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7-3

1997 JUL 3 PM 5:19

Todd —
"Holiday Reading" on
Climate Change

Here are some notes
and current drafts of the
sectoral policy analysis papers.
These drafts are not specific
enough about scenario "outcomes"
in terms of potential changes
by 2010 ~ 2020 (and rely too
much on the models).

Next round drafts available
COB Tuesday.

TJ

7/3/97

POLICY ANALYSIS GLOBAL CLIMATE CHANGE

- Mark Mazur* • Computer modelling (IAT - Interagency Analysis Team) -- draft paper being written under CEA direction, approx 20 pg literature review, 5 pg IAT results
- Jeffrey Hunter* • Draft Sectoral Analysis Paper -- 25 page paper in circulation with Asst Secs, but needs revision:
 - for use with outside groups (if desired), needs revision to replace IAT results with comments on ranges of change projected by various independent analyses, and to scrub for sensitivities in language, etc.
 - for internal Administration use, could provide useful background perspective, and could later be combined with policy analysis sectoral papers below
- Agencies w/ TJ* • Sectoral Policy Analysis Papers -- 3- to 5-page drafts in revision, to provide substantive detail on technical "outcomes" scenarios for 2010 and 2020, to support Administration policy discussions and as background for meetings with stakeholders. Papers for:
 - buildings
 - autos and light trucks
 - freight, aircraft and rail
 - renewable energy
 - electric power
 - industry (probably will present detail on 10 - 12 key industries)
- Policy Instruments Analysis -- needs to be scoped out, can build on papers developed for Asst Secs group, such as emissions trading paper. Papers need to support internal Administration policy discussions on topics such as emissions trading and other potential policy instruments.
- Special Topical Papers -- under development by various agencies and offices

6/16/97 draft

PROFILE OF CURRENT EMISSIONS REDUCTION SCENARIOS Based on Computer Model Results

CO2 EMISSIONS REDUCTION

- By 2010, emissions grow almost 30% over 1990 levels, about 400 mm tons
- By 1997 growth is already 10%, or 140 mm tons

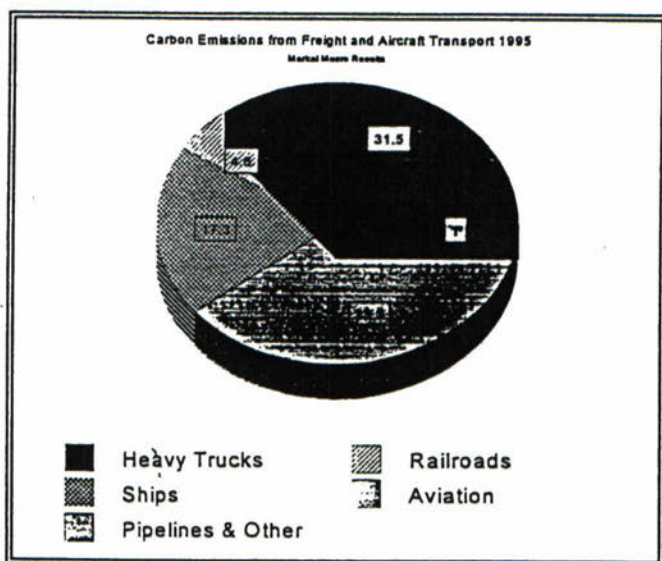
MODELING SCENARIOS FOR STABILIZATION BY 2010

- **Transportation.....30% of the total**
 - Transport sector reduction about 125 mm tons
 - Light vehicles account for 67%, or 80 mm ton reduction
 - New cars sold in 2010 incorporate 30% of PNGV efficiency gains (increase to 45 mpg vs. 28 in 1995 and 31 as the 2010 baseline)
 - VMT to 2010 can still grow under high efficiency case -- for autos, by 0.5% per year vs. 0.6% in baseline, and for light trucks, 3.1% per year vs. 3.2% baseline
- **Electric Utilities.....58% gross, but 25-50% comes from final demand change**
 - Account for a little over half of total reduction, about 230 mm tons
 - Final demand reductions account for most, assuming coal-fired generation
 - in the "efficiency case", 105 mm tons
 - in the "technology case", 200 mm tons
 - Gas-fired generation, through conversions or dispatch, accounts for most of the rest in the "efficiency case", almost 100 mm tons
 - Renewable energy sources account for the rest, about 20 to 30 mm tons in 2010, with larger potential contributions in future decades
- **Final Customer Demand for Energy.....50-65%, including utility fuels (25-50%)**
 - Electricity efficiency, as noted above, saves 105-200 mm tons from coal-fired utility boilers through an overall reduction of 12% to 22% in customer demand for electricity, as follows:
 - industrial customers, 20 to 22% reduction, partly shifting to renewables
 - residential customers, 2 to 22%, depending upon the boldness of the scenario
 - commercial customers, 8 to 18% reduction
 - Other, primary fuel usage reduced an additional 60 to 90 mm tons, through a range of energy efficiency improvements
 - gas, 30 to 40 mm tons, or 9 to 13% from 2010 levels
 - oil, 25 to 40 mm tons, or 16 to 25% of petroleum used for energy
 - coal, up to 25 mm tons of carbon reduced through industrial efficiencies

Freight, Aircraft and Rail Emissions Projections and Potential for Reduction

Key Points

- Total carbon emissions from the transportation sector in 1995 were nearly 470 MMT. The freight, aircraft and rail sectors accounted for nearly 200 MMT of carbon emissions, or 42 percent of all transport emissions.
- All modes of freight transport, including trucks, rail, pipeline, shipping, and air, have improved their energy efficiency. However, intermodal shifts to more energy-intensive trucking and air transport has meant very little change in the amount of energy used to haul a ton of freight from 1972 to 1995.
- Energy use and carbon emissions from non-personal vehicles is likely to surpass energy use and emissions from automobiles shortly after the millenium.
- Opportunities to reduce carbon emissions or energy use in non-personal vehicle transport before 2010 will likely come mainly from trucking, where both improved technologies, and modal shifting offer potential. [add numbers, if available, on tons] Beyond 2010, significant reductions are also possible in aircraft, primarily as a result of improved technology.
- Significant reductions in emissions from non-light duty vehicle transport are possible beyond 2010 with an aggressive R&D program and coordinated public sector efforts to diffuse very low emission or zero emission technologies like fuel cell/fuel cell hybrid powertrains in rail and truck freight transport.



Background

The transportation sector, which includes both personal transportation (cars and light trucks, rail and air) and freight (heavy trucks, rail, aircraft, pipeline, and ships) accounts for almost 11 percent of U.S. GDP. The freight sector accounts for about a third of that.

Total emissions from freight and aircraft were just over 200 MMT, with heavy trucks and aircraft each accounting for about one-third of the total. Aircraft emissions account for all aviation, including freight, passengers, and military, with the lion's share of aviation carbon

emissions coming from passenger travel. Air freight was estimated at 1% of all air transport in 1989, and while it is the fastest-growing mode of non-local freight transport, it probably only accounts for a few percent of all freight transport in 1997. The share of emissions due to freight

alone is unavailable, as many commercial flights carry both passengers and freight.

The U.S. economy moves more ton-miles of freight every year, on every mode. All modes of non-local freight transportation increased between 1970 and 1994. Air freight increased the most (434%), followed by trucks (210%), rail (57%), pipeline (41%), and water (37%). Water, rail, and trucks are each responsible for about 25% of freight movement, measured in ton-miles.

Truck use for freight has increased dramatically in the last 15 years. Historically, rail has had an advantage in hauling heavier freight. In recent years, however, trucking loads have grown heavier; between 1982 and 1992, mileage traveled by trucks with operating weights above 80,000 lbs. increased 193%, and 120% for trucks below 33,000 lbs. The average length of haul increased from 224 miles in 1974 to 817 miles in 1994.

All modes have consistently improved their energy efficiency. Improvements have come from both technology and operational efficiencies. Between 1984 and 1994, heavy truck energy use per vehicle mile decreased 0.4% per year, and 1.6% annually per ton-mile. In rail, energy use per car-mile dropped 0.9% per year, and 2.7% annually per ton-mile.

Between increasing efficiency and the shift to more energy-intensive modes (trucks and air), the net energy effect is about a wash: if energy intensities of 1972 still prevailed, 1994 freight movements would have required about as much energy as was actually used in 1994 to haul more than three times the amount of freight.

Trends

According to Argonne National Laboratory, total energy use by non-personal vehicles is expected to surpass that of personal vehicles before 2005. Improvements in fuel efficiency improvement have slowed in personal vehicles, but continue in other modes of transport. In freight, the weight and cost of fuel carried has a direct effect on the amount of freight that can be carried, so there are incentives to improve fuel efficiency even when fossil fuel prices are low.

Trucks and aircraft are expected to continue as the fastest-growing forms of non-personal transport, and will account for the greatest increases in emissions. The airline industry, since deregulation, operates close to maximum efficiency, and opportunities to use alternative fuels in aircraft are limited. Therefore most of the opportunities to reduce emissions from aircraft are in development and deployment of more fuel-efficient engine and airframe technology.

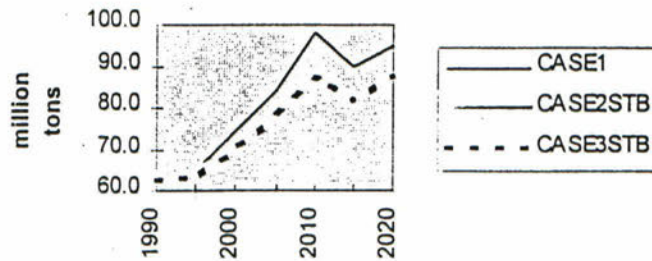
Reducing emissions from surface freight, on the other hand, is possible through both technological improvement and progress in reducing inefficient use of trucks (e.g. continued reduction in empty backhauls, more efficient routing, intrastate warehousing) and shifting from trucks to rail.

Results and Potential for Reducing Emissions

Neither DRI nor SGM include technological advances that affect emissions, or energy consumption, in the freight sector. DRI, in fact, assumes constant MPG for all heavy trucks through 2010, at just over 5 mpg, less than the average for heavy trucks now (approximately 6.8 mpg on-road).

Markal Macro includes several advanced technologies to improve the energy and carbon

Carbon Emissions - Trucks



efficiency of freight. All three cases (base, stabilization with an AEEI of 1.25%/year, and stabilization with an AEEI of 1.75%/year) bring in more fuel-efficient diesels, with faster rates of introduction in the 1.25 and 1.75 cases. In addition, both advanced technology cases phase out existing gasoline trucks, and penetration of trucks LPGfuel. The

1.75 case shows very rapid penetration of diesel trucks that are 20% more efficient than current diesel trucks, starting in 2010 and accounting for well over 95% of vehicle miles traveled by 2020. Fuel efficiency of heavy trucks increases to 6.9 mpg in the 1.25 case and 7.3 mpg in the 1.75 case of Markal Macro. Carbon emissions in 2010 are forecast to be nearly 98 MMT in the base case, 88 MMT in the 1.25 case and 18 MMT in the 1.75 case (see figure above).

Emissions from rail, freight, air freight and pipelines were specified exogenously for the IAT, since none has more than a marginal impact on energy use and carbon emissions as a whole. The forecast shows emissions from rail freight at 10.5 MMT in the base case, and 9.7 and 9.8 MMT, respectively, in the 1.25 and 1.75 cases. Emissions from shipping are reduced from 8.5 MMT currently to about 7.6-7 for all cases in 2010.

Technology Options: Trucks. There are many opportunities to improve energy efficiency and carbon dioxide emissions in freight. Improved aerodynamic design, advanced diesel engines, vehicle weight reduction through materials substitution, improved tires, and electronic engine and transmission controls can achieve fuel economy improvements ranging from 2 to over 20 percent in heavy trucks, as can advances in computational methods (hardware and software) aimed at understanding turbulence both for aerodynamics and within fuel chambers. More revolutionary technological advances, including the use of fuel cells in powertrains, are possible with an aggressive program to develop fuel cells for motor vehicles, along with the storage devices (batteries and ultracapacitors), fuel storage, and infrastructures supporting increased use of hydrogen fuel. With such a program, it might be possible to introduce hybrid fuel cell/electric powertrains into trucks before 2010, though significant market penetration is very unlikely by then.

Rail. Fuel cell/electric powertrains may be somewhat more likely to happen in locomotives than trucks, though significant market penetration of fuel cells in rail before 2010 is doubtful. The cost of fuel cell power is still prohibitive in rail, but with further development and expansion in the use of fuel cells for other applications (light duty motor vehicles and terrestrial power generation, e.g.) the economics may become more favorable. While widespread use of fuel cells for any kind of transport poses some significant infrastructural, maintenance, and technical problems, there has been significant progress in fuel cell and other hybrid powertrain technology over the past several years, with significant contributions from PNGV and NASA and DOD programs. With increased spending on hybrid powertrain development and the appropriate incentives to develop infrastructure and support for operation and maintenance, fuel cell applications may be possible, though at no significant scale, by 2010.

Technology Options: Aircraft. In aircraft, energy efficiency is a perennial concern primarily because reducing the weight of fuel is one way of reducing aerodynamic drag, a central and constant concern of aircraft and engine designers. NASA programs aimed at achieving greater fuel efficiency in engines were both technically and economically successful in the 1980s, improving the efficiency of existing engines as well as producing new, more efficient jet engine cores and components. NASA and industry (principally GE and Pratt and Whitney) also produced advanced turbofan and unducted fan engines that achieve significant gains in energy efficiency, but have not been commercialized primarily because falling fossil fuel prices reduced the payoff to greater efficiency in the late 1980s; these engines, however, are still available and could be incorporated into aircraft designs with less expense and development expense than clean-sheet designs would entail should they become more attractive options in the future. Ongoing NASA/DOD/industry work on energy efficiency continues, under the Integrated High Performance Turbine Engine Technology program, aimed at achieving a 40 percent improvement in energy efficiency by 2003. NASA research on computational fluid dynamics and numerical simulation is also showing promise for modifying the skins of aircraft to include tiny, micron-thin riblets that could decrease turbulence, and thereby, drag, by 5 or 6 percent, increasing fuel efficiency and airlines' profit margins. It is quite likely that some of these improvements could show up on commercial aircraft before 2010, although full market penetration will take decades due to lengthy capital life.

Intermodal Switching. Intermodal shifting, or switching from truck to rail haul or air transport, has been underway for some time. Intermodal transportation of freight, or using both trucks and rail or aircraft, cuts emissions by relying on more energy-efficient modes (rail and air) rather than trucks for part of the trip. The Department of Transportation estimates in its 1996 annual transportation statistics report that intermodal freight hauls meant 1.5 million fewer large trucks on the highways. A simulation done in Markal Macro shows that diverting 10 percent of truck ton-miles of freight to rail could save 4.3 to 4.7 MMT of carbon. Whether such a shift would be operationally feasible is unknown. Markal Macro includes no cross-elasticities to optimize intermodal shifts, and while DRI does, no shifts occurred in IAT runs of DRI's energy model.

Action

Overall, the IAT model runs could be described as technologically conservative in the freight area. Foreseeable technologies could make more significant reductions in emissions, particularly with more aggressive efforts to develop and diffuse the technologies. Programs to develop transportation technologies such as PNGV and NASA programs on energy efficiency and aerodynamics could probably bring these new technologies to proof of concept or demonstration before 2010, and several, particularly in truck componentry and efficiency, could be well established in the market. Energy experts at DOE's multiprogram laboratories point out, however, that current levels of funding for PNGV are probably inadequate to achieve the program's technical goals.

Technical success in research and development does not assure adoption or diffusion of

new technology. Successful completion of the technical program of PNGV and NASA's engine and laminar flow programs must also be followed by investment in commercial development and marketing by industry in order to achieve market penetration. Moreover, capital in the freight sector tends to be turned over quite slowly; with maintenance and overhauls, trucks can last a couple of decades and locomotives and aircraft even longer. Incentives to hasten capital turnover, such as accelerated depreciation programs or investment tax credits, would also help to achieve stabilization. Finally, improving energy and carbon efficiency can also pay off in terms of improved competitiveness of efficient engines and powertrains on international markets.

Market mechanisms can also reduce emissions while improving economic efficiency when prices are brought in line with true costs. Better pricing truck use of highways is justified considering that trucks probably do not pay their fair share for use of federally-funded highways, according to the Department of Transportation. Obliging trucks to pay a greater share of the cost of highway construction and maintenance would also be likely to increase incentives for intermodal switching, as would subsidizing rail transport or operating freight railroads.

The Carbon Reduction Potential in the U.S. Buildings Sector

June 23, 1997 Draft

Summary

Substantial reductions in greenhouse gas emissions are possible in residential and commercial buildings through greater use of cost-effective energy efficiency technologies that not only cut energy use, but also save consumers and businesses money. Estimated potential carbon emissions savings in the residential sector are 13-40 million metric tonnes (MMT) in 2010 and 30-70 in 2020. In the commercial sector, potential emissions savings are 13-40 million metric tonnes (MMT) in 2010 and 30-70 in 2020.

Background

Energy is used in buildings to provide a variety of services such as space heating and cooling, lighting and refrigeration and to power a broad array of appliances and equipment. U.S. buildings energy consumption accounts for nearly one third of total primary energy consumption and related greenhouse gas emissions. The 1996 bill for these energy services was over \$200 billion.

Energy intensity in buildings has declined substantially over the past twenty years. Energy use per square foot of commercial space declined by about 30% between 1979 and 1992, while residential energy use per square foot has dropped by 18% since 1978. Despite these past gains, the latest EIA business-as-usual forecasts project that commercial energy use in the future will decline by only 0.2% per year, and residential energy use by 0.5% per year. However, numerous studies (National Academy of Sciences, 1991 and Office of Technology Assessment, 1991, EMF-12, 1994) have indicated that a substantial potential remains for cost-effectively reducing U.S. energy consumption and greenhouse gas emissions - particularly in buildings.

Potential

Analysis results indicate that large reductions in future greenhouse gas emissions could be realized through the use of more energy-efficient technologies at a net reduction in the total cost of energy services in residential and commercial buildings. The table below shows the baseline EIA projections of primary energy consumption in a future without a global climate treaty, any market signals to reduce carbon emissions or substantial technological advances in these areas.

	1995	2010	2020 ¹
Residential total (quads)	10.5	11.9	13.8
Commercial total (quads)	7.1	8.1	8.9
Buildings total (quads)	17.6	20.0	22.7

¹ Markal/Macro Base Case

The potential energy use reductions indicated by the IAT analysis are shown below. These results assume a binding international climate treaty leading to increased emphasis on U.S. carbon emissions reduction as well as federal and State policies to accelerate the use of existing cost-effective energy efficient buildings technologies.

- costs/benefits across papers

(1.25-1.75)

	Markal		DRI		Labs Study
	2010	2020	2010	2020	2010
Residential total (quads)	1.2-2.5	3.4	1.4-1.5	1.6-2.1	0.4-0.8
Commercial total (quads)	1.1-1.2	1.4	1.0-1.2	1.6-1.7	0.6-1.1
Buildings total (quads)	2.3-3.7	4.8	2.4-2.7	3.2-3.8	1.0-1.9

The IAT number translate into carbon savings of 26-33 MMT in 2010 and 35-44 MMT in 2020. A complementary bottom-up analysis is contained in the forthcoming study by five national laboratories, U.S. Carbon Reductions by 2010 and Beyond: The Potential of Energy Efficient and Low-Carbon Technologies. This study, which is a much more detailed sectoral analysis, indicates a lower overall energy savings potential, but a significantly higher electricity savings potential. As a result, estimated potential carbon emissions savings are 25-50 MMT. The major sources of reductions include residential miscellaneous electricity uses, commercial other uses (such as office equipment), lighting and space conditioning. These investments are estimated to have a annualized cost of \$14-\$24 billion, but result in annual energy bill savings of \$33 billion. (not including implementation)

The IAT analysis results are rather difficult to place in context because of the top-down method of analysis. The national laboratories study however, is quite clear on what is required, as it is based on a technology-by-technology and end-use by end-use analysis. In order to achieve the lower end of the range, about 35% of buildings in 2010 need to be using existing cost-effective buildings technologies. The high end of the range requires 65% of buildings in 2010 to use such technologies. Efficiency gains could be higher, but would require lower technology capital costs than those assumed in the analysis. This range does not require premature retirement of capital stocks - only normal retirements of various equipment and renovation timing. Thus these estimates appear plausible relative to the infrastructural investments they imply.

While the IAT and the national laboratories study differ on the precise size of the potential for these three markets, they do agree that they are substantial. This suggests a need for additional technology development and deployment in these areas as part of a national climate strategy.

Action

Realizing the potential savings above will require a proactive set of federal, state and local policies that accelerate technology deployment, energy efficient building design and construction and energy efficient building operations. This is critical because most of the carbon savings estimated above will result not from new technologies, but rather from increased market uptake of existing and near-term technologies. Maintaining carbon emissions stabilization or cutting emissions further will also require continued technology improvement. Federal agencies, State governments and many local organizations already conduct programs to move the buildings sector toward a lower carbon future. Some of the federal actions that will need to continue or begin include:

- working with state and local partnerships to improve efficiency of existing buildings through information, demonstrations, technical assistance (e.g., Rebuild America, Energy Star);
- facilitating the manufacture and purchase of high-efficiency equipment and appliances;
- working with the insurance companies, financial industries, utilities and other market intermediaries to remove barriers to investments in energy efficiency;
- Accelerated development of a portfolio of advanced buildings technologies - such as fuel cells in buildings, reflective surfaces and materials, and advanced windows.

The Role of Renewable Energy in a U.S. Climate Change Strategy

Summary

Renewable energy has substantial potential to reduce U.S. carbon emissions in the mid and long term. These technologies are significant options because, with the exception of biomass, they emit little or no carbon. While renewable energy has typically been viewed as both costly and futuristic, rapid and steady declines in costs and improvements in performance have resulted in several technologies being competitive in selected markets today and the expectation that others will be competitive in broader markets in the near future. Estimated potential carbon savings are 22-26 million metric tons (MMT) in 2010 and 50-85 in 2020.

Background

Renewable sources of energy are either continuously resupplied by the sun or they tap inexhaustible resources, such as geothermal energy. The use of modern renewable energy technologies to generate electricity either does not pollute or emits far less pollution than burning any fossil fuel. Most renewable energy technologies produce no greenhouse gas emissions at all during operation, and are responsible for only very small emissions during manufacture. Biomass fuels emit no net carbon on a life cycle basis—the amount of carbon released by biomass combustion is equal to the amount absorbed from the atmosphere during growth. Today, roughly 12% of the country's electricity generating capacity is based on renewable power systems. Over 85% of this generation is from hydropower - which has little potential for expansion. However, the remaining renewable technologies - including wind, biomass, photovoltaics, solar thermal and geothermal - are becoming increasingly economic and have large potential to expand and reduce greenhouse gas emissions in the mid to long term. Both wind and PV are experiencing a 20% cost reduction for every doubling of cumulative production. Photovoltaic (PV) cells, which convert sunlight into electricity, have dropped from 90 cents per kilowatt-hour in 1980 to under 20 cents today while wind power has dropped from 25 cents per kWh to 5 cents. These cost reductions will continue to occur not just because of R&D, such as advances in thin film PV, but also through economies of scale and improvements in manufacturing that come with increased production. Several major international companies, most notably Royal/Dutch Shell expects these technologies to be the dominant global source of energy by the middle of the next century and are beginning to make substantial investments in their development.

Two of these technologies - wind and biomass - could also play important roles by 2010. Wind is projected to have a levelized cost of energy of 2.6-3.2 cents per kilowatt-hour by 2005 - quite competitive even in a world without a climate treaty. Biomass has a large potential in two key markets: co-firing with coal and cogeneration of power and steam in industry. Incremental costs for co-firing for many sites are less than \$200/kW - making it a low cost low-carbon option. Industrial biomass gasification and high efficiency cogeneration have a large potential for emissions reductions - especially in the forest products industry, which has abundant biomass feedstocks.

Potential

Analysis results indicate that renewable electric technologies have a large potential for reducing carbon emissions. The table below shows the baseline EIA projections for renewable electricity generation capacity as well as the results of the Markal Macro and DRI models. The EIA baseline assumes a future without a global climate treaty, any market signals to reduce carbon emissions or substantial technological advances in renewables. The IAT results assume increased focus on U.S. carbon reduction and a continuation of the current trend of improvements in the performance and costs of renewable electric technologies.

Renewable Energy Generation Capacity (GW)	1995	2010	2020
EIA AEO97 Base Case	9	14	26
Markal Macro	9	31-33	70-120
DRI	9	?	?

Note: 2020 EIA baseline estimates are extrapolated from 2015 projections.

These numbers translate into carbon savings of 15-16 MMT in 2010 and 35-60 MMT in 2020 - assuming the renewable energy displaces efficient gas generation. However, the IAT models have limited representation of utility and industrial cogeneration markets, so biomass capacity is likely underestimated. The forthcoming study by five national laboratories, U.S. Carbon Reductions by 2010 and Beyond: The Potential of Energy Efficient and Low-Carbon Technologies, offers a more detailed analysis of biomass. That study suggests a substantially higher potential for biomass co-firing with coal and greater potential for biomass gasification and cogeneration in industry. These numbers translate into additional carbon savings beyond the IAT Markal results of 7-10 MMT in 2010 and 15-25 MMT in 2020.

These estimates appear plausible relative to the infrastructural requirements they imply. Markal suggests that wind will be the fastest growing technology. The 2020 projections are consistent with use of about 10% of total U.S. wind resource, so the major potential constraint is one of wind turbine manufacturing capacity - which could be solved with substantial additional corporate investment. The manufacturing capacity needed is less than the gas turbine manufacturing capacity today and less than one third of the gas production capacity projected in the model. For biomass co-firing, a net of 2.5-3.5% of coal electricity production is biomass-fired in 2010 and 4-8% is biomass in 2020. That would require a maximum of 2-3 million acres of woody and herbaceous energy crops in 2010 and 5-10 million acres in 2020 - largely on marginal farmland - although substantial use of agricultural and forestry wastes could reduce these requirements. For industrial cogeneration, the additions in biomass cogeneration capacity are consistent with expected capital stock turnover.

Action

While electricity from fossil fuels continue to become cleaner and cheaper, expanded R&D and deployment could make a number of renewable technologies beyond wind competitive on purely economic grounds in the next 10 to 20 years: photovoltaics, biomass gasification, solar thermal, and geothermal. In a greenhouse-gas constrained world, these zero-carbon emitting sources of power would be even more competitive. The following actions could accelerate the use of these technologies by 2010 and make a large difference beyond 2010.

- expanded technology research and development to continue to lower costs and increase performance;
- expanded cost-shared technology deployment efforts with industry to increase utility system experience and increase U.S. production renewable energy production capacity - lowering costs still further; and
- promotion of U.S. renewable energy technologies abroad to tap the huge market for renewables in the developing world - enabling U.S. producers to further lower costs.

Electric Power

Key Findings:

- Coal-gas substitution, demand-side efficiency and renewable power are the main options for emissions reductions. Potential reductions are very large (250MT+) and will make up a substantial portion (25-50% or more) of the national total.
- Cost of reductions: around \$5-10 billion/year (\$40-80/MT) as policy takes effect.
- The main impacts of climate policy in this sector are on coal use and delivered power prices. Natural gas and renewable energy demand will probably increase.
- Policies that spur plant turnover, cheaper new generating technology, and increased efficiencies in existing generation and transmission will lower policy impacts. The response of natural gas markets to increased demand is also critical.

Background

Electric power meets a growing share of US end use energy demand, just surpassing 30%; generation of electric power continues to grow in tandem with economic growth, unlike most other forms of energy consumption. Electric power sales of roughly \$200 billion represented 3% of US GDP in 1995. Despite advances in the efficiency of fuel use, US electric power supply maintains an historic reliance on coal and (increasingly) natural gas, leading to an upward GHG emissions trend that is expected to continue in the absence of climate policies.

Leading in the fossil fuel area, coal use is currently expected to continue to supply more than half of the Nation's electric power through 2010. Coal consumption, of which 90% is electric utility use, will reach 1 trillion tons in 1997, and by 2010 is expected to reach 1.1 trillion tons. Natural gas used for power production, currently around 5.6 Quads per year (including non-utility and cogeneration), supplies 15% of US power, near its historic peak share, and is growing most rapidly today. Nuclear power, currently 20% of the US power supply, is expected to decline as plants age and face increased competition.

At present, most renewable power is hydroelectric, which currently supplies 9% of US electricity but has a very limited expansion potential. Non-hydro renewables currently account for about 2.7% of the US power supply; even at fairly rapid rates of growth, these technologies will not contribute a large share for some time. To be commercially viable, costs of renewable technologies need to decline from current levels of around \$0.05/kWh to perhaps \$0.03-0.035/kWh (in the absence of high fossil fuel prices).

Model Results and Potential for Reducing Emissions

Most studies of climate policy indicate that this sector will be a key contributor to any GHG emissions reduction strategy. Reductions in the electric power sector depend on the form and stringency of potential climate policy, but in IAT-type scenarios this sector is expected to reduce emissions by up to one-fifth, or even one-third, compared to baseline levels. Because there are no direct emissions control technologies, achieving reductions mostly relies on changing which power plants are used. The dominant option is to use natural gas in place of coal, through co-firing or repowering in existing coal units, or through increased use of new high-efficiency gas plants. Other options include more intensive use of renewable energy; increasing the efficiency of coal use; and improving other parts of the utility system (mainly the transmission grid) to minimize losses. Reductions in end-use demand are also important, but are not discussed here.

Comparing model results for the electric power sector shows that the physical responses are generally similar, but estimated costs of reducing emissions vary. In fact, the 'simple' cost of replacing power from an existing coal unit with a new natural gas plant is quite similar between models, given assumptions for fuel and equipment costs in 2010. However, the estimated costs of reducing emissions are quite different in the models. These differences are mainly the result of assumptions about how capital replacement decisions are made, and how the costs of power production are allocated. Other factors may include some early coal-coal switching, and a potential natural gas price response. As a result, estimates of delivered (weighted average) price impacts also vary: 25% in DRI, 40% in NEMS.

Models of climate policy impacts generally show a reduction in coal use of 25-60% if a stabilization target is met. To the extent that electricity demand is reduced through efficiency, however, these impacts could be considerably lessened. Natural gas is affected by several factors and is very sensitive to assumptions; models generally show an increase in demand for gas in the electric power sector of 15-50%, although this could be offset by declines in other gas-using sectors. Two recent analyses, the DRI modeling for the IAT and a study using the DOE IDEAS model, indicate net declines in US natural gas demand under a GHG stabilization policy.

As part of a GHG emissions reduction strategy, non-hydro renewables could become a bigger factor. Some models indicate that wind and biomass may become cost-effective options as more emissions reductions are called for. For example, MARKAL-MACRO indicates a 35% increase in non-hydro renewable use in 2010 under GHG stabilization, as does DRI (on a smaller base).

The impact of greater efficiency and lower demand for electricity are also significant. When end-use demand is lowered, fewer new high efficiency natural gas power plants are built. Coal use does not decline as much, and less gas and renewable power is used. Overall costs in the utility sector are lower. Combining end-use efficiencies with new supply technologies yields the lowest cost estimates for achieving substantial emissions reductions in the power sector.

Action

The success of each of these emissions reduction options depends on the price of fossil fuels; the rate of turnover for generating units; and the cost and performance of less GHG-intensive supply technologies. For example, if more natural gas is available at relatively low prices, then more gas plants may be built instead of renewables; similarly, if older power plants are maintained through life-extending technology, then fewer new plants of any type are needed. To the extent that policies, incentives and industry actions succeed in speeding up plant turnover or developing new low-cost supply options, the 'signaling' factor of higher fuel prices becomes less important.

It is also important to recognize and work to integrate two other policy directions with implications for electric power production: competitive restructuring and regulation of criteria air pollutants. It may be that the combination of open power markets and market-based air regulation (i.e. a set of cap-and-trade systems for SO₂, NO_x and CO₂) will make climate-related policy incentives work faster and more effectively. At a minimum, there will be interactions between these changes which will alter the emissions profile of the sector. For air regulations, early analysis using IPM and NEMS indicates that although new ozone and particulate matter rules will have a limited effect on CO₂ emissions (a reduction of approximately 5% from 2010 baselines), GHG limits could induce significant reductions in the criteria pollutants, on the order of 5-10% for SO₂ and 25-35% for NO_x. However, compliance strategies, costs, and permit prices will be quite different under such a scenario, so the economics of this interaction is complex (note that SO₂ allowance prices will probably fall to zero as the cap will not be binding; does this imply that no economic value should be attached to these reductions?).

Industry

Key Findings

- ◆ Based upon data from AEO97, the industrial sector now uses 37 percent of the nation's energy and is responsible for 32 percent of overall greenhouse gas emissions in the United States.
- ◆ The industrial sector has the potential to reduce energy use and carbon emissions by 10-15 percent over 2010 baseline forecasts through cost-effective investments in energy efficient technologies, and in some cases, low-carbon technologies.
- ◆ The annual investment necessary to achieve this level of carbon reduction is on the order of \$2.3 to \$3.8 billion per year, about 2-3 percent of the investments made by the manufacturing sector in 1995. However, since most of these technologies save money, investments in energy efficient technologies may actually improve the competitive position of many industries.
- ◆ Many of the most successful technologies have multiple benefits, including environmental- or productivity-enhancing features.
- ◆ These energy savings and reduction in carbon emissions are unlikely to happen without policy measures driving the improvement in the industrial capital stock.

Background

The industrial sector has made important strides in reducing overall energy intensity over the past 25 years. However, there are still readily-available but underutilized technologies with two and three-year paybacks that can reduce industrial energy use by 10 percent or more. The use of heat recovery and cogeneration systems, for example, can save 10 percent of energy use with an internal rate of return of 30-60 percent. Better maintenance of compressed air systems can save 40 percent of the energy used in such systems. And more energy-efficient motor systems can also provide a significant source of electricity savings.

Broadly speaking the industrial sector includes farming and ranching, agricultural services, fisheries, forestry, mining, construction and manufacturing. While many policy analysts think of "industry" as a homogenous set of economic activities, it embraces an incredibly diverse set of processes ranging from the growing and processing of food products to the production of paper, plastic resins, cars and computers. The process and energy requirements of each of the individual industries that are within the industrial sector are as different as the products that they produce. While many products have similar uses, the processes involved in making them may be vastly different. For example, plastic drink bottles, glass drink bottles, and aluminum cans all are similar products; however, they share almost no processes in common. For this reason, it is important to develop climate policies which reflect these important differences among the industrial sectors.

Based upon data from the Energy Information Administration, the industrial sector now uses 37 percent of the nation's energy, or 34.4 out of a total 93.6 quads. Carbon emissions are now at about 32 percent of total emissions in the United States, or 471 of 1467 MMT. With normal rates of capital stock turnover, the industrial energy intensity is expected to decline at a rate of 1.2 percent in base case forecast for the period 1997-2015 (*Annual Energy Outlook 1997*).

Savings Potential

The DOE National Lab study (*U.S. Carbon Reductions by 2010 and Beyond, 1997*) suggests that by 2010, the technology exists such that overall energy consumption can be reduced by 2.0 to 3.8 quads over the baseline forecasts. A combination of energy efficiency investments and low-carbon

fuels can reduce carbon emissions by 22 to 73 MMT. Industry's share of further carbon reductions available in the electricity sector would increase overall carbon savings by perhaps another 40 to 50 MMT. The incremental investment costs are estimated to be \$11.60 to \$13.88 per mmBtu. Based upon the AEO97 energy costs for the year 2010, this reflects a payback period of 1-4 years. According to the Lab study, the cumulative investment requirements are between \$23.2 and \$47.2 billions of 1995 dollars in the period 1998 through 2010. The level of energy savings are roughly the same for both electricity and fossil fuels. A new study published by a consortium of non-governmental organizations suggests an overall energy savings potential of 3.75 quads of energy and 41 MMT of carbon in the year 2010 (*Energy Innovations*, 1997).

The table on the following page summarizes key indicators for the industrial sector for the years 2010 and 2020. The National Lab study suggests that by the year 2010 it is possible to reduce energy use by 5 to 10 percent over the base case forecast through cost-effective investments in energy efficient technologies. The Markal-Macro simulation for 2010 suggests a savings potential of 11 to 15 percent. The DRI model suggests a similar level of savings, estimated to be 11-12 percent of the base case forecast in 2010. These results are somewhat larger than either the National Lab study or the Energy Innovations analysis. Two reasons account for most of this difference. The first is that the Lab study results are reported in primary energy units while the Markal-Macro and DRI results are reported at the end-use. The second is that the consumption reported in the table for both models do not include petroleum or natural gas feedstocks.

Many of the most successful technologies have multiple benefits, including environmental- or productivity-enhancing features. A technology that reduces product loss or increases process throughput, for example, will often reduce labor and other material costs as well as energy costs. These additional co-benefits are generally not reflected in the results of either the MM or the DRI models. Hence, the benefits to the industrial sector may be somewhat understated. Stated differently, the competitive position of many industrial sectors may actually be strengthened — depending upon the type and flexibility of the climate policies that are actually implemented. These energy savings and reduction in carbon emissions are unlikely to happen at this level without additional policy measures to drive the needed improvements in the industrial capital stock.

Actions

Most analysts agree that there are significant opportunities to improve overall energy efficiency within the industrial sector. In addition, there are important opportunities to reduce the carbon intensity of industrial operations through changes in the fuel mix, and by using lower-carbon fuels. The latter includes biomass gasification, natural gas diesel and fuel cell technologies. The more efficient use of chemical feedstocks will also contribute to a reduction in carbon intensity.

Broadly speaking, there are four sets of policies to encourage the more rapid diffusion of existing technologies as well as the development of a new generation of process efficiencies and industrial energy supply technologies. These policies include: (1) incentives to accelerate the investment in new capital stock and equipment (with such incentives ranging from targeted financial support as investment tax credits to increased regulatory flexibility that allows industries to more fully optimize overall plant operations); (2) increased RD&D to facilitate the development of improved technologies as well as the development of a new generation of industrial technologies; (3) incentives to increase the use of recycled feedstocks; and finally, (4) expediting the use of combined heat and power systems through improved environmental permitting and by incorporating provisions into the ongoing utility restructuring that facilitate the sale of excess power by industrial plants.

Key Industrial Indicators for 2010 and 2020

Indicator	Markal-Macro							DRI						
	1995	2010			2020			1995	2010			2020		
		Base Case	Case 2	Case 3	Base Case	Case 2	Case 3		Base Case	Case 2	Case 3	Base Case	Case 2	Case 3
Energy (Quads)	19.6	22.8	19.3	20.2	24.3	19	20.1	22.8	25	21.9	22.3	26.4	21.9	22.4
Emissions (MMT)	466	563	421	465	592	407	456	472	521	436	445	542	419	422
10-Year Rate of Annual Efficiency Improvement	n/a	1.1%	2.6%	1.7%	0.8%	1.5%	1.4%	n/a	1.5%	2.6%	2.7%	0.9%	1.5%	1.4%

6-13-97
draft

Transportation: Automobiles

After a roughly 15-year period (1975-1992) of energy efficiency improvements in new vehicles, energy use in the transportation sector now appears to be growing at nearly the same rate as the gross domestic product (GDP). Nevertheless, the technology exists to increase the average fuel economy of the nation's fleet of light duty vehicles by 30 percent or more in the year 2010 — without the need for reduced travel or increases in the cost of travel. This is true in both the movement of people and freight. This success would be achieved in the case of automobiles, for example, if new car sales achieve one-third of the fuel economy gains represented by the PNGV goal of 80 MPG.

Major technologies for light duty vehicle improvements include, for example, material substitution, reduced aerodynamic drag, improved automatic transmissions, reduced engine friction, variable valve timing, and advanced tire designs. Many of these technologies have already emerged in the market, lacking only appropriate policy signals to accelerate their diffusion, or to redirect their use toward fuel economy instead of improving other aspects of vehicle performance. Honda, as one example, employs a system of variable valve timing that is used to boost power and improve fuel economy. General Motors has one vehicle that has already achieved a low aerodynamic drag. On the other hand, lean-burn engines which increase engine thermal efficiency are a low-risk technology that should be readily available by 2010.

Work developed for the "Car Talk" advisory committee¹ resulted in estimated reductions of both energy use and carbon emissions (measured in million metric tons of carbon, or mmMTCe) through a variety of both technology and policy options. Summarized in the table below, and generally covering the period 2005 through 2025, the options include improved land-use planning, higher fuel prices, fuel economy standards and feebates, the Partnership for a New Generation Vehicle, and the use of low-emission fuels.

Modeling a different set of technology assumptions showed a significantly different set of results. DRI focused on largely behavioral response to reduce transportation energy consumption, while Markal-Macro had a larger technology bent. The table on the following page highlights these differences. (Note: the reference to CCAP is the so-called Case Two scenario which moved toward but did not necessarily hit a rate of decline in E/GDP of 1.25 percent. This compares to an assumed 1.00 percent decline in the base case. The Case two scenario includes both the full set of CCAP programs as well as "announcement effect." Case three, the Technology Case formerly described as the 1.75 Case, assumes a higher level of investment potential for cost-effective energy efficient/low-carbon technologies.)

In case two (with stabilization), DRI forecasts a 9 percent reduction in VMT with an 8 percent increase in MPG for new automobiles. DRI's case three (with stabilization) forecasts only a 5 percent VMT reduction with a 10 percent increase in new car MPG. MM shows only a seven percent drop in VMT for the CCAP scenario. This rebounds, however, to nearly base case levels with better assumptions about technology. Although new cars in MM enter the market with a high EPA-rated fuel economy (again, with about one-third of the improvements of the PNGV goal), the entire fleet of automobiles show an on-road MPG of only 30 MPG. Hence, it is the on-road change in fleet fuel

1. The "Car-Talk" committee is the *Policy Dialogue Advisory Committee to Assist the President in the Development of Measures to Significantly Reduce Greenhouse Gas Emissions from Personal Motor Vehicles* formed in 1993 to see whether a consensus set of policies could be developed to return personal transport GHG emissions to 1990 levels by 2005, 2015 and 2025. The committee failed to agree on such policies, but substantial analytic results were developed by a team of government analysts working with several expert committee members.

economy — moving from 24.2 to 30 MPG — that drives much of the transportation energy and carbon savings. In the Markal Macro assumptions, a new vehicle at 44.7 MPG would cost an estimated \$1,190 above new cars in the base case. However, owners of the new vehicles would save about \$210 per year in avoided gasoline costs. Simple payback for this technology would be, therefore, about 5.7 years.

Car-Talk Summary Table of Policy Options²
(mmMTCe)

Policy Measure	Policy Type	2025 Annual Emission Reduction
Land Use and Transit Policy Package	Less VMT	25
Fuel Price Increases (\$0.50/gal.)	Less VMT	120
Parking Tax (\$2.00 nationwide)	Less VMT	25
Road Pricing	Less VMT	25
Fuel Economy Standards, "Feebates"	More Fuel Efficiency	90
PNGV	More Fuel Efficiency	60-200
Bio-Ethanol Subsidy	Low Emission Fuels	100
GHG Savings Needed to Return Personal Transport Emissions to 1990 Levels by 2020-2025		200-260

Key Automobile Indicators in 2010

	DRI			Markal-Macro		
	Base	CCAP	Technology	Base	CCAP	Technology
VMT	1526	1403	1450	1619	1509	1597
MPG New Car (EPA)	29.2	31.4	32	30.7	43.4	44.7
MPG Car Fleet (EPA)	24.7	26.5	30.6	29.3	32.7	35.7
MPG Car Fleet (On-Road)	23.3	24.5	26.9	24.4	27.3	30

2. Emission reductions may not be added since the impact of implementing multiple policies may be significantly less than is implied by adding up the individual estimates. However, the motor vehicle GHG model used to develop most of these estimates can be used to forecast the effect of multiple policies.

THE WHITE HOUSE

WASHINGTON

INFORMATION

MEMORANDUM FOR THE PRESIDENT

FROM: SAMUEL R. BERGER *SRB*
KATHLEEN MCGINTY *Kam*

SUBJECT: Your Trip to the UN General Assembly Special Session on Environment and Development

I. SUMMARY OF EVENTS

You arrive in New York City late Wednesday, June 25 and depart Thursday, June 26. Your schedule includes:

- **Speech to UN General Assembly Special Session on Environment and Development** highlighting the importance of promoting sustainable development; describing your plans to engage the American public during the next few months as part of the process of developing public support for our forward-leaning and realistic position on climate change by Kyoto; and announcing environmental initiatives on forests and finance.
- **Brief meeting with United Nations Secretary General Kofi Annan**, discussing our proposals to reform the UN and remit U.S. arrears.
- **Brief meeting with South Korean President Kim Young Sam**, primarily for Kim's benefit to show the solidarity of the alliance.

II. THE SETTING OF YOUR VISIT

This Special Session of the UN General Assembly marks the fifth anniversary of the Rio Earth Summit. More than 50 heads of state will attend and speak. The Vice President opened the Special Session with a short speech Monday. Your speech comes toward the end of the meeting, which will close June 27.

The purpose of the Special Session is to review progress in promoting sustainable development since the Rio Earth Summit. No treaties or binding agreements are being negotiated (although

environment ministers will prepare a political declaration). Climate change will receive considerable attention, from leaders and in the media.

The Denver Summit revealed differences in approach among The Eight, but also reduced expectations that we will have "the answer" by New York.

III. EVENTS

The Speech to the General Assembly

The centerpiece of this trip will be your address to the General Assembly. Like all leaders, you have been allotted seven minutes for your remarks. Your speech highlights the importance of promoting sustainable development; notes that environmental protection and economic growth reinforce one another, as do environmental protection and democracy; and emphasizes that efforts to protect the global environment require international cooperation.

Your climate change remarks will command the most attention. They will acknowledge and describe the magnitude and seriousness of the problem; our responsibility as the leading industrial nation to do our share as part of a global effort; frankly deal with the costs and opportunities associated with action; and describe your undertaking to arrive at an appropriate level, that will have the support of the American people before Kyoto.

You will also announce a package of other environmental initiatives. You will discuss the importance of forests to ecosystems around the globe, and announce measures to promote sustainable forest management in the United States. You will discuss the importance of private capital flows in sustainable development, and announce new environmental guidelines for the Overseas Private Investment Corporation.

Bilateral with Kofi Annan

This is a courtesy call, but presents us with a good opportunity to explain our strategy for gaining Congressional support for arrears payment. It is important to win him over to our approach, stressing the ground-breaking nature of Senator Helms' support, even though Annan will be under considerable pressure from others to resist the linkage of arrears to reducing our assessment and specific reforms.

Bilateral with President Kim

President Kim's popularity has sunk to 7 percent; his son has been arrested and charged with taking kickbacks; he faces questions surrounding misuse and accountability of campaign funds; and Kim has focused on his political and personal post-presidency survival to the detriment of day-to-day governance. Under these conditions, Kim views his meeting with you as an opportunity to divert attention from his many problems and perhaps boost ratings at home. From our point of view, you can use the meeting to review progress on the four party peace proposal and discuss the food situation in North Korea.

IV. ISSUES

Climate Change

This round of climate change negotiations is set to conclude in Kyoto this December. To date, the United States has called for binding emissions targets, flexibility in meeting those targets and the participation of all countries under the climate treaty. We have not stated what emissions levels we would find acceptable. At the Special Session as in Denver, we expect considerable pressure from foreign leaders and the media for the United States to state its views.

After Denver, it is clear that we will not set a level before New York; rather New York is an opportunity to speak frankly about the problem, begin the education process with the American people and begin a process that will result in deciding on an appropriate level, with American public support, before Kyoto.

Forests

The Intergovernmental Panel on Forests (IPF) recently recommended 135 measures for promoting sustainable forest management. The United States believes that these recommendations provide a good roadmap for national action to protect forests. We have opposed negotiation of a forest convention because this would divert scarce resources from national implementation and lead to an agreement that enshrined weak management standards. Our position is widely supported in the United States, by industry and environmental groups alike.

Consistent with our emphasis on national implementation, you will announce a package of measures to move the United States toward sustainable forest management. These include steps to eliminate subsidies that encourage unsustainable logging; establish an independent committee of scientists to advise on land management rules for the national forests; protect certain roadless areas on

public lands; and develop the first national State of the Lands and Forests report. You will announce an open and participatory process to determine how best to implement the IPF's recommendations in the United States.

OPIC Environmental Guidelines

Private capital flows to the developing world are skyrocketing. Insurance and guarantee agencies, like the U.S. Overseas Private Investment Corporation (OPIC) play an important role in facilitating this investment. OPIC's role in several forestry and mining projects has been criticized by the environmental community. You will announce that these would be new environmental guidelines for OPIC, including revised standards for forestry projects, a comprehensive greenhouse gas tracking program and improved public participation procedures.

Export credit agencies, like the U.S. Export-Import Bank, also facilitate private capital flows to the developing world. At the Denver Summit, the United States is leading a call for export credit agencies to develop common environmental guidelines.

U.S. Arrears and UN Finance Reform

The Senate has authorized more than \$800 million for U.S. arrears to the UN, to be paid over three years provided the UN meets specified reform targets. These conditions will be difficult but not impossible to meet. The Secretary General can help us meet some of them. Two benchmarks can be met only with the cooperation of the P-5 and other major countries. The first is reducing the U.S. assessment rate at the UN and its affiliated agencies from 25 percent to 22 percent in the 1998-99 biennium and 20 percent thereafter. The second is moving the arrears the Congress has prohibited us from paying, and we have said we will not pay, to a "contested account." Arrears in this account would remain on the UN's books but not be collectable.

Persuading UN member states to accept the Congressional benchmarks will require strong personal efforts at the highest levels of the U.S. Government. Others object to the conditions and want us to pay the entire \$1.3 billion the UN says we owe. Many oppose reducing our UN assessments, which would increase their rates, without a firm commitment that we will pay our future assessments in full.

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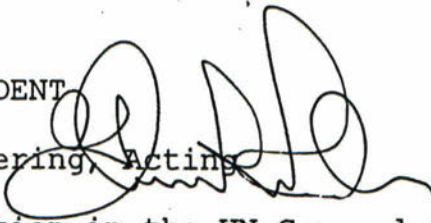
DEPARTMENT OF STATE
WASHINGTON

4306

June 19, 1997

UNCLASSIFIED

MEMORANDUM FOR THE PRESIDENT

FROM: Thomas R. Pickering, Acting 

SUBJECT: Your Participation in the UN General Assembly Special Session on Environment and Development

The UN General Assembly Special Session on Environment and Development, to be held in New York from June 23-27, will review progress in protecting the environment and promoting sustainable development in the five years since the Rio Earth Summit. Although it will not match the Earth Summit's record attendance of nearly 120 heads of state or government, there will likely be some 40 world leaders in New York, a remarkable feat for a Special Session. All of your Denver Summit counterparts intend to participate in the Special Session.

Like the Rio Earth Summit, the Special Session will cover a very broad range of environmental, economic, and social issues. The overarching theme will be that of sustainable development, the concept that long term sustainability requires an integration and balance among environmental, economic, and social objectives. In practice, the Special Session will focus on a few key issues, in particular climate change, forests, institutional reform, and financial aid. Most of these issues will also be discussed at the Denver Summit, and outcomes from Denver may influence the debate in the Special Session.

Sustainable Development: One of the great successes of the Rio Earth Summit is that it brought the concept of sustainable development to the forefront of thinking among national governments. Following Rio, some 100 countries established national coordinating bodies for sustainable development, similar to our President's Council on Sustainable Development. This has had a particularly strong impact on developing countries, many of which did not even have environmental ministries prior to Rio.

Our goal at the Special Session is to maintain the global momentum that was started in Rio. We want countries to recommit at the Special Session to sustainable development principles and to further progress in dealing with global, regional and local environmental problems. It will be particularly important to

UNCLASSIFIED

stress to developing countries - some of which are having second thoughts about sustainable development - that environmental protection and economic growth are compatible and mutually reinforcing objectives and that human rights and the participation of civil society are key elements of sustainable development.

Climate Change: The United States faces difficult negotiations in December on a legally-binding agreement to reduce greenhouse gas emissions. The EU countries are pushing for the Denver Summit and the Special Session to explicitly endorse their negotiating approach, which includes - for developed countries only - a 15% reduction in greenhouse gas emissions below 1990 levels by the year 2010. They also want developed countries to adopt harmonized policies and measures (e.g. energy taxes) to reduce emissions. Developing countries, on the other hand, insist that they will not undertake any new obligations to limit their emissions.

We have stressed that, while we need meaningful emissions reductions targets and timeframes for developed countries, these have to be realistic and achievable (the EU proposal is neither). Since we and other countries (e.g. Canada, Japan, Australia) have not yet completed our internal position development on possible targets, we will insist that the details be left for the December negotiations and not be "pre-negotiated" in New York. We do not support harmonized policies since each country will need flexibility in setting policies - including greenhouse gas emissions trading schemes - that best fit its particular economic and social circumstances. We have also stressed that developing countries must acknowledge their responsibility to mitigate climate change and must take some measures to limit their emissions.

Forests: While all countries agree that we need to do more to protect the world's forests, there has been an intense battle over the way in which we should make progress internationally in this area. An unusual coalition of certain EU countries (including Germany and France), a few developing countries (including forest-dependent Indonesia and Malaysia), and Canada want the Special Session to launch negotiations on a global forest convention (you can expect to be pushed hard on this issue at the Denver Summit as well). The United States, Japan, Australia, and a majority of developing countries (including China, India and Brazil) oppose a convention. Domestically, there is a remarkably unified opposition to a convention from environmental groups, the Congress, state governments, and the U.S. timber industry.

We have tried to convince the advocates of a convention that such negotiations would not be productive, particularly since

developing countries - which contain most of the world's threatened forest ecosystems - have made clear that they would insist on massive increases in financial aid as part of any convention package. We have proposed instead that the Special Session agree on a series of practical measures that can be taken now to protect forests. This would include programs to eliminate illegal logging, establish protected forest areas, and better assess the state of the world's forests.

UN Institutional Reform: We have had considerable success in getting reform and restructuring plans in place for the two key UN institutions that deal with environment and sustainable development, the UN Environment Program (UNEP) and the Commission on Sustainable Development (CSD). UNEP - which has the great disadvantage of being located and isolated in Nairobi, Kenya - in particular is sorely in need of restructuring. The proposed reforms, once implemented, should allow UNEP to become an effective body for setting global environmental priorities. We expect the Special Session to endorse the reform and restructuring process for both UNEP and the CSD.

Germany is advocating both at the Denver Summit and the Special Session the creation of a new World Environment Organization, an umbrella organization for the environment at the UN which would subsume UNEP and other bodies. While the proposal has some merit, it is not a viable one at this time. It will not be accepted by developing countries (which do not want UNEP moved out of Nairobi), it would require additional UN funding (which we do not have), and it would divert attention from the imperative of implementing a UNEP reform program. Support for this idea is dwindling and it is not likely to be endorsed by the Special Session.

Financial Aid: Increased financial aid is the most important issue for developing countries at the Special Session. Developing countries believed that developed countries pledged at the Rio Earth Summit to increase their financial aid to 0.7% of GDP (the United States never supported such targets). Instead, aid levels have declined since Rio, creating considerable anger among many developing countries. Given current budget realities, we cannot commit to increasing foreign aid. We have stressed that countries must utilize existing aid more efficiently, in particular by adopting domestic policies that are conducive to sustainable development. Furthermore, while foreign aid is important, private sector financial flows now far exceed those from official sources, making it all the more important that governments create an environment that promotes private sector investment in sustainable development.

THE WHITE HOUSE
WASHINGTON

July 16, 1997

Ersine --

Enclosed is an initial cut at the climate change plan. You'll see holes in it, but it should give you an idea of where I am so far. A long way to go, but we're rolling. I've also attached a copy of a scheduling request I've put into Stephanie.

On the personnel front, there are two or three calls I may need you to make. I have lined up two very good people from Labor and my guess is I *won't* need you to call there, but if I do, I'll let you know. I've also lined up a good person from ONDCP who won't need any kind of agency rep status, but will just need permission to work on this. I'll probably need your help here; again, I'll let you know. As things move into higher gear, I may well need to add a person or two. On the congressional front, I talked to Sylvia, who had a suggestion I will follow up on. But the lack of a mature Hill strategist is clearly our most serious gap right now.

I have a long-standing commitment to Jen to go with her and our baby to Bermuda for her father's 60th birthday tomorrow. Not great timing, but I'm going. I'll be back Sunday and will be in phone and fax contact with my office.


Todd

THE WHITE HOUSE

WASHINGTON

July 16, 1997

MEMORANDUM FOR ERSKINE BOWLES

FROM: TODD STERN 
CC: JOHN PODESTA
SUBJECT: Initial Climate Change Plan

Last month, the President accepted a staff recommendation that he postpone announcing specific commitments on climate change in Denver or New York in part because no adequate foundation had been laid with the public, key constituencies or the Hill. This memo sets forth a preliminary plan for a communications and outreach effort designed to lay as much of that foundation as possible in the few months before the U.S. articulates the position it is going to take into Kyoto.

Preliminary comments. Our effort needs to be informed by an understanding of the difficulty of reaching an agreement in Kyoto that is viable domestically. Consider, for example:

Most in business and labor are convinced that what they regard as overly hasty action -- such as reaching 1990 levels by 2010 -- would have serious adverse effects on the economy, driving up energy prices and costing jobs. Many serious economists agree. *However*, the European Community thinks 1990 levels by 2010 isn't strong *enough* action. They are calling for 15% reductions below 1990.

Most in business and labor believe that if the developing countries (e.g., China, India, Brazil, Indonesia) are allowed just to promise to reach a binding agreement in the future, rather than making real commitments now, then jobs and profits will flow to those countries, where energy costs will be cheaper. (On the Hill, 65 Senators endorse a Byrd resolution calling for no Kyoto treaty unless the developing countries take on new commitments now.) *However*, the current view among our negotiating partners is that developing countries shouldn't *even* have to promise to reach a binding agreement in the future.

These realities argue, I think, for a message that emphasizes both (1) that climate change is a serious problem that warrants serious action, but also (2) that the United States will insist on a fair, realistic agreement requiring all nations in the world to participate in a common solution.

COMMUNICATIONS

The Message. Here is a tentative cut:

- ▶ There are those who would do nothing in the face of the clear scientific evidence of climate change. There are others who say the sky is falling and that we must take action so severe that it would seriously disrupt our economy. The President rejects both these extremes. He understands that it is his responsibility to take appropriate action now that will both preserve economic growth and protect our children and grandchildren.
- ▶ The President's actions will be grounded in the following principles:
 - In addressing climate change, we will not damage the U.S. economy. Environmental protection and economic growth can and should go hand in hand.
 - The American people will be asked to support responsible action to address this problem, but there will be no net tax increase.
 - The United States will emphasize solutions based on flexible, market-based policies, not government regulation.
 - The United States will invest in research and development to promote the technology that can help provide solutions to climate change.
 - Climate change is a global problem that requires all nations -- industrial and developing -- to participate in a common solution.
 - The United States will only support international agreements that set realistic goals and require all nations to do their part.

Getting the message out. The message will be disseminated by the President, Vice President, Cabinet and sub-Cabinet officials, outside surrogates, and by specialty sources.

The President. The President is obviously the most important carrier of our message. He will do this principally through events culminating in a White House Conference on Climate Change in early October. In addition, all of his speeches on environmental issues, such as the speech he'll make at the Lake Tahoe event, should include a climate change paragraph. Currently we have an initial event scheduled for July 24 and another tentatively set for August 8. We should do two more events in September prior to the White House Conference. Scheduling has indicated possible availability the week of September 8 and around September 20.

July 24. This is to be an open press round table in the East Room with the President, Vice President and a group of six eminent scientists, including two Nobel Prize winners. The focus will be on what the science tells us, in laymen's terms. The objectives of the event are: (1) to lay out a clear and compelling case that climate change is a real problem that must be addressed in a serious way; (2) to explain that there is a broad scientific consensus about that fact, and (3) to demonstrate that this is an issue of major concern to the President. We will set the event up by a briefing the day of the event featuring Dan Albritton of NOAA (Commerce Dept.). The invited audience will include representatives from the environmental, health care, religious, and business community as well as state and local elected officials.

August 8. This event will be in or near Rhode Island, with special focus on the danger of a rise in sea levels. We will explore the possibility of a tie-in to the famous Woods Hole (Mass.) oceanographic institute.

September events. The month leading up to the White House Conference in early October should be a time of concentrated activity. We have a great opportunity to disseminate our message through local tv weather people, and I'd like to bring a large group of them to Washington for briefings, meetings with senior people at NOAA, and a meeting with the President and Vice President. Such an event would both get great local coverage (every station who sends its weather person would cover it) and allow us to get the weather people revved up to do segments on climate change when they returned home. I also plan to meet with the NEA and the School Board Association to see if we can get science teachers in this back-to-school time interested in teaching about climate change -- perhaps during a week that the President proclaimed as Climate Change Awareness Week. Other September event possibilities include a visit to a National Lab working on new technologies or a visit to a company producing technology to reduce emissions.

White House Conference. We are in the initial stages of thinking about the conference, but it clearly represents our best opportunity to command public attention. We will work to get press from networks or news weeklies in the week or two leading up to the conference. The President should do a stage setting speech in the days leading up to the conference and should be available for some interviews.

Vice President. The Vice President will play an important role in getting out our message. He is identified with this issue and can speak knowledgeably and passionately about it. I am working with his office to map out a program of events.

Cabinet. Cabinet Secretaries will be enlisted to do events, speak out about climate change, meet with editorial boards, and do radio and tv. I have asked each relevant Cabinet Chief of Staff to produce a short plan proposing activities that their bosses can engage in around the country during the next 100 days, as well as a list of possible executive actions that are either in the pipeline or could be proposed. We are also planning a series of regional climate change conferences during September, each to be chaired by two Cabinet Officers, in the weeks leading

up to the White House conference. Many agencies have a role to play here: State, Treasury, Commerce, Energy, Transportation, EPA, Interior, HHS, HUD, Labor, FEMA.

We will also try to get some better press mileage out of the remaining regional workshops on climate change that have been going on since May under the auspices of the National Science and Technology Council (Jack Gibbons).

Outside surrogates. We will have a surrogate program of third party validators around the country who can do op-eds, radio, tv, and speaking engagements. This list will include prominent scientists, economists, former senior government officials and others with credibility on this issue. We will aim for op-eds in both the national and regional press on several different themes -- e.g., broad scientific consensus about this problem; it can be dealt without damaging the economy; the President is committed to charting a sensible, middle course, etc.

Specialty media. We will also try to work with program directors of relevant specialty channels, such as the Weather Channel, Discovery Channel and Learning Channel.

CONSTITUENCY OUTREACH

The objective of our outreach effort should be to build up a "constructive middle" of those who (1) recognize that climate change is a real problem that must be dealt with in a serious, balanced way, (2) are supportive of the general principles the President articulates for dealing with this problem, and (3) are positioned to support the President once he embraces a specific policy.

President/Vice President. I think the most useful kick-off for our outreach effort would be for the President to meet with a core group of major CEOs who are already in that constructive middle and who can help us build it further. A meeting with these executives would send a powerful message of Presidential involvement; would give the President a useful opportunity to make clear where he stands and to hear where the constructive part of the business community stands; and, ideally, would serve to enlist these executives as a core group who could speak out or engage in more private diplomacy to expand the corporate middle. ***This meeting should occur soon -- I would propose the week of July 28.*** A tentative list for such a meeting (subject to further vetting):

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Following such a meeting, I would propose a series of three or four meetings with CEOs organized roughly by sector, plus a meeting with labor and environmental leaders. These would be Roosevelt or Cabinet Room meetings with our top policy people (including Gene, Katie, Dan) and relevant Cabinet Officers (such as Daley, Pena or Summers), and would include a drop-by by the President. If the President were not available for all such meetings, the drop-by could be by the Vice President or the Chief of Staff. These meetings would include executives who are sympathetic as well as those who are not. The purpose would be (1) to signal the openness of our process, and (2) to bring as many CEOs as possible into the constructive middle. As follow up, on a selective basis, we will arrange for stakeholders to meet with our policy people.

Cabinet. Beyond these White House meetings, Cabinet Secretaries will do outreach to their own constituencies. These meetings will be tracked and coordinated by my team, which will also collect any useful feedback. And, where appropriate, Cabinet outreach should include White House participation -- e.g., at the CEO dinners that Bill Daley is planning.

President's Council on Sustainable Development. The PCSD, created by the President in 1993, includes a mix of corporate CEOs, labor leaders, environmentalists and Cabinet secretaries. I have talked to them about ways they might help and they are preparing a short plan.

THE HILL

On the short-term front, I accompanied the State Department team to meet with Sen. Byrd's chief staff person to discuss his sense of the Senate resolution regarding developing country participation in a Kyoto agreement. The State effort to modify the resolution got no-where, and I fully expect that the resolution -- which has some 65 co-sponsors -- will pass overwhelmingly. Our only play on this is to say that we agree with the spirit of the resolution and take comfort in the fact that it is non-binding. But it also tells us some powerful things about the depth of the developing country problem.

Beyond the short-term Byrd issue, our goal on the Hill, as in the case of the business community, must be to build up a constructive middle of those -- especially in the Senate, since we are dealing with a treaty -- who recognize the problem and are willing to work with us on reasonable, balanced policy. I don't have a roadmap for this effort yet. As I mentioned to you on Friday, I need a good person who can map out a Hill strategy.

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Peter Knight

Steve Ricchetti

Sid Blumenthal

THE WHITE HOUSE

WASHINGTON

July 16, 1997

MEMORANDUM FOR ERSKINE BOWLES

FROM: TODD STERN 

CC: JOHN PODESTA

SUBJECT: Initial Climate Change Plan

Last month, the President accepted a staff recommendation that he postpone announcing specific commitments on climate change in Denver or New York in part because no adequate foundation had been laid with the public, key constituencies or the Hill. This memo sets forth a preliminary plan for a communications and outreach effort designed to lay as much of that foundation as possible in the few months before the U.S. articulates the position it is going to take into Kyoto.

Preliminary comments. Our effort needs to be informed by an understanding of the difficulty of reaching an agreement in Kyoto that is viable domestically. Consider, for example:

Most in business and labor are convinced that what they regard as overly hasty action -- such as reaching 1990 levels by 2010 -- would have serious adverse effects on the economy, driving up energy prices and costing jobs. Many serious economists agree. *However*, the European Community thinks 1990 levels by 2010 isn't strong *enough* action. They are calling for 15% reductions below 1990.

Most in business and labor believe that if the developing countries (e.g., China, India, Brazil, Indonesia) are allowed just to promise to reach a binding agreement in the future, rather than making real commitments now, then jobs and profits will flow to those countries, where energy costs will be cheaper. (On the Hill, 65 Senators endorse a Byrd resolution calling for no Kyoto treaty unless the developing countries take on new commitments now.) *However*, the current view among our negotiating partners is that developing countries shouldn't *even* have to promise to reach a binding agreement in the future.

These realities argue, I think, for a message that emphasizes both (1) that climate change is a serious problem that warrants serious action, but also (2) that the United States will insist on a fair, realistic agreement requiring all nations in the world to participate in a common solution.

COMMUNICATIONS

The Message. Here is a tentative cut:

- ▶ There are those who would do nothing in the face of the clear scientific evidence of climate change. There are others who say the sky is falling and that we must take action so severe that it would seriously disrupt our economy. The President rejects both these extremes. He understands that it is his responsibility to take appropriate action now that will both preserve economic growth and protect our children and grandchildren.
- ▶ The President's actions will be grounded in the following principles:
 - In addressing climate change, we will not damage the U.S. economy. Environmental protection and economic growth can and should go hand in hand.
 - The American people will be asked to support responsible action to address this problem, but there will be no net tax increase.
 - The United States will emphasize solutions based on flexible, market-based policies, not government regulation.
 - The United States will invest in research and development to promote the technology that can help provide solutions to climate change.
 - Climate change is a global problem that requires all nations -- industrial and developing -- to participate in a common solution.
 - The United States will only support international agreements that set realistic goals and require all nations to do their part.

Getting the message out. The message will be disseminated by the President, Vice President, Cabinet and sub-Cabinet officials, outside surrogates, and by specialty sources.

The President. The President is obviously the most important carrier of our message. He will do this principally through events culminating in a White House Conference on Climate Change in early October. In addition, all of his speeches on environmental issues, such as the speech he'll make at the Lake Tahoe event, should include a climate change paragraph. Currently we have an initial event scheduled for July 24 and another tentatively set for August 8. We should do two more events in September prior to the White House Conference. Scheduling has indicated possible availability the week of September 8 and around September 20.

July 24. This is to be an open press round table in the East Room with the President, Vice President and a group of six eminent scientists, including two Nobel Prize winners. The focus will be on what the science tells us, in laymen's terms. The objectives of the event are: (1) to lay out a clear and compelling case that climate change is a real problem that must be addressed in a serious way; (2) to explain that there is a broad scientific consensus about that fact, and (3) to demonstrate that this is an issue of major concern to the President. We will set the event up by a briefing the day of the event featuring Dan Albritton of NOAA (Commerce Dept.). The invited audience will include representatives from the environmental, health care, religious, and business community as well as state and local elected officials.

August 8. This event will be in or near Rhode Island, with special focus on the danger of a rise in sea levels. We will explore the possibility of a tie-in to the famous Woods Hole (Mass.) oceanographic institute.

September events. The month leading up to the White House Conference in early October should be a time of concentrated activity. We have a great opportunity to disseminate our message through local tv weather people, and I'd like to bring a large group of them to Washington for briefings, meetings with senior people at NOAA, and a meeting with the President and Vice President. Such an event would both get great local coverage (every station who sends its weather person would cover it) and allow us to get the weather people revved up to do segments on climate change when they returned home. I also plan to meet with the NEA and the School Board Association to see if we can get science teachers in this back-to-school time interested in teaching about climate change -- perhaps during a week that the President proclaimed as Climate Change Awareness Week. Other September event possibilities include a visit to a National Lab working on new technologies or a visit to a company producing technology to reduce emissions.

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Vice President. The Vice President will play an important role in getting out our message. He is identified with this issue and can speak knowledgeably and passionately about it. I am working with his office to map out a program of events.

Cabinet. Cabinet Secretaries will be enlisted to do events, speak out about climate change, meet with editorial boards, and do radio and tv. I have asked each relevant Cabinet Chief of Staff to produce a short plan proposing activities that their bosses can engage in around the country during the next 100 days, as well as a list of possible executive actions that are either in the pipeline or could be proposed. We are also planning a series of regional climate change conferences during September, each to be chaired by two Cabinet Officers, in the weeks leading

up to the White House conference. Many agencies have a role to play here: State, Treasury, Commerce, Energy, Transportation, EPA, Interior, HHS, HUD, Labor, FEMA.

We will also try to get some better press mileage out of the remaining regional workshops on climate change that have been going on since May under the auspices of the National Science and Technology Council (Jack Gibbons).

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THE HILL

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July 23, 1997

MEMORANDUM FOR THE VICE PRESIDENT

FROM: TODD STERN
CC: ERSKINE BOWLES
SUBJECT: Climate Change Plan to Date

Last month, the President accepted a staff recommendation that he postpone announcing specific commitments on climate change in Denver or New York in part because no adequate foundation had been laid with the public, key constituencies or the Hill. This memo sets forth a preliminary plan for a communications and outreach effort designed to lay as much of that foundation as possible in the few months before the U.S. articulates its position for Kyoto.

COMMUNICATIONS

The Message. Here is a tentative cut:

- ▶ There are those who would do nothing in the face of the clear scientific evidence of climate change. There are others who say the sky is falling and that we must take action so severe that it would seriously disrupt our economy. The President rejects both these extremes. He understands that it is his responsibility to take appropriate action now that will both preserve economic growth and protect our children and grandchildren.
- ▶ The President's actions will be grounded in the following principles:
 - In addressing climate change, we will not damage the U.S. economy. Environmental protection and economic growth can and should go hand in hand.
 - The United States will emphasize solutions based on flexible, market-based policies, not government regulation.
 - The United States will invest in research and development to promote the technology that can help provide solutions to climate change.

- Climate change is a global problem that requires all nations -- industrial and developing -- to participate in a common solution.

- The United States will only support international agreements that set realistic goals and require all nations to do their part.

- [• The American people will be asked to support responsible action to address this problem, but there will be no net tax increase.] [NB: We are not here yet, but this may well be a principle we get to.]

Getting the message out. The message will be disseminated by the President, Vice President, Cabinet and sub-Cabinet officials and outside surrogates.

The President. The President will carry our message through several events culminating in a White House Conference on Climate Change in early October. We will also need to plan some additional activity for the period leading up to Kyoto after the President announces our specific policy positions. In addition, all of his speeches on environmental issues, such as the speech he'll make at the Lake Tahoe event, should include a climate change paragraph.

The President's schedule should mix educational, environmental, and economic events. Ideally, I would do some "counter-scheduling" -- perhaps even having him go with Sen. Byrd to a clean-coal facility in West Virginia. However, at the moment, it does not appear as though his schedule can accommodate that. Current plans:

July 24. This is to be an open press round table in the East Room with the President, Vice President and a group of seven eminent scientists, including three Nobel Prize winners. The message of the event will be that climate change is a real problem that must be addressed in a serious way; that there is a broad scientific consensus about that fact; and that this is an issue of major concern to the President. We will set the event with a briefing Thursday featuring Dan Albritton of NOAA. The invited audience will include representatives from the environmental, health care, religious, and business communities as well as Members of Congress and members of the Cabinet.

August. We are working with Scheduling on a sea level event either on Block Island (August 8) or, more likely, at Woods Hole during the President's vacation at Martha's Vineyard.

September events. September should be a month of concentrated activity that builds public awareness in the lead up to the White House Conference. We are working on a major event for the week of September 8 that would bring local tv weathermen to Washington for briefings with senior people at NOAA and a meeting with the President and Vice President. Such an event would both get great local coverage around the country and allow us to get the weather people revved up to do segments on climate change when they returned home. We are also exploring with the NEA and the School Boards Association a week of classroom focus on climate

change. This could be kicked off by a Presidential Proclamation declaring the week of September 15 Climate Change Awareness Week and by the Vice President teaching a science class in an elementary or middle school. The President also has a potential slot in his schedule on September 20 in California, which we could use for a visit to an appropriate industrial facility to carry the message that climate change can be done without hurting our economy. We also understand that Nightline has some interest in this issue, and we will explore whether they might be interested in a Presidential Townhall Meeting, which we might be able to do in California after a plant visit. (ABC is definitely interested in climate change, with a one-hour Peter Jennings Report in the works for October.)

White House Conference. We are in the initial stages of thinking about the conference, but it clearly represents our best opportunity to command public attention. We will work to get press from networks or news weeklies in the week or two leading up to the conference. The President should do a stage-setting speech in the days before the conference and should be available for some interviews. We are likely to seek an initial meeting or reception at the White House, with the actual conference held off-campus at a site that can be set up with an appropriate table, have break-out rooms, good audio-visual capabilities, etc.

Vice President. The Vice President will play an important role in getting out our message. He is identified with this issue and can speak knowledgeably and passionately about it. As with the President, the Vice President's schedule should convey a balance of educational, environmental and economic messages. Some possible VP events:

- A visit to Glacier National Park on August 16.
- A visit to a clean energy facility, such as a new solar plant. Could be August or September.
- Visit to a Midwestern, smokestack, industrial facility.
- Visit to the Oakridge Lab.
- Teaching a science class in the tie-in described above. (September)
- Speech to the Chicago Board of Trade or similar venue in New York emphasizing emissions trading and joint implementation.
- Speech to Washington diplomatic corps. (Probably later October or November, after we have made policy decisions.)

The Vice President also has a meeting scheduled for August 5 with labor leaders which he could use, at least in part, as a counter-scheduling opportunity to talk about climate change.

Cabinet. Cabinet Secretaries will be enlisted to do events, speak out about climate change, meet with editorial boards, and do radio and tv. I have asked each relevant Cabinet Chief of Staff to produce a short plan proposing activities that their bosses can engage in around the country during the next 100 days, as well as a list of possible executive actions that are either in the pipeline or could be proposed. We are also planning three regional climate change conferences during September, each to be chaired by two Cabinet Officers, in the weeks leading up to the White House conference. Many agencies have a role to play here: State, Treasury, Commerce, Energy, Transportation, EPA, Interior, HHS, HUD, Labor, FEMA, DoEd.

We will also try to get some better press mileage out of the remaining regional workshops on climate change that have been going on since May under the auspices of the National Science and Technology Council (Jack Gibbons).

Outside surrogates. We will have a surrogate program of third party validators around the country who can do op-eds, radio, tv, and speaking engagements. This list will include prominent scientists, economists, former senior government officials and others with credibility on this issue. We will aim for op-eds in both the national and regional press on several different themes -- e.g., broad scientific consensus about this problem; it can be dealt without damaging the economy; the President is committed to charting a sensible, middle course, etc.

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President/Vice President. We are planning to kick off our outreach effort August 4 with a meeting between the President and a group of major CEOs who are already in the constructive middle and who can help us expand it. A meeting with these executives would send a powerful message of Presidential involvement; would give the President a useful opportunity to make clear where he stands and to hear from the constructive part of the business community; and, ideally, would serve to enlist these executives as a core group who could speak out or engage in more private diplomacy to expand the corporate middle. A tentative list for such a meeting (subject to further vetting):

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Env. Comm at BRT chemicals

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Cabinet. Beyond these White House meetings, Cabinet Secretaries will do outreach to their own constituencies. These meetings will be tracked and coordinated by my team, which will also collect any useful feedback. And, where appropriate, Cabinet outreach should include White House participation -- e.g., at the CEO dinners that Bill Daley is planning.

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THE HILL

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THE WHITE HOUSE
WASHINGTON

July 23, 1997

MEMORANDUM FOR THE VICE PRESIDENT

FROM: TODD STERN *TS*
CC: ERSKINE BOWLES
SUBJECT: Climate Change Plan to Date

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COMMUNICATIONS

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THE WHITE HOUSE
WASHINGTON

OFFICE OF THE STAFF SECRETARY

Fax Transmittal Sheet

TO: Bob Boorstin

Fax Number: 622-9373

Phone Number:

FROM: Todd Stern

SUBJECT:

DATE: 7-23-97

NUMBER OF PAGES (including cover sheet):

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THE WHITE HOUSE
WASHINGTON

July 23, 1997

MEMORANDUM FOR THE VICE PRESIDENT

FROM: TODD STERN *TS*
CC: ERSKINE BOWLES
SUBJECT: Climate Change Plan to Date

Last month, the President accepted a staff recommendation that he postpone announcing specific commitments on climate change in Denver or New York in part because no adequate foundation had been laid with the public, key constituencies or the Hill. This memo sets forth a preliminary plan for a communications and outreach effort designed to lay as much of that foundation as possible in the few months before the U.S. articulates its position for Kyoto.

COMMUNICATIONS

The Message. Here is a tentative cut:

- ▶ There are those who would do nothing in the face of the clear scientific evidence of climate change. There are others who say the sky is falling and that we must take action so severe that it would seriously disrupt our economy. The President rejects both these extremes. He understands that it is his responsibility to take appropriate action now that will both preserve economic growth and protect our children and grandchildren.
- ▶ The President's actions will be grounded in the following principles:
 - In addressing climate change, we will not damage the U.S. economy. Environmental protection and economic growth can and should go hand in hand.
 - The United States will emphasize solutions based on flexible, market-based policies, not government regulation.
 - The United States will invest in research and development to promote the technology that can help provide solutions to climate change.

- Climate change is a global problem that requires all nations -- industrial and developing -- to participate in a common solution.

- The United States will only support international agreements that set realistic goals and require all nations to do their part.

- [• The American people will be asked to support responsible action to address this problem, but there will be no net tax increase.] [NB: We are not here yet, but this may well be a principle we get to.]

Getting the message out. The message will be disseminated by the President, Vice President, Cabinet and sub-Cabinet officials and outside surrogates.

The President. The President will carry our message through several events culminating in a White House Conference on Climate Change in early October. We will also need to plan some additional activity for the period leading up to Kyoto after the President announces our specific policy positions. In addition, all of his speeches on environmental issues, such as the speech he'll make at the Lake Tahoe event, should include a climate change paragraph.

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