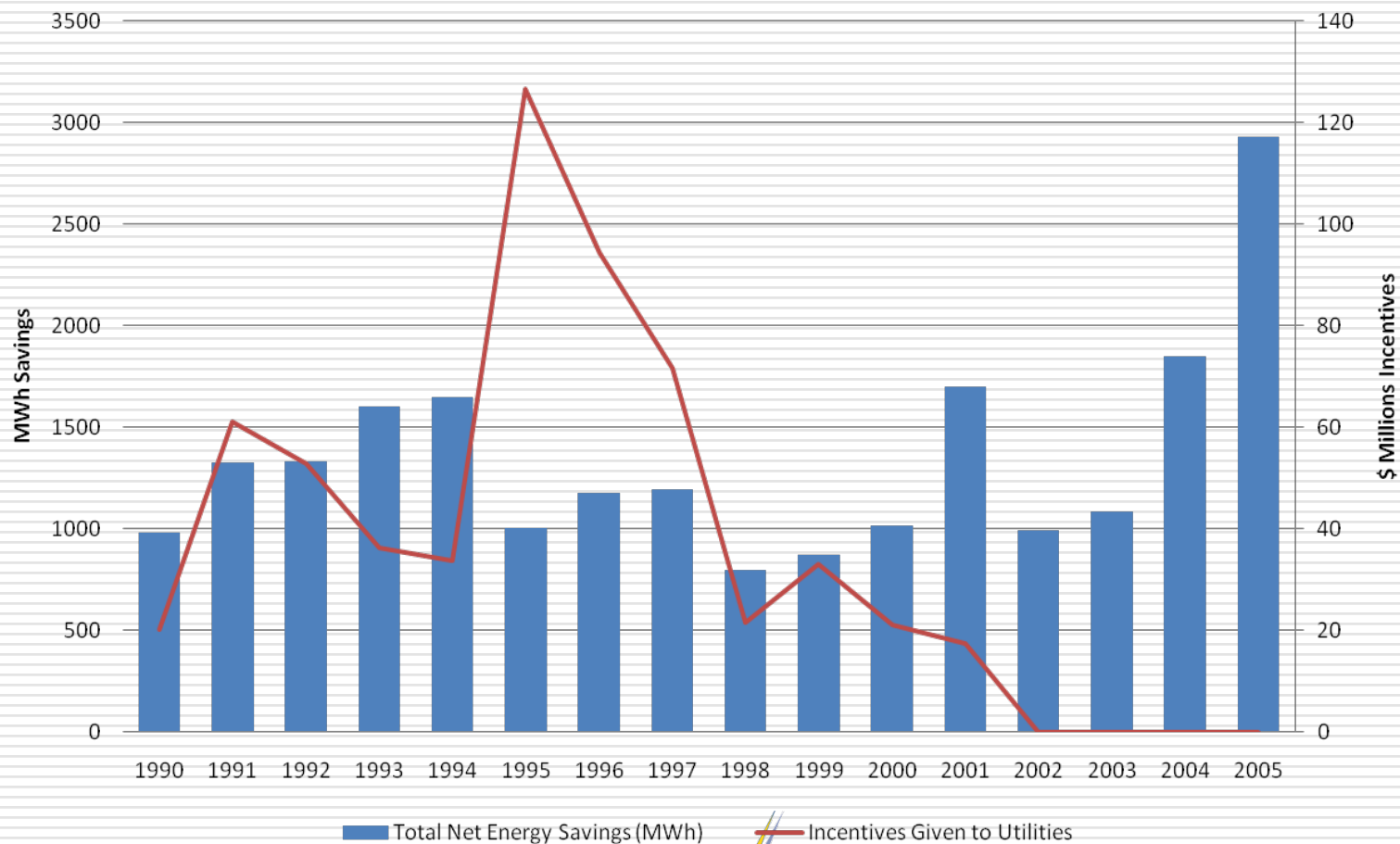
California Experience

- California's experience is summarized in the next slide
 - Which compares the annual level of financial incentives given to California utilities over a 15-year period with the utilities' actual annual expenditures on DSM programs
 - The chart demonstrates that there is no correlation between higher incentives and total DSM spending levels—unless you believe in 10-year lagged variables
 - Decoupling was suspended in 1996 and reinstated in 2001
 - The ramp up in expenditures in 2004 and 2005 resulted from the state's Energy Action Plan (EAP) that was triggered by the 2000-2001 California Electricity Crisis. The existence of decoupling is irrelevant.

Comparison of Incentives versus DSM Expenditures (Totals for PG&E, SCE & SDG&E, 1990-2005)



Comparison of Incentives versus First Year Net Energy Savings (Totals for PG&E, SCE & SDG&E, 1990-2005)



These examples strongly suggest that decoupling does not work

- The main argument used to defend decoupling is unrealistically simplistic
 - Namely that utility managers are absolutely flummoxed by the trivial loss of sales resulting from their energy efficiency programs
 - There is no discussion of the fact that normal sales growth overwhelms such losses, to the extent the losses exist at all
- Other subsidies may (or may not) work better
 - I simply do not have good evidence

Renewable Portfolio Standards

- Finally, a few words about renewable portfolio standards (RPS – or RES or CES):
 - Over 30 states have implemented some form of RES
 - Some require as much as 33% of future supplies to be from some forms of alternative energy sources
 - By definition, many of these alternative sources are more expensive than traditional sources
 - Otherwise, they would be implemented without any mandates or subsidies
 - These alternative sources may – or may not – produce the results that those requiring the alternative sources desire
 - Often there are many unintended consequences
 - These alternative resources may – or may not – result in benefits that consumers actually want
 - Although they will result in price increases

Conclusions:

- ❑ We tried to get truly competitive electricity markets to bring real benefit consumers
 - But ended up with simply a new form of regulation
 - Governments continue to intervene
 - And the results may or may not bring net benefits to consumers
- ❑ We have tried all sorts of interventions intended to create a supply mix that government officials wanted
 - But the end result is not very different from starting point
 - Perhaps one saving grace is that since the “markets” were not anywhere near competitive to begin with, incentives are not an “impediment to wholesale competition”

Conclusions (Cont.)

- ❑ Gone are days when least-cost planning was the cornerstone of consumer protection and regulation in utility ratemaking
- ❑ A closing comment/observation:
 - Many innovations over the years have come from government initiatives
 - Many have taken a long time to develop
 - That might be the case in electricity
 - Only time will tell

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