Lisa

To: Josh Gotbaum

From: Ray Squitieri

Subject: Issues for Climate Change Deputies' Meeting Friday 12/20 9:30 am

At this afternoon's informal briefing on climate change analysis for Gerri Gerardi, I learned that there will be a Deputies' meeting tomorrow morning to follow up Eileen Claussen's meeting Wednesday afternoon. We discussed issues that might be appropriate for consideration by the Deputies.

Schedule. I understand that Eileen Claussen's group was told yesterday that any analysis to be used in formulating the U.S. position for the next round of negotiations must be completed by the end of January. This means the IAT will not have much analysis to offer the negotiators (I had pointed this out 4 weeks ago in an e-mail note). Besides hampering the negotiators, this will open the Administration to criticism that it has not systematically examined the economic implications of whatever proposal it makes.

- Quick-and-dirty analysis could fill in some important blank spots remaining on the map. The IAT's biggest area of terra incognita is trade effects.

  - The slate of models selected by the IAT does not include one that treats trade effects such as carbon leakages. Thus the IAT will be able to say nothing about the relocation of carbon-intensive industries, possible loss of competitiveness, and other politically-sensitive topics.

  - Industry groups are now applying one of the global carbon-energy-economy models (by Tom Rutherford at U. Colo.) to various negotiating proposals. For greenhouse control measures applied to the Annex 1 countries, this model tends to show large carbon leakages, and big effects on competitiveness. These groups will use these results to show how the Administration's proposals would be bad for the firms and their workers. It would be prudent be prepared with our own analysis.

  - Several appropriate models exist. At least one model not selected by the IAT (G^3, by Wilcoxen and McKibben) does treat trade effects, and could be pressed into service, as Bob Shackelton of EPA has it up and running at EPA.

Management. The oversight groups (the Deputies, the Assistant Secretaries) may not be nimble enough to get this work done in six weeks. However, a small subset of the Assistant Secretaries (such as you and Jeff Frankel) may be able to manage the IAT or related agency staff in doing this satellite analysis, before presenting it to the larger group for discussion.

Alicia -

~~Why~~ Why would we want to take taxes off the table for analytical work?

APPROACHES FOR IMPLEMENTING CLIMATE TREATY

The following presents some broad categories of options for domestic implementation of any agreed-upon target under the Climate Convention. Further development of these approaches will be useful in preparing the necessary economic analyses.

Tradeable Permit/Allowance Schemes

An emissions trading program could be structured along the lines used for acid rain controls under the Clean Air Act, in which the use of tradeable permits for sulfur dioxide emissions is a key element. Greenhouse gas (GHG) emissions would be capped at a specific level per year consistent with limits agreed to under the treaty. Firms would be prohibited from producing or using carbon-based fuels, or emitting GHGs, without a permit. The creation of a permit system establishes new and valuable property rights, involving a number of important issues:

- How compliance and property rights in tradeable permits/allowances would be monitored and enforced
- How to allocate permits. They could be distributed to current or past producers or users of carbon-based fuels in a "grandfather" regime, auctioned to the highest bidder, allocated on the basis of population, distributed to all citizens, etc.
- Whether a new institution to oversee transfer of permits/allowances would be required
- The time period over which permits can be used (e.g., only in a single year or banked and used in some future period)
- Whether the permit system covers all sources (and sinks) of emissions, or just focuses on major sources and sinks (and whether there is an emissions threshold defining who participates).

Technology Development and Diffusion

PNGV for passenger cars and many of the existing Climate Change Action Plan activities fall within this category. The goal would be to bring down the cost of fossil fuel alternatives and energy efficiency improvements and to remove barriers to market penetration. Examples of areas of significant potential beyond PNGV include: expanded research/subsidies to support biomass development and use; expanded support for improving and deploying solar technologies; development of financing options for overcoming "first cost" barriers to adoption of energy efficiency measures; and expanded building energy efficiency technologies and codes.

Voluntary Measures

Voluntary measures currently form the basis for the Climate Change Action Plan, but they will not be sufficient to stabilize emissions at 1990 levels. Voluntary programs could be expanded by raising the visibility of, and then rewarding (e.g. Baldridge Awards), private-sector efforts. Voluntary programs could be used in conjunction with other approaches, assuming they received appropriate credit.

Other Actions

Utility restructuring, ISTEA reauthorization and the ozone/particulate standard each represents an area of on-going policy development which could affect both the quantity and costs of achieving greenhouse gas reductions. Each needs to be reviewed closely to determine the potential opportunities and impacts on climate change objectives.

AGENDA

1. Domestic Implementation
   - -options
   - -work program
   - -outreach
2. Economic Analysis
   - -status report
   - -scenarios
   - -assumptions

EV-

DOE & EPA is on hold-

(1) Need to know technology assumptions for baseline run:
   a. CEG vehicle optimization
   b. CEA historical rates of technology improvement

Models cannot predict int'l effects:
- can't predict impact on balance of payments
- can't do int'l trade

(2) How are we going to predict int'l effects?

(3) What domestic policies?
- performance standards
- CAFE
- tax
- cap & trade

(4) We're not going to have agreement in Kyoto -

(5) Model could break us by income class, by region of the country.

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Change in "Price"*									
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Gasoline (per gallon)	$.03	$.13	$.35	$.07	$.22	$.57	$.09	$.37	$.75
Coal (per ton, current price=$28)	$7	$34	$89	$17	$55	$144	$23	$93	$188
GDP Loss (% in 2020)	0.1%	0.2%	0.5%	0.3%	0.6%	1.3%	0.6%	0.9%	1.8%
Gains Relative to Base Case: Tradable Permits w/ OECD (1 Model)									
"Price"* (% decrease)				na	6%	na			
GDP Change (percentage point)				na	na	na			
Gains Relative to Base Case: Tradable Permits w/ World (4 Models)									
"Price"* (% decrease)				5%	20%	29%			
GDP Change (percentage point)				0.1%	0.1%	0.3%			
US Transfers** (% of GDP)				-0.2%	-0.7%	-1.7%			

Note: A large class of "bottom-up engineering" models emphasize the existence of energy-saving technologies that could save money if implemented (e.g., "green" light bulbs). An influential 1991 study from O.T.A. showed that emissions could be reduced in this way as much as 25%. Consumer irrationality, poor access to information, or very high discount rates are invoked to explain why these technologies are not currently used more widely. To the extent that specific policies can be implemented to overcome these market imperfections, bottom-up models suggest that some reduction in energy usage could be accomplished without raising the price of energy. The key here, however, is identifying specific policies. Empirical evidence suggests that countries that use energy-saving technology tend to be those with high energy prices (see table and graph on next page).

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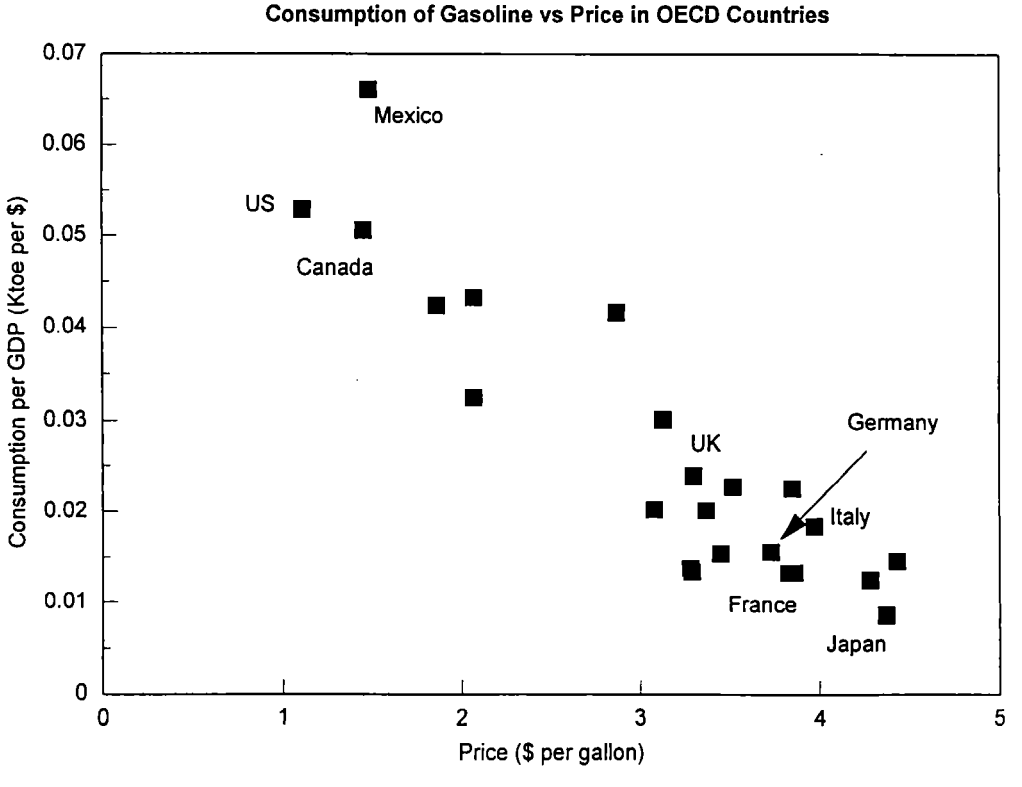

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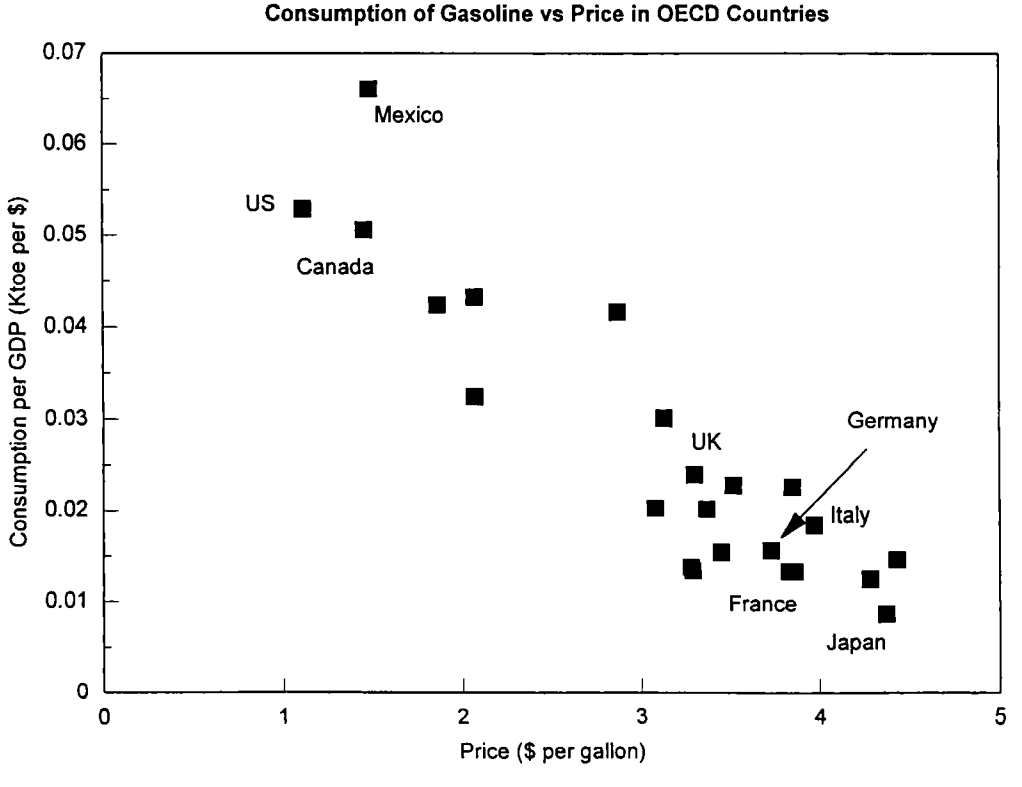

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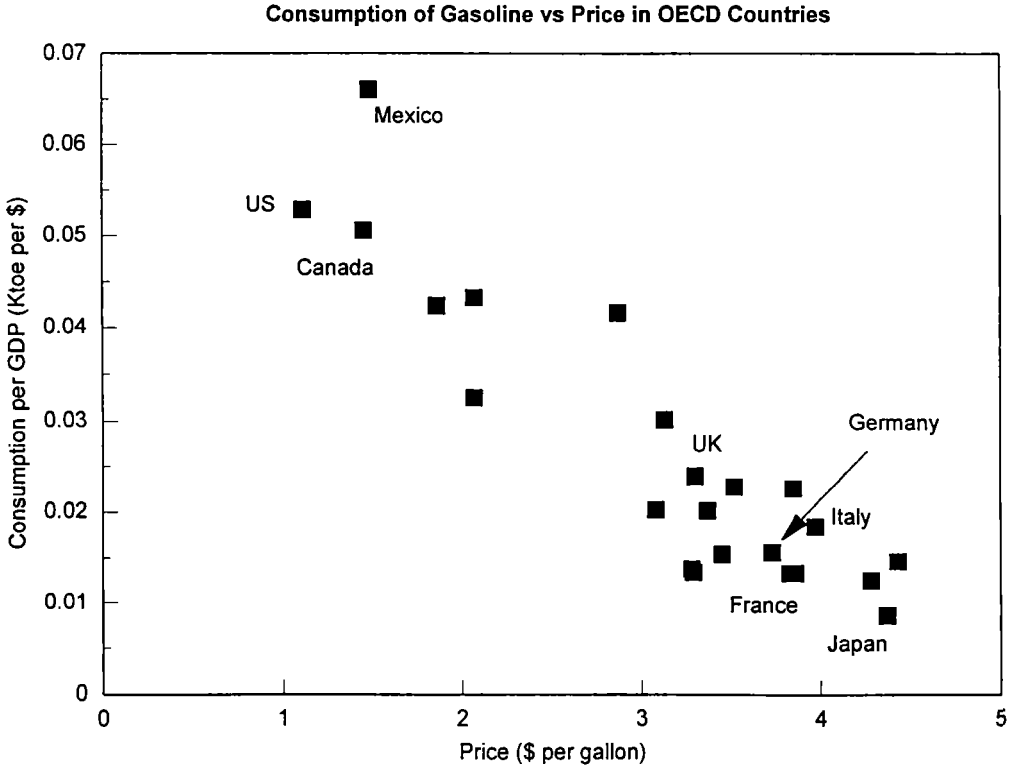

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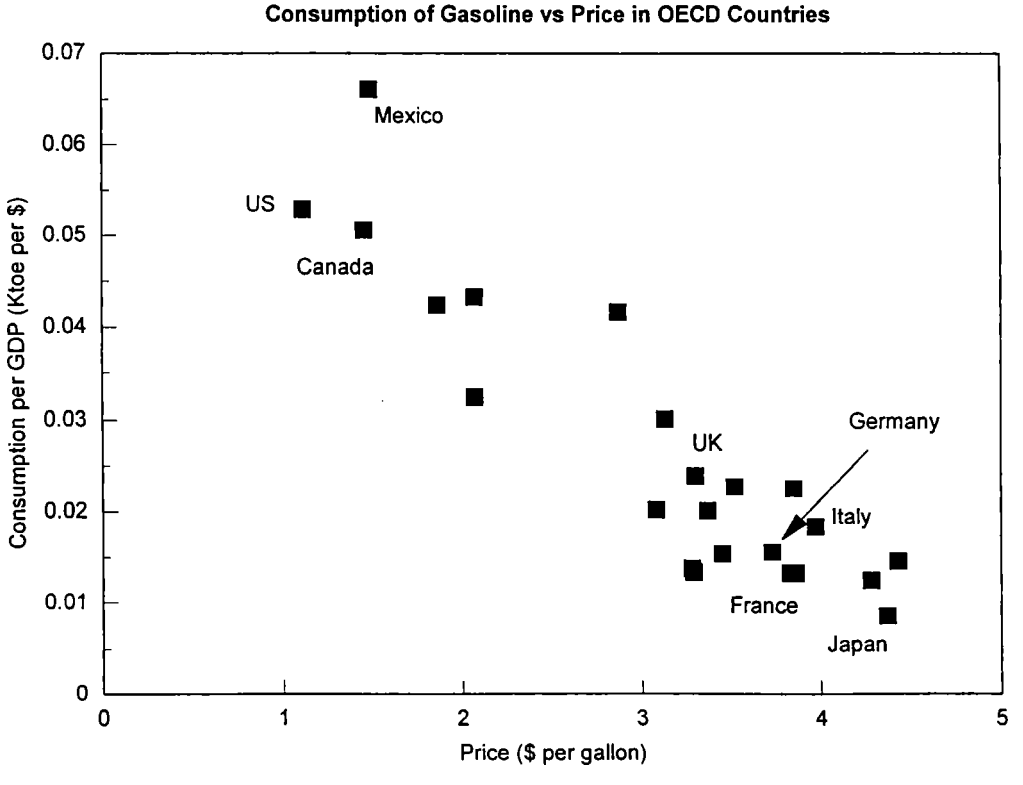
	Tax (per gallon)	Price (per gallon)	Consumption/GDP (Ktoe per $)	Price of Electricity: Households (per toe)	Total Energy Consumption/GDP (Ktoe per $)
Netherlands	$3.25	$4.28	0.0125	$1,343	0.1645
France	$3.09	$3.83	0.0133	$1,744	0.1193
Italy	$3.02	$3.97	0.0184	$1,907	0.1180
Germany	$2.89	$3.73	0.0156	$2,072	0.1184
UK	$2.50	$3.30	0.0240	$1,428	0.1547
Japan	$2.11	$4.37	0.0086	$2,901	0.0733
Spain	$2.11	$3.08	0.0203	$2,023	0.1394
Canada	$0.73	$1.45	0.0506	$692	0.3175
U.S.	**$0.38**	**$1.11**	**0.0529**	**$977**	**0.2068**
Mexico	$0.14	$1.48	0.0661	$788	0.2680



Sources: Energy Prices and Taxes: Second Quarter 1996; International Energy Agency (IEA); OECD
Energy Statistics of OECD Countries: 1993-1994; IEA; OECD
OECD in Figures: Statistics of the Member Countries (1996 Edition)

Appendix: Carbon Abatement Studies

The following list is organized from lowest to highest carbon tax required for reduction to 1990 levels. There are several results for each model in the literature. For the base case scenario, we used the result which most closely matched the scenarios in which we are interested. Some interpolations and extrapolations were used to fill out the table, although we made every effort to stay as close as possible to published numbers. Some results assumed reductions by 2010. Gains relative to base case were calculated using results from within a single model reported in the same paper (so that other assumptions are unchanged). Results reported are from the following models:

MODEL	AUTHOR	TYPE
DGEM	Jorgenson/Wilcoxen	Equilibrium
Global Macro	ICF, Inc.	Equilibrium
Goulder	Goulder	Equilibrium
Green	OECD	Equilibrium
Fossil2	AES Corporation	Equilibrium
MWC	Mintzer/Schaper	Equilibrium
ERM	Edmond/Reilly	Equilibrium
Oxford	Walker/Rossi/Cooper	Macroeconomic
Gemini	Decision Focus, Inc.	Equilibrium
Global 2100	Manne/Richels	Equilibrium
DRI	McGraw-Hill	Macroeconomic
CRTM	Rutherford	Equilibrium

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