percent and also to double the efficiency of coal-fired power plants. The time frame in which that can be done, it depends a lot on the existing coal-fired fleet. You just can't--you can't economically replace that fleet all at one time, so it will be done over a considerable period of time. But by the year 2010 or 2015, we should be well on our way to replacing a lot of that capacity which much higher efficiency technology and lower polluting technology.

Mr. SMITH. Mr. Mead, any other comments?

Mr. MEAD. Yeah. I think it is a goal that science can achieve. And research and further development in a variety of energy sources is critical for this country. But the investment in increasing the efficiency and the cleanliness of coal, I think, is crucial because we are using so much coal today and are likely to continue to for some time. The reduction of greenhouse gases, such as carbon dioxide, that is one of the great issues in terms of technology today and energy. But advances are being made. There are now concepts out there that are past the point of just being discussed. They are not being looked at in the laboratory. That is a very good sign. The development of energy processes is a slow task because of the size of the power plants. But I think with government help we can accelerate that effort.

Mr. SMITH. The Chairman said earlier--Mr. Yamagata, did you have a comment?

Mr. YAMAGATA. Thank you, Mr. Smith. Yes. In my testimony, I referenced a number to answer your shoulder-to-the-wheel question, of about $10 billion over the next 20 years, which is, at least in our estimation, a cost-share arrangement between the public sector and the private sector. And that kind of an aggressive program, that is time and money, over that period of time, will, we think, achieve the kind of performance criteria that you outlined, that is, cost competitive, certainly exceeding the emission requirements and regulations that we have today and into the future, and also addressing issues like CO2 emissions.

Mr. SMITH. And would this--then does it become less relevant whether it is high sulfur coal or whether it is the cleaner, lower-sulfur coal? I mean, will the technology be so that it doesn't make that difference--really much difference on what coal you use?

Mr. YAMAGATA. That is correct. It is nondiscriminatory to the type of coal that you use.

Mr. SMITH. In terms of our--the other areas becoming less dependent, the Chairman said earlier that it is a national security issue being--having this kind of dependency, especially on the OPEC suppliers for our petroleum energy. Are we looking--and I am trying to see whom ought to answer this question--it might be the next Panel. Are we aggressively looking at developing the kind of infrastructure

and laws in some of the other areas of the world in terms of importing some of our petroleum energy from those other countries rather than from the OPEC countries? Does anybody know that answer? Mr. Chairman, you probably know that answer.

Mr. KRIPOWICZ. Yes, sir. The Department of Energy, over the years, has worked a lot with countries outside of OPEC and is working very hard, for instance, with countries in this hemisphere also, Canada and Mexico, in particular, to develop their sources of oil so that we won't be entirely dependent on OPEC. There is no question that we need to develop diverse sources of oil in the world as well as our own resources.

Mr. SMITH. Do we--do I understand we have the technology now and it is simply making it more cost effective in utilizing that technology, or is it developing new technology? And I see my time has expired.

Mr. KRIPOWICZ. Mr. Smith, I think it is a combination of both. Some of it needs to be made more economic, but I am willing to bet that we will find new technologies, as we go along, that we don't have in place right now.

Mr. SMITH. Thank you for the opportunity, Mr. Chairman.

Chairman BARTLETT. Thank you. Ms. Biggert.

Ms. BIGGERT. Thank you, Mr. Chairman. Ms. Abend--is that right--Abend?

Ms. ABEND. Yes. Abend.

Ms. BIGGERT. All right. Thank you. It seems that we are in a technological revolution in most everything in our lives and yet we are still in the dark ages as far as some our technology for energy is and we have spent nothing really in the last 10 years probably with the energy policy. Does PIRG see a way to continue our economic and technology expansion and continue to improve our standard of living and provide for an increased population without gaining access to additional fossil fuel supplies?

Ms. ABEND. I think what we need to focus on right now is finding a smarter, cleaner energy future. We can meet 60 percent of our Nation's future energy needs through energy efficiency and renewable energy by 2020. Forty-eight percent of the 1,300 plants that President Bush proposes for his energy plan are already under construction. So I think that we do have adequate options for meeting our future energy needs.

Ms. BIGGERT. But--well, you talked about like 100 square miles of solar power would produce how much--

Ms. ABEND. Would produce as much energy as the United States used--uses annually.

Ms. BIGGERT. Why--if that was possible, why wouldn't be doing that now? You know, I have driven by those windmills in Palm Springs and they seem to be going like mad, but that is

a huge area that only powers such a small part of California.

Ms. ABEND. Right. Well, these programs don't receive sufficient funding. And compared with the funding that fossil fuel programs receive, they are not on a level playing field. The Bush Administration cut funding for renewables by nearly 50 percent from 376 million to 186 million in its budget proposal. That is why we strongly support DOE's energy programs, but we encourage these programs to be expanded.

Ms. BIGGERT. But--

Ms. ABEND. And DOE should increase funding for those to $750 million a year.

Ms. ABEND. And how long would that take to develop such a plan? And we--only 2 percent of our energy is--

Ms. ABEND. Well, the technology is already available. For example, wind power is already competitive with fossil fuel in some situations. Other countries are way ahead of this on this, and we should be the leaders of this technology. For example, Denmark, very soon is going to be having 50 percent of its power coming from wind. So these aren't things that need to be so far off in the future if we increase funding for these programs.

Ms. BIGGERT. Well, I think we really need to look at renewables, but, you know, the size of Denmark compared to the size of the United States in trying--I don't know, coming from Chicago, where we didn't--

Ms. ABEND. Right.

Ms. BIGGERT. --see the sun for at least 3 weeks in a row. How do you--

Ms. ABEND. Right. Well--

Ms. BIGGERT. How do you store that power?

Ms. ABEND. --6 percent would be--yeah, 6 percent of the continuous United States land area could actually produce 1-1/3 the amount of electricity that the United States used in 1999. So it is just really a matter of focusing on these programs.

Ms. BIGGERT. Mr. Mead, in your presentation, you talked about Governor Ryan's initiative and what is going on. How can--can you suggest ways in which the state programs and federal programs can increase their coordination and collaboration? Do you think there is enough of that right now or are there impediments in the federal program to really provide the benefit and usefulness to the--to Illinois and other states?

Mr. MEAD. There has been a lot off cooperation and collaboration over the years, as I address in my testimony. One of the factors that I think would be very useful is that both programs operate often on a competitive selection basis and independently. And so that a project selected through review by a federal agency may be different than one that is chosen at a state level. There could be, perhaps, greater

examination of the common issues and needs in a region where projects that would have particular value for Illinois or the Midwest could be factored into the federal program.

In addition, I want to emphasize again the critical need for advanced research and development on issues that we do not face today with our current regulation, but issues that we expect to face in the future. The overall reduction of all emissions is going to be crucial for the life of the coal industry, such as Illinois. We have experienced this with the sulfur issue. Now, we look ahead and see other issues for the future.

This is where, I believe, the Federal Government can really dovetail with state economic development efforts and nearer-term state efforts.

Ms. BIGGERT. Thank you. Thank you, Mr. Chairman.

Chairman BARTLETT. Thank you very much. Ms. Hart.

Ms. HART. Thank you, Mr. Chairman. I am glad to see a hearing being held on this issue. I--and I am sure a lot of other members represent some very interesting technology organizations. And I have a company in my district, actually, called Export Tact that some of you may be familiar with. It is developing and continuing to research advanced form of clean coal technology--one that cleans the coal removing mineral impurities using magnets resulting in a coal waste that can be returned to the environment without being

hazardous and also, obviously, a cleaner burning coal.

I know that there is a lot of other technologies out there and I am glad to see them. I think it has been a long time in coming and I am also pleased to see some of the progress, you know, made by organizations within the government and some of the research.

I think I have a general question, basically, for the Panel. As far as, you know, we are focused on the first Panel pretty much on clean coal technology, but I am interested in a general question of future resources to--future sources of energy, future sources of energy, especially electricity. And as we look to the future, unfortunately, I think, we have taken a turn toward using natural gas for electricity. And I would like your opinion on that as a direction. I would like to know if you think we made a wrong turn and if you think that we have to turn more heavily toward coal from natural gas.

Mr. KRIPOWICZ. I think the industry turned to natural gas because it was the cheapest available alternative and the industry will go to the most economic thing that they can do. And the problem with exclusively burning natural gas, of course, is that there--you run into supply problems. At least you do on any foreseeable basis that we can imagine. There is a very large supply of natural gas in the country, but demand, even with reasonable expansion of the electricity

market, is supposed to go up by 60 percent by the year 2020. So there is a tremendous demand on natural gas, mainly from the utility business. And at that, natural gas would still only be about 25 percent of the installed utility capacity. So you need to continue to look at the other resources and coal is one of those.

Now, I would be the first to say that what we don't want to do is put in coal plants that are just like the ones that have been in existence for the past 25 years. We want to build cleaner, more efficient, coal plants, that have much less environmental impact. I think we also need to look at the nuclear option to see whether we can extend the existing nuclear plant life and increase the efficiency of those plants over a period of time.

And we also have to look at renewables. Not just hydro, but solar, as other Panel members have said, because in certain circumstances, those kinds of technology will be economic. But I believe we need to look at all of those things.

Mr. YAMAGATA. Ms. Hart, if I may just add to that? Let me quote to you a quote from William Wise, the Chairman and CEO of the El Paso Corporation, which happens to be the world's largest natural gas pipeline company. He says--I quote in the Utility Spotlight of March 5, 2001--''Conventional sources of natural gas in North America won't be able to produce enough

deliverability to meet the kind of demands that power generation is going to drive.'' And I think the point that you made is absolutely right on.

I want to second what Mr. Kripowicz has said, and that is, it seems to me we need to be looking at and trying to develop all of our energy resources, as well as all of our energy efficiency and energy conservation and renewable endeavors that we have in mind. Frankly, we need them all.

One of the issues that has not yet been made in this Panel discussion is, with respect to coal and with deference to my other Panel colleagues here is, we are not just going to use coal in the United States where we have a 250-year supply and it supplies 51 percent of the current electrical base in this country. We are going to use it around the world. We are going to use it in China and India and other places like that. And the promise of better, cleaner coal technologies is something that we ought to be aware of. It is a technology transfer and an export opportunity for this country, but it is also something that is the resource itself, that is going to be used around the world. And we, perhaps, as stewards of the planet, have an obligation, it seems to me, to try and make that use as clean as possible.

Ms. HART. Go ahead, Mr. Wells.

Mr. WELLS. In terms of your resource question, whether it is $2 billion or the current proposal of the 10 or $20

billion, the niche in the market for GAO would be to look at whether these resources are spent effectively and efficiently and we are getting the biggest bang for the buck. I would agree with my panelists that history has shown us that you need a balance of energy sources, and much of what we have seen in the natural gas market right now would be the demand far exceeded the supply and it was driven by some policy considerations that put the market in and up and down situation. So future deliberations on energy sources should include a balance from all sources, including coal.

Ms. HART. Thank you. I see my time is up, Mr. Chairman.

Chairman BARTLETT. Thank you very much. And now, our Full Committee Chair, Mr. Boehlert.

Mr. BOEHLERT. Thank you very much, Mr. Chairman. Ms. Abend, I agree with much of what you say and it probably will come as no surprise to anyone in this room, given where I come from, acid rain entered the Nation's vocabulary as a result of the havoc being wrecked on the beautiful Adirondacks in my neighborhood. And I certainly agree with your comments on global climate change. It is for real. It is not some vast left wing conspiracy. And I also agree with your commentary about the need for a greater investment, not lesser investment, in renewable energy sources and energy efficiency. And I am trying my darnedest to convince the administration that they should take a different path in some

of these areas as they address the energy problem we face in America.

But some of what you say gives me pause. You summarily dismiss clean coal technology almost out of hand. I don't think that is the right thing to do. I have been supportive in the past. I have been skeptical. I am still supportive. I am still skeptical. I would like to think that this Committee would authorize programs where we have guaranteed success all the time. That is not the nature of research and development. We have to venture forward and with the best hopes and expectations.

And as I look over some of the testimony, I--and I refer specifically to Professor Mead. And one part of his testimony says, the eventual application of ultra clean systems will hold tremendous value to a Nation whose greatest fossil energy resource is coal. We can't escape the fact that coal now provides more than 50 percent of our electricity-generating capacity in America, nor should we ignore the potential for wind energy and solar energy and hydro energy and biomass.

I think what we have to do is come up with a balanced program, and I am trying very, very hard to convince the Administration of that. I think the initial proposal advanced by the Administration focused almost exclusively on supply. We can't drill our way out of this problem, but we can't

conserve our way out of the problem. We need balance. And I am also mindful of the statement made by Mr. Wells as he looked at the Clean Coal Technology Program. And, among other things, he pointed out there have been successes and there have been failures, and some of those failures have been costly. But I would suggest that the investment, if very carefully monitored, can offer us what Mr. Mead wants and what we all want.

And, as Mr. Wells said in his testimony, this program serves as an example to other cost share programs in demonstrating how the government and the private sector can work effectively together to develop and demonstrate new technologies. That if my hope for this program.

You said there is no such thing as clean coal, and I would essentially agree. But there is such a thing as much cleaner coal, much lower emissions. And that is what I am driving at. I have the definitive bill in this session of Congress to deal not just with nitrogen oxide and sulfur dioxide, but also with mercury and CO2, which is for real. And the President has now acknowledged that CO2 is for real. Those are the words I would like to see some deeds follow. And I think working constructively with the Administration, we will see them.

But I guess in this long commentary, I would just urge you and your associates in PIRG, not to summarily just

dismiss something that has potential of doing the right thing for all the right reasons, but try to work with us to develop a program that is responsive to our needs, that is cost-effective, and moves us in the direction, I think, you and I would agree we should move on.

With that, let me just ask you if you--if there is any hope that we can convert you to have sort of a glimmer of hope that maybe, maybe, we could get something positive out of the Clean Coal Technology Program, given the proposition that I agree with you, more investments needed in renewable energy sources, more investments needed in energy efficiency. We have to forthrightly address CO2. There are a lot of things we have to do and so there is a lot of area of agreement. But I will give you the opportunity now.

Ms. ABEND. Well, first of all, I would like to say that we strongly support your Clean Smokestacks Act of 2001 and, you know, that would reduce NOx and SOx, or smog and soot emissions, by 75 percent and mercury emissions by 90 percent and global warming pollution or CO2 pollution to 1990 levels. And I think the key there is that it imposes strong standards that will need to be met. The truth is, that burning coal will always produce pollution, especially carbon pollution, which causes global warming. Burning coal accounts for about 1/3 of global warming pollution, and we feel that the Federal Government should not be using taxpayer dollars to encourage

its use.

Now, obviously, as you said, we would rather have cleaner coal than dirtier coal. But we believe that polluters, not the public, should pay for cleaning up pollution. That is why we--

Mr. BOEHLERT. Let me reclaim my time, if I may, because you got a nice prepared statement and I appreciate that. But I would agree with you that coal is a problem right now and your figures are probably very accurate. I haven't verified them, although I have trust--the 1/3 figure you used. But I don't like that. You shouldn't like it either. I don't accept that. You shouldn't either. And that is why we are talking in terms of investing important and scarce taxpayer dollars in the research and development that is going to lead us to a better day. And I would just hope that you would give some consideration to the possible--to the potential for this program if we do it the way we should do it.

And I want to thank you very much for your commitment. And I want to thank all the witnesses because you are stars here. You are resources for the Committee and we really appreciate it. In fairness, since I am calling for a balanced policy, Mr. Yamagata, maybe I ought to give you some time to comment on my little discourse here.

Mr. YAMAGATA. Mr. Chairman, thank you very much. I will just take a second of the Committee's time and note, if I

may, that in the vein of the line of reasoning that you have so eloquently developed, it seems to me that our goal here ought to be to take issues about environmental concerns out of the question about whether or not we can and should use coal. And we need to do that, I think, by making a commitment to the development of those technologies that I believe both the government and industry believes is within the realm of the possible. It will take time. It will take a financial commitment. We have a history of having made real progress, really, since the 1970s in terms of emission reductions from the use of coal. It seems to me that is a better set of metrics from which to judge than one which simply says we shouldn't use it at all.

Mr. BOEHLERT. Thank you very much. Mr. Chairman, thank you for your indulgence.

Chairman BARTLETT. Thank you very much. Mr. Wu has joined us. Mr. Wu.

Mr. WU. Thank you very much, Mr. Chairman. In some respects, I am catching up a little bit to testimony which has been given earlier. But I would like the Panel to clarify for me that if we are not focused on clean coal or other clean technologies--let us just focus on clean coal. What would be the CO2 impact of alternative technologies to the coal technology that we are talking about?

Ms. ABEND. Obviously, there are a lot of renewable energy

sources that don't produce any CO2. We talked about wind technology, solar technology. And then I would just also like to stress that another alternative is just to improve efficiency. Like I said, we can meet 60 percent of our future energy needs by improving efficiency. One example of a way that we can do that is to improve auto fuel efficiency standards. If we increase those to 40 miles per gallon, we would save 15 times the oil in the Arctic National Wildlife Refuge. So there are a lot of viable solutions out there that don't produce any carbon dioxide, and we really need to focus on putting as much energy as we can into those solutions.

Mr. WU. Let us come back to that in a second. Mr. Kripowicz.

Mr. KRIPOWICZ. Mr. Wu, one of the things about the clean coal technologies that we are developing is that we--in the long term, we expect them to be almost double the efficiency of existing power generation technologies. So we would be talking about reducing CO2 emissions just with that technology itself by around 50 percent. In addition, the Department is working to develop economic methods of sequestering carbon from the air. And if we can do that on an economic basis, then we could essentially have zero carbon emissions coal technology as well as other technology.

If we can get indirect sources of--indirect ways of capturing CO2, we could actually help reduce the emissions

from other sectors of the economy than electricity also. It doesn't have to be coal related. It is any kind of carbon. So you could also affect the CO2 emissions of the transportation industry, for example.

Mr. YAMAGATA. Mr. Wu, if I may, a rule of thumb, if you will, with respect to increased efficiency of coal plants, for each percentage increase in efficiency, say, going from a 30-percent conversion--I take a lump of coal and I get 30 percent of its useful energy out of that coal if I produce electricity, which is kind of today's technology. But if I could produce 60 percent out of that lump of coal, I also, at the same time, reduce on a percentage-basis the amount of CO2 that I would emit in the reverse order, just as a point of reference.

The second point, to get back to the question you originally raised, that nuclear energy is--has no-CO2 emissions, just as a point of reference.

Mr. WU. Would you care to discuss any other benchmark technologies other than nuclear?

Mr. YAMAGATA. I think you can look across the board at hydro. You know, there--the point here is that all of these resources that we are blessed with have their own constraints, whether it is nuclear or hydro or renewables, frankly. One of the large problems with our wind energy, which happens to be economic today, and we support it, is

just the siting of wind systems, which you may well be familiar with. But they all have their problems.

Mr. BOEHLERT. I have got some locations in upstate New York for you, if you would like.

Mr. YAMAGATA. I know you do, Mr. Chairman.

Mr. WU. While we prize our hydro systems in the Pacific Northwest, we have become acutely aware of some of the downsides of renewables, whether it is wind or hydro or other sources. I guess leaving that fertile terrain behind for the moment, perhaps some of you could address the topic of burning, as you say, a lump of coal, and getting 30 percent energy--useful energy out and, I believe, primarily using that for electricity generation versus piping fuel directly to the site where the electricity would otherwise be used and the relative efficiency of those two different systems.

Mr. KRIPOWICZ. I--with distributed energy systems, which I think is what you are referring to, in most cases, the fuel you have to use is natural gas. You know, if you pump the fuel directly to a small electric generator, the fuel you have to use is natural gas. And the question then becomes how much natural gas do you have available. I would also point out that you can gasify coal and you can also use that to run fuel cells and other kinds of distributed generation also. So I mean, you know--and there are--there is a plant that has been in existence for a long time in the United States in

North Dakota that produces pipeline quality gas that can do the same thing from coal.

Mr. MEAD. I think another factor is that coal is also a good source of other products, chemicals, carbon-based materials. So power generation with a co-production of other materials, is another way of gaining efficiency. And in some sense, co-generation is another type of distributed power generation. So coal, as our most plentiful source of carbon-based products, is a very important resource beyond energy. And the combination of energy and other products can really raise the efficiency of the overall system.

Mr. WU. Mr. Chairman, thank you very much for recognizing me. I think in what feels to me like record time, but I see very quickly we are in the red-light zone already. Thank you very much. Thank you to the Panel.

Chairman BARTLETT. Thank you very much. Mr. Kripowicz, did I hear correctly that new techniques in Southern California enabled them to find a million barrels of more oil? Was that the correct number?

Mr. KRIPOWICZ. Yes, sir. They had actually produced over the life of the field only about a million barrels. And--

Chairman BARTLETT. Now, they produced a million more. I just wanted to put that--

Mr. KRIPOWICZ. And then they produced in this 3 or 4-year period an additional million barrels. So the technique not

only allowed them to go back--

Chairman BARTLETT. Yeah.

Mr. KRIPOWICZ. --to the kind of production levels they had before, but actually to exceed those levels.

Chairman BARTLETT. That is a lot of oil. But I just wanted to put that in perspective. That is about 1/20 of one day's use of oil in this country. Ms. Abend, recently I met with the Vice President. I reminded him that this President is my President, of whom I am very fond, by the way. And I didn't want him to look dumb. And I asked the Vice President to explain to me why cutting the energy budget, when we face a potential energy crisis, particularly the budget for renewables, wasn't dumb? And the Vice President asked OMB to come to my office to brief me. And they came to my office and pointed out that although they had cut a lot of R&D from the renewables budget, that they had also put, in another part of their budget, some tax credits--almost a dollar-for-dollar offset tax credits for using renewables. Does this help?

Ms. ABEND. Obviously, tax credits can be an important tool in forwarding renewable energy and energy efficiency. I think that tax credits need to be accompanied by standards and goals. For example, for renewable energy, we suggest a goal of having 20 percent renewable energy by the year 2020. Simply by, you know, having tax credits doesn't ensure that we are going to get there. We also need to have sufficient

funding for these programs for the research and development of these programs.

In terms of energy efficiency, tax credits can be dangerous if they are not accompanied with actual standards for improving energy efficiency. For example, again, with automobiles, if you have tax credits without actually improving standards for auto fuel efficiency, then you can just have, at the other end of the spectrum, the industry is able to produce more polluting vehicles. So it is important to accompany these tax credits with improved standards.

Chairman BARTLETT. I am a big fan of renewables. I am also a big fan of efficiency. I was just told this morning that California has now reduced its electric consumption by 11 percent. Efficiency and conservation does work, doesn't it, if they have reduced their consumption by 11 percent.

I also agree with you on the CAFE standards. I was the first person in Maryland and the first member of Congress to purchase a Prius hybrid-electric car. We have now driven it over 16,000 miles. There is no reason that most of the cars on the road shouldn't be this technology. Our auto manufacturers in this country have them on their drawing boards. They need to be in their showrooms. This car performs as well as any other car that we have owned and it pollutes as little as 1/10 as much as competing models. And for the last more than 500 miles, we have averaged 50 miles per

gallon on the car--now, the EPA mileage. If you don't pay any attention to how you drive, you will get 45. But it has a computer screen there that kind of coaches you to do efficient things in driving. If you do that, it is not very difficult at all to get 50 miles per gallon.

I was disappointed they didn't export to us the model they built in Japan with a 1 liter engine. Ours has a liter-and-a-half engine. I guess we like muscle cars and--but I was disappointed they didn't export here the car that they market in Japan. It would have gotten about 60 miles per gallon. And I would note that safety is all very relative. There is no car on the road--there is no SUV that performs much better than the smallest car when they have a head-to-head confrontation with a tractor trailer. So it is all very relative. Isn't it? And the big SUV owner who now claims that he is safer--if all the cars were smaller, they would all have equal safety. And none of us are really all that safe if we are going to run into a big tractor trailer car.

Ms. Abend, I noted your remarks about coal and its cost in terms of illness, its cost in terms of the environment. It is not free, you know. It produces the lowest cost to electricity. And that is a very compelling argument, don't you think, as to why we shouldn't go to nuclear?

Ms. ABEND. Well, coal actually has not produced a profit

for the DOE. It has--the DOE has recouped only a small portion of taxpayers' money devoted to the program. A 1996 audit of DOE found that there was a potential loss of $133 million out of $151 million investment in six clean coal technology programs. So obviously, the money isn't really being spent in the most efficient way that we possibly could. And the point here is that we feel that the coal industry should be paying for its own research to reduce emissions.

Chairman BARTLETT. That is another question. In another round, I will ask you that question--

Ms. ABEND. Uh-huh.

Chairman BARTLETT. --because Mr. Wells is the only, I think, relatively nonbiased person on the Panel today. So I would like to ask him that--but my question to you was, doesn't your arguments about the problems of burning coal--aren't they very powerful arguments as to why we ought to use more nuclear? It doesn't have any of those negatives that you talked about with coal. You see, if we don't burn coal, we have got a big, big problem. We don't have any way near enough electricity since coal produces half of it. Every fifth home is now powered by nuclear. And the argument you made about the problems with coal, aren't they powerful arguments as to why we have got to look harder at nuclear?

Ms. ABEND. Nuclear energy is unsafe. It is expensive. And, in the past, it hasn't been successful. It has required

a huge amount of taxpayer bailouts. And so I just feel like that is--PIRG feels that that is not the solution to our energy problems. Obviously, energy efficiency is the quickest, cheapest, and cleanest way to save consumers money on energy bills to reduce pollution and also to help prevent rolling blackouts.

Chairman BARTLETT. Well, I am with you a hundred percent on conservation and efficiency. And we will get back in another round, but my time is now up. And let me turn again to Mr. Costello.

Mr. COSTELLO. Mr. Chairman, I really have no further questions. I had a couple of other questions, but they have already been asked by other members. I would just like to thank all of our witnesses for being here and to give them an opportunity, at this time, if they would like to respond to--or to add to any question that has been asked, starting with Mr. Kripowicz. Anything you want to add at this point?

Mr. KRIPOWICZ. Only one thing, Mr. Costello. And that is, that on balance--and even GAO agrees that on balance, I think that the clean--the original clean coal program was a model effort with industry to produce clean technology. And we would hope to avoid some of the mistakes and problems that we had in--to some extent, in the original program, whenever we go through the second clean coal technology initiative that the President has recommended. And we think we have the

knowledge to be able to do that and to work with industry to produce clean technology--cleaner and more efficient technology than is available today for the country. Thank you.

Mr. COSTELLO. Mr. Yamagata.

Mr. YAMAGATA. Thank you, Mr. Costello. Just an observation that 2 percent of the 600,000 megawatts of currently installed electrical generation in this country comes from renewable energy; 51 percent comes from coal. We would be ecstatic if 20 percent of the 3 or 400,000 of additional capacity that the President has estimated could come from renewable energy and we endorse that if that can happen. But I think we need to be realistic.

Mr. COSTELLO. Mr. Wells.

Mr. WELLS. Not often as a GAO witness I get to talk about something that is really working well and done good. But for the Clean Coal Technology Program we did commend DOE and we should commend the Congress for putting together provisions that allowed a good cost-sharing agreement. The fact that the Congress appropriated money over a longer-term period gave confidence to the business world that the government was committed to supply the funding necessary for success. The fact that DOE gave clear instructions on the roles and responsibilities, in terms of their partnership--the fact that DOE came to the table and didn't pay for everything, but

much of the industry supported greater cost shares. And once you learn that when industry puts more of their dollars in, there is a likelihood or a greater chance of success. A lot of things were done well and we think that much of that could serve for even better cost-sharing provisions in the future. So we commend DOE and the Congress for doing that sort of thing.

Mr. COSTELLO. Ms. Abend.

Ms. ABEND. I would like to just respond to Mr. Yamagata's comment on being realistic about alternative energies, because I did talk a lot about Clean Coal Technology Program being mismanaged in some ways. And I would just like to stress that in comparison to Clean Coal Technology Program, energy efficiency, the rate of return for those programs, has been staggering.

According to the American Council for an Energy-Efficient Economy, the DOE recently documented that 20 of its most successful energy efficiency projects have saved the Nation 5.5 quadrillion BTUs of energy over the past 20 years, which is worth about $30 billion in avoided energy costs. The cost to taxpayers for these activities over the past decade was $712 million, which is less than a 3 percent of the savings, and the savings are increasing every year. So just in terms of the rate of return for that program, it is pretty astounding.

Mr. COSTELLO. Mr. Mead.

Mr. MEAD. Well, certainly, I want to emphasize the energy mix that we have in this country. We need to invest in all of our resources. But coal represents the largest single source of electric energy and it is the best source for base-load power production. And we need investment in new technology to see to it that we continue to have that reliable base load for our electric economy for the coming years.

Mr. COSTELLO. I thank all of the panelists and thank you, Mr. Chairman.

Chairman BARTLETT. Thank you very much. I just wanted to make one quick observation in response to Ms. Abend's frequent references to the efficacy of efficiency. During the Carter years, we were using, each decade, as much energy--as much oil as had been used in all of previous history. Efficiency has changed that relationship so much. What that means is, of course, that when you have used half of all the oil in the world, you have only 10 years remaining if each decade you have used as much as has been used in all of previous history. We have now changed that, and it is due primarily to efficiency.

Worldwide now, we have now changed that dynamic, so that when we have used about half of all the oil in the world--and that is about now as we speak, by the way--or a few minutes ago or a few minutes in the future or years in the future or

whatever--but when we reach that point, we will have about 30 years of oil remaining in the world. And that is all due to efficiency. So, you know, I am a big supporter of efficiency. We can do--we can live just as well and just as comfortably and be a whole lot more efficient, and we have demonstrated we can do that.

And just thinking about the problem--in California, they have now reduced their use by 11 percent. That is probably mostly conservation rather than efficiency, but I don't know how you tell the difference between conservation and efficiency. You end up using less and you either are more efficient in the way you use it or you just do without and end up using less.

But we really need to focus on all of these aspects if we are going to be successful in the future. And I think that renewables are too little appreciated and too little supported, and particularly renewables from agriculture. We have an enormous opportunity to get more energy from agriculture, and I would hope that we would focus on that.

Let me ask other members of our Committee here if they have additional questions to the panelists.

Mr. SMITH. Mr. Chairman, thank you. One short question, maybe in terms to Ms. Abend. If--in the existing environment, if there was no additional tax credits, if there was no additional federal money, how much higher do you think energy

prices would have to be for the private sector to come in and build wind or solar generating--additional wind or solar-generating capacity?

Ms. ABEND. I think that wind and solar technologies--it is a matter of building these programs on a large enough scale so that they can be cost competitive. Like I said--

Mr. SMITH. Why doesn't the--

Ms. ABEND. Like I said, wind energy actually is already--

Mr. SMITH. Why doesn't the private sector do it now?

Ms. ABEND. Well, one thing to think about is that energy efficiency--or renewable energy programs, rather, aren't receiving the same subsidies as fossil fuels and nuclear power have received historically. So there really isn't that level playing field there. Also, fossil fuel and energy--fossil fuel and nuclear energy are mature industries that are already--you know, have enough money to fund their own research. That is why the argument here is not that we don't want cleaner coal, but that--

Mr. SMITH. No. No. But still--

Ms. ABEND. --the coal industry should fund their research--

Mr. SMITH. --back to my question. Again, for the private sector to do it, then they have got to have some assurance that they can make a profit. And if they--if energy prices were doubled--and I appreciate there is a significant

variation of energy prices across the country--but if energy prices were doubled, would the private sector be billed more generating capacity through water or solar or wind?

Ms. ABEND. I don't know what the threshold point is in terms of the price of energy and increasing renewable energies, but we can't necessarily control that factor as well as we control how much funding that we provide for these renewable energy sources in order to give them that boost, and, at the very least, take away the funding from the older, more mature industries and create that more level playing field.

Mr. SMITH. Mr. Kripowicz.

Mr. KRIPOWICZ. I am sorry. I don't know what that price would be except I would--

Mr. SMITH. I guess maybe the question is, if the price of energy went up as much nationally as it has in California, as a percentage increase, where would the--where would the private sector--how would the private sector move to generate energy?

Mr. KRIPOWICZ. The private sector would still build the cheapest thing available, so they would end up still building natural gas plants and coal plants and nuclear energy--

Mr. SMITH. But here again--

Mr. KRIPOWICZ. --and then possibly, renewable, if it is more expensive. Now, wind is a category that it fits in

generically--

Mr. SMITH. Natural gas has almost tripled in the last year. I--

Mr. KRIPOWICZ. It is about doubled now. The price is about $4 compared to--it was down below $2 about a year-and-a-half ago.

Mr. SMITH. Well, I mean, that is part of the question. In terms of--and I appreciate the fact that we can subsidize some of the industries that might give them an advantage over the other sectors, but in the long run, it can't be a continuous government subsidy to generate electricity. Consumers are ultimately going to have to pay the price that motivates that kind of generation as we increase our usage and the customers are ultimately going to have to pay to assure that the environment is safeguarded in that generation. Thank you, Mr. Chairman.

Chairman BARTLETT. Thank you. Mr. Kripowicz, you have recommended a $2 billion proposed spending on clean coal technology over the next 10 years.

Mr. KRIPOWICZ. The President has. Yes, sir. As of--

Chairman BARTLETT. The President. For this year, you have asked for 150 million. You are not going to ask for all the rest of it next year. Are you?

Mr. KRIPOWICZ. I--no, sir. We are right now in the process of constructing a 10-year program to review it with

the Administration.

Chairman BARTLETT. Could you, for the record, provide that information for us so that we, in our planning, can look ahead to--

Mr. KRIPOWICZ. Whenever we have that information, we will make it available to the Committee. Yes, sir.

Chairman BARTLETT. Thank you very much. I had said earlier that I was going to invite members of the Panel to pose questions to other members of the Panel if the members of--on the Committee here have not asked those questions. Are there comments made by other members of the Panel that need additional elucidation that pose a question from you? I would like to give you this opportunity now to pose such questions for the record or for answer here if they are short.

Ms. ABEND. I would like to ask Mr. Yamagata--you talked about improving efficiency at coal-fired power plants and carbon dioxide pollution. If that is an option, then I would like to know whether you support--whether you support legislation like S.60, which would--the Clean Air Act. Do you think that you be able to meet the standards of the Clean Air Act?

Mr. YAMAGATA. I know that the safe harbor provision that was applied in the first draft that has been introduced of S.60, which is legislation that has been introduced on the Senate side by Senators Byrd, McConnell, and, as Ms. Abend

said, I believe 23 other senators. And a provision in that bill was with reference to those plants, particularly advanced coal technology plants, to have a safe harbor from provisions of the Clean Air Act. What I can say is that the concerns that have been expressed by the environmental community and others are in the process of being considered and also that provision is being redrafted. How it is being redrafted, I don't know.

But it wasn't an intent to skirt the provisions of the Clean Air Act. It was an intent to say, we may have some difficulties, as we do new technology, that is going to run up against requirements in the Clean Air Act and that we need to try and take away that uncertainty for a period of time so that someone will, or that developers will, in fact, go forward with those technologies. There was never an intent to simply place the Clean Air Act on hold for the life of those facilities.

Chairman BARTLETT. Thank you very much. I would just like to note, Ms. Abend, that not only am I a supporter of renewables, I am a user of photovoltaic and for a number of years now and very familiar with that technology and very encouraged about its future. Once made and in place, you have about 30 years absolutely trouble-free and totally pollution-free performance from photovoltaics. And I would like to see them a much bigger part of our electric

generation.

By the way, another big advantage is that they are, by definition, distributed--they are disbursed a little here and a little there so that we do away with a lot of line losses. When you have big power plants sending power for a long distance, that is a lot of line loss. Which is, by the way, the reason that Saudi Arabia was--and I suspect they may still be--the world's largest purchaser of solar cells with all of that oil. And the reason is, they have small communities widely separated and building a big power plant with all the line losses doesn't make any sense for them. So they sell the oil to us and buy from us the solar cells. It just makes a whole lot more sense for them. And that distributed production generation will pay big benefits in this country from reduced line losses also.

Let me now thank this Panel and excuse them. And Mr. Kripowicz will stay with us because he has given his opening statement for the next Panel, but he is a participant also in that next Panel. Thank you very much for your testimony.

--members of our second Panel. In addition to Mr. Kripowicz, who is staying on from our first Panel. We have Mr. Lazenby.

Unidentified SPEAKER. Ms.

Chairman BARTLETT. Ms. Oh. I am sorry. Ms. Lazenby. GiGi, the queen of the strippers, is with us today. And Mr. Cuneo,

Vice President and Chief Information Officer of Equiva Services, LLC, Houston, Texas. And he is here on behalf of the American Petroleum Institute. Dr. Craig Van Kirk, Professor of Petroleum Engineering and Head of the Department of Petroleum Engineering, Colorado School of Mines, Golden, Colorado; and Alan Huffman, Manager of Seismic Imaging Technology Center, Conoco, Incorporated, Houston, Texas. Thank you very much for joining us. And Mr. Kripowicz has already given his testimony in the prior panel. So we will turn now to GiGi.

STATEMENT OF VIRGINIA B. LAZENBY, CHAIRMAN AND CEO, BRETAGNE, GP, NASHVILLE, TENNESSEE, ON BEHALF OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Ms. LAZENBY. Good morning, Chairman Bartlett, members of the Subcommittee: My name is Virginia Lazenby and I am the Chairman of Bretagne, an oil and gas-producing company in Kentucky. I am pleased to be here today on behalf of the Independent Petroleum Association of America and the National Stripper Well Association. We represent 5,000 oil and natural gas producers in 35 states. IPAA and NSWA welcome the opportunity to testify on the important role we believe oil and natural gas research and development programs play in the advancement of a viable, sustainable national energy policy.

IPAA's membership constitutes both large and small independents contributing 50 to 65 percent, respectively, of domestic petroleum and natural gas production in the lower 48 states, and we employ 336,000 people. My company produces from high--from low volume, high cost stripper or marginal wells and we employ 36 employees and have a payroll of approximately $850,000 annually.

The report issued on May 17 by Vice President Cheney's Task Force on National Energy Policy Development, addressed both the Nation's short and long term energy needs. The report cites the Energy Information Administration estimate that by the year 2020, the United States will need about 50

percent more natural gas and 1/3 more oil to meet growing demand. I am sorry--to meet growing demand.

Meeting this formidable set of challenges will be complicated by events in the recent past. The damage to the industry from extremely low oil and natural gas prices in '98 and '99 is affecting supply today and will continue to do so until the industry has a chance to recover. It will take time to build new drilling rigs and provide the skilled services that are necessary to rejuvenate the industry.

Research and development, in many instances, are the last to receive support. Ironically, it is the strides made within the R&D community in recent years through programs such as those administered to the Department of Energy's Office of Fuel--of Fossil Energy that can be critical to many producers' economic survival. The current price of oil is helpful, but price alone does not save fields. Technology was and is a necessity.

Many exploration and production R&D advancements are documented in the Department of Energy's report, ''Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology.'' Quoting from the report, ''In the past 3 decades, the petroleum industry has transformed itself into a high-technology industry. Ongoing advances in E&P productivity are essential if producers are to keep pace with steadily growing demands for oil and gas. Progressively

cleaner, less intrusive, and more efficient technology will be instrumental in enhancing environmental protection in the future.''

According to the National Energy Report, anywhere from 30 to 70 percent of the oil and 10 to 20 percent of natural gas is not recovered in initial field development. Enhanced oil recovery projects could add about 60 billion barrels of oil nationwide through the use of existing fields.

My company has utilized nitrogen huff-and-puff process to increase production from a mature Appalachian oil field and we have increased production from 100 barrels of oil per day to 500 barrels of oil per day. And, Mr. Chairman, we have recovered, in our project, 240,000 barrels from this field and we expect to get an additional million--a total of 1,700,000 barrels. That is 4.5 percent of the oil in place.

Bretagne developed and owns the patent on this process, but we need more refinements in technology to keep costs down. And to that end, Bretagne has partnered with Penn State, through the Stripper Well Consortium, in the development of a chamber lift technology to produce stripper--to--for producing stripper wells that requires no expensive pump jack and significantly less electricity, which goes to the point of conservation that you discussed earlier. The Stripper Well Consortium is an industry-driven organization that receives base funding and guidance from the

Department of Energy's Office of Fuel--of Fossil Energy--excuse me--and the New York State Energy Research and Development Authority. By pooling financial and human resources, the Stripper Well Consortium can economically develop technologies that would extend the life and production of the Nation's stripper wells.

Programs such as the Petroleum Technology Transfer Council, a joint public-private partnership between the entire independent producing community and the Department of Energy, and the Stripper Well Consortium, provide badly needed research and development capital.

For the foreseeable future, the Nation will be dependent on fossil fuels. Petroleum and natural gas currently account for approximately 65 percent of the Nation's energy supply and will continue to be the significant energy source. The development of any domestic energy policy must recognize this reality. Oil and natural gas research and development holds the key to the maximum utilization of the Nation's energy resource base in a manner that represents as few environmental consequences as possible. Technology can help us get there and the public-private projects sponsored by the industry and the Department of Energy are an excellent way to encourage the development of the technology our Nation needs to develop a viable, sustainable energy future. Thank you.

[Statement of Ms. Lazenby follows:]

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1947 Chairman BARTLETT. Thank you very much. Mr. Cuneo.

STATEMENT OF PAUL CUNEO, VICE PRESIDENT AND CHIEF INFORMATION OFFICER, EQUIVA SERVICES, LLC, HOUSTON, TEXAS, ON BEHALF OF THE AMERICAN PETROLEUM INSTITUTE

Mr. CUNEO. Mr. Chairman, thank you for inviting me to testify today on the remarkable technological developments that have been made over the past several years in the downstream sector of the petroleum industry. I am testifying today on behalf of the American Petroleum Institute, a national trade association whose members are engaged in all aspects of the petroleum industry, including exploration, production, refining, distribution, and marketing.

Americans depend on our industry to keep the U.S. economy moving as never before. In our expanding economy, we provide hundreds of products made from petroleum in volumes that would not be possible if we were not for developing new technologies that have made our industry more productive, more efficient, and more economically viable.

Mr. Chairman, I would like to focus on three areas of technology advancements with my testimony today. First in the area of refineries, then pipelines, and then in fuel for vehicles of the future.

In the areas of refining, as you know, demand for gasoline this year is at record levels. To meet it, refineries have been running all out, around 97 percent of capacity. Just a few years ago, this feat would have been

difficult, if not impossible, but development of new computerized process control and online optimization technologies make it possible for refineries to run harder and make more products than at any other time in our history while improving safety and environmental performance.

In 1981, just 2 decades ago, there were 315 refineries in the United States. Today, that number is 155. Two decades ago, we produced 6.4 million barrels a day of gasoline and today we are producing 8.5 million barrels a day of gasoline to meet the American public's demand. And we continue to produce additional products, such as get fuel, heating oil, diesel fuel, and other much-needed products which fuel not only our transportation sector, but our chemical industry as well.

The industry has had to invent new refining processes to meet current and future product specifications and to meet environmental regulations. One example of that is the industry has developed successfully a catalytic distillation process to commercialize and produce MTBE. And you also use this technology in order to reduce sulfur in gasoline to make the future low-sulfur gasoline required by environmental regulations. Another example are flue-gas scrubbing processes which have been applied to catalytic cracking units that reduce SOx and particulate emissions while enabling our existing plants to process a wider variety of feed stocks.

Petroleum refining is one of the most energy-intensive of our manufacturing processes in America. And, yet, today, many refineries are running and have seen their own energy consumption drop by 30 percent. Still, there is more opportunity and more activities to be undertaken to reduce energy consumption in the refining sector, and greenhouse gas emissions as well.

One goal in improving technology is to take advantage of the byproducts produced in the refining processes and ensure that they are fully upgraded and converted through our modern clean-burning gasoline and diesel fuels. The refining industry has been a real example of using byproducts from refineries to produce excess steam and hydrogen and even energy--in many cases, electrical energy.

Those of us in the refining industry take pride in a holistic approach to the future. And by that, I mean we consider the environmental benefits side by side with decisions on increasing capacity and improving efficiencies.

New technologies have been developed to monitor so-called fugitive emissions from refinery valves, pumps, compressors, and other critical areas. A refinery worker will soon be able to walk around with a portable device based on an infrared laser and an imaging system to pinpoint unwanted hydrocarbon emissions and correct the leaks.

Information technology is enabling refiners to develop

online sensors to analyze the chemical makeup of crude oil as it arrives at the refinery, making it possible to turn it into various products faster and more efficiently with reduced emissions.

In recent years, there have been dramatic advances in the use of catalysts. Catalysts today are converting materials into low sulfur gasoline and diesel components from poor quality crude in ways that have never been done in the past.

We are also refining used lubricating oil needed for today's vehicles and for many other applications in today's industrial economy. Today's modern lubricants contain synthetic components that reduce vehicle gasoline consumption and do an even better job of reducing engine wear, the naturally occurring components. We have developed better processes to take out solvents that sharply reduce the amount of heat used in the lubricant manufacturing process.

Mr. Chairman, our industry is pleased to see the President's National Energy Plan include proposals designed to overcome regulatory obstacles that often make it difficult for the refining industry to install new equipment that incorporates the type of technological advances we are discussing here today.

In the arena of pipelines, computers have also transformed the pipelines that carry gasoline and other fuels from refineries to distribution points all over the country.

Instantaneous communications along hundreds of miles of pipeline keep a variety of fuels flowing smoothly and permit an instant shutdown should a break in the line occur. The reaction is so fact that little liquid escapes before the flow is stopped. Information travels by satellite, microwave, and fiber optic wiring to centralized control centers.

Smart pigs, computerized sensors that look like giant rubber bullets, travel through pipelines to detect thinning caused by corrosion and construction gouges that could, in turn, eventually mean a broken line. The most advanced kind of smart pigs contain ultrasonic sensors that identify the tiniest of cracks, dents, and gouges on the interior of the pipeline. Some of these devices can even change size permitting them to move through different-sized pipelines and past gate valves.

When we look to the future for fuels and advanced vehicle technologies, we believe that ultimately one of the most significant parts of this story will be a new chapter on fuel cells. No one is certain what the fuels and cars of the future are going to look like, but a pattern is emerging. Our children and grandchildren will be driving vehicles that are safer, cleaner, and more efficient than any in history. In the next 5 to 15 years, they will probably be powered by an internal combustion engine that is much cleaner and more efficient today, and long term by fuel cells. Either

propulsion system will use an advanced, ultra-clean gasoline provided by the U.S. refining industry.

Mr. Chairman, what I have offered here today has been a taste of the many fast-moving technological developments in our industry. There are two thoughts that I would like to leave with you. First, new technologies will continue to allow our industry to be more productive and efficient, while at the same time improving our environmental performance. And, second, that industry and government should cooperate in research in these areas. Thank you for inviting me here today.

[Statement of Mr. Cuneo follows:]

********** INSERT 9 **********

2086 Chairman BARTLETT. Thank you very much. Mr. Van Kirk.

STATEMENT OF DR. CRAIG W. VAN KIRK, PROFESSOR OF PETROLEUM ENGINEERING AND HEAD OF DEPARTMENT OF PETROLEUM ENGINEERING, COLORADO SCHOOL OF MINES, GOLDEN, COLORADO

Mr. VAN KIRK. Is that about the right distance for the microphone? Thank you very much for the invitation to come here today to be of some assistance. My name is Craig Van Kirk. I am a Professor and Head of the Petroleum Engineering Department at the Colorado School of Mines and have been for 21 years.

Just last week, Monday and Tuesday, I was in Houston for a first-of-a-kind, invitation-only meeting of international, American oil companies and American universities and international universities also and a representative of the Department of Energy. And we met for 2 days to discuss today's and near-term and long-term research needs of the oil industry, upstream, exploration and production. The oil companies and the service companies shared their needs with us representing the universities and we shared our needs and our capabilities and our areas of interest and expertise with them. As I say, this was the first time a meeting called for this particular kind of venue and we had an excellent conversation and plan to meet again in October to further these discussions and have some more concrete plans.

Imagine our abilities in the petroleum industry and petroleum engineering, in particular. We can drill seven

miles into the earth. We can drill in one to two miles deep oceans around the earth. We produce products for the benefit of society and have for many, many decades, all over the world. And not just energy. I appreciate that the major concern of today's discussions are energy, but petroleum and crude oil and natural gas production go into the manufacture of many things in this room--the paints, the--probably the curtains, the carpet, the plastic cups, the containers for the water we are drinking. These things are made from the production of petroleum. Sometimes people ask if we are going to run out of petroleum soon or stop producing soon. No. The world will need plastics and materials made from petroleum for hundreds of years. We will continue to produce for hundreds of years for those reasons.

Now, some people think that the petroleum industry is not very high-tech because all they see are big pieces of equipment--offshore drilling platforms or drilling rigs or pumping units. Well, as a matter of fact, the high-tech level of development in the petroleum industry and application is extremely high. And I have included some examples in the written testimony that I submitted to you earlier, and I will just repeat a few right now.

For example, in the area of seismic investigations into the earth's surface, we can see down several miles into the earth and we can create three-dimensional images of what the

earth's subsurface looks like. And this helps us find new resources of oil and gas, new reservoirs. And when we do the 3-D seismic, three-dimensional seismic, over a period of time, we get a time-lapse photograph, if you like, to see where fluids are moving. We call this 4-D, the fourth dimension being time. So we can watch fluids moving around underground, whether it be a shallow movement or a great depth, a mile or two or three miles deep. We can watch fluids move and we can distinguish between types of fluids. This 4-D visualization is a major new endeavor.

Also, horizontal drilling. We can drill directionally from one surface location seven miles laterally, seven miles in another direction. So we can cover an area of 14 miles from one location. Now, this is not routine and we don't do this every day. But directional drilling, to drill several thousand feet or several miles in different directions, to exploit a very large reservoir from a very small footprint, this is a new development that continues to improve with our research.

Now, the fact is that oil and gas do not exist underground in big open pools or rooms like this room. They exist in the pores, small pores of rocks. But at several thousand psi, fluids can flow quite well. Now, based on our technical developments and research and experience through the years--is that a buzzer I need to be concerned about? And

even with--is this daily?

Chairman BARTLETT. Excuse me. The buzzer going off is simply informing you that we aren't doing anything on the Floor.

Mr. VAN KIRK. Will the lights go out if there is no signs of intelligent life in here? Is that an automatic switch? We have been producing oil for more than 100 years and unfortunately we can recover today only approximately 1/3 on average, and we have 2/3 of oil left in the ground. Enhanced oil recovery, cooperative efforts with industry, universities, and the government, have been essential to us in the past and continue to be essential to us in the future.

And, in fact, I would say, based on my experience and working with industry for all these years and government representatives, that the support for oil and gas exploration and production research should be increased, not decreased at this time. I thank you very much for the opportunity to serve you today, and I will be happy to answer any questions.

[Statement of Mr. Van Kirk follows:]

********** INSERT 10 **********

2182 Chairman BARTLETT. Thank you very much. Mr. Huffman.

STATEMENT OF ALAN R. HUFFMAN, MANAGER, SEISMIC IMAGING TECHNOLOGY CENTER, CONOCO, INC., HOUSTON, TEXAS

Mr. HUFFMAN. Thank you, Mr. Chairman, and good morning to you and the members of the Committee. I would like to thank you for the opportunity to testify today as a concerned technology leader in the petroleum industry. The United States faces a significant challenge over the next 10 years in the area of safe and environmentally sustainable energy development. The recent power problems in California and other parts of the United States, along with the simultaneous critical supply and infrastructure problems in the electricity, gas, and oil markets, indicate that the Nation is entering a period of sustained energy challenges that could cause serious damage to the national and global economies if significant steps are not taken soon to address the problem.

During the 1960s, the United States demonstrated the vision, courage, and commitment that was required to put a man on the moon. This effort took significant resources and a coordinated effort from all of the stakeholders in space exploration to assure success. As we enter the new millennium, our Nation faces an energy challenge that is much greater than space in the level of technology that is required for success. It is my belief that this crisis requires a technology effort of similar scope and scale to

what America committed to winning the space race.

During the next few minutes, I would like to enroll you in a new vision for a national technology program that will allow government to work closely and collaboratively with industry and academia to help solve our national energy crisis. This program will focus on the development, deployment, and commercialization of innovative technologies that will increase domestic energy supplies, reduce domestic energy costs to the consumers, and will be revenue positive to the Federal Government.

I propose that the Congress, as part of the National Energy Plan, authorize the creation and funding of a national energy technology effort which, for illustrative purposes, I have called the United States Energy Center, or USEC. USEC will act as the catalyst for the next generation of innovative energy solutions that are required to achieve a secure energy future for the United States. The Center will be the focal point for industry collaboration with government and academia and will bridge the gap between research and development of new technologies and the commercial world by focusing on the development, first field deployment, and commercialization of major energy technologies.

USEC should be established using a model similar to the Joint Oceanographic Institutions, which manages the ocean drilling program. The Center should be overseen by an

expanded interagency working group that includes representatives from the key agencies with an interest in safe and environmentally sustainable energy supplies, including the DOE, Minerals Management Service, NSF, the United States Geological Survey, NOAA, NASA, EPA, the Naval Research Lab, and the Coast Guard. The oversight mechanism should be through an Advisory Board consisting of the federal stakeholders and the Center corporate, and academic and NGO members.

The Center should be closely aligned with the DOE Gas and Oil Technology Partnership Program at the National Labs to assure maximum leveraging and transfer of technology from DOE to USEC programs. Close coordination with other federal science programs should also be encouraged to achieve economies of scope and scale where possible. Center programs should provide timely information to regulatory agencies, including the MMS and EPA so that new regulations can be developed using the latest technical information and input from all stakeholders.

The first major program undertaken by USEC should be a technology effort called the Offshore Technology Program. In contrast to many petroleum regions of the United States, the deep water and ultra-deep water Gulf of Mexico hold very large reserves of oil and gas that should be included as a critical component of a future comprehensive U.S. energy

strategy. One way to stem the decline in U.S. oil and gas production is to begin a massive development of the reserves contained in the deep water environment. This development would produce an increase in domestic production similar to when the North Slope of Alaska was brought on line in the 1970s and '80s.

One of the great challenges facing the industry is how to execute such an aggressive deep water development campaign when many of the technologies required for the effort are still in their infancy. The scale of operations in deep water is so massive that no single operator can afford to spend the money required and take the risks involved without support and risk sharing from other stakeholders in deep water. Individual technology development and field trial costs for some of the technologies can exceed $100 million, which is clearly out of the reach of even the largest operators. This type of massive development challenge lends itself very well to a cooperative effort by government and industry.

The Office of Natural Gas and Petroleum Technology of DOE has been working with industry and academia to formulate a technology strategy to accelerate deep water development in the Gulf of Mexico. This strategy, called the Offshore Technology Roadmap, or OSTR, was assembled through a closely coordinated partnership with the DOE labs, the MMS, the operating, service, and engineering companies, and academia.

The OPT implements the OSTR by lowering critical technology barriers, enabling deep water developments to proceed at a faster pace, and allowing development of many smaller fields in deep water that are not commercial today.

The potential of this program is very significant and could provide several million barrels per day of incremental production in future years. OTP's key components would include a high-intensity design competition for the next generation of ultra deep water facilities that will allow dramatic cost reductions in deep water operations, component technology programs for those technologies that will allow major cost reductions in specific operational areas and development programs that will integrate the expertise of the industry, academia, and the U.S. National Labs.

I recommend that the Congress appropriate a minimum of $25 million in funding for 2002 to support the Center operations and first year of the OTP. With industry-matching funds of 25 million, this would result in full funding of $50 million for the first year of the program. Preliminary economic models indicate that a properly funded and managed OTP effort will be revenue positive to the Federal Government with approximately 3.5 billion in new revenue generated in the first 10 years of the effort.

These budget amounts should be put in perspective with the energy needs of the United States. The initial 25 million

in 2002 federal funding for the Center and OTP would be equivalent to purchasing one million barrels of crude oil for the strategic petroleum reserve at $25 a barrel. This is equal, as was mentioned earlier, to about one hour of oil consumption in the United States. If the program is successful, the increase in deep water production after a few years, would provide this same benefit in 1 day at significantly reduced cost to the consumer.

The U.S. Energy Center has been structured to be a win-win for all parties that will address the Nation's energy needs while reducing energy costs and generating incremental revenue for the taxpayers through the rapid deployment of new technologies. All of the details of the Center and OTP concepts, structure, and funding requirements are described in the USEC business overview that was provided to you along with my written testimony. Work is currently underway to enroll the entire energy industry in the USEC vision, and we will keep you informed as this support grows.

I encourage the Committee to vigorously support this exciting new concept as part of the comprehensive national energy strategy. Thank you for you attention, and I would be happy to answer any questions.

[Statement of Mr. Huffman follows:]

********** INSERT 11 **********

[The information follows:]

********** INSERT 11A **********

Chairman BARTLETT. Thank you very much. I want to thank all of the witnesses for their testimony. And let me turn now to Mr. Costello for his questions and comments.

Mr. COSTELLO. Mr. Chairman, thank you. Mr. Huffman, let me follow up on your testimony. Did I hear you correct that you are recommending 25 million the first year?

Mr. HUFFMAN. The minimum requirement that I propose in the testimony is 25 million. Ultimately, as I said in the statement, this will require significantly larger amounts of money, not as much as the Space Program cost, but significant amounts of money that would have to be matched by industry and government working together to solve the problems that we face in deep water on the technology side of our business.

Mr. COSTELLO. And five is for the Center and 20 is for the program. Is that correct?

Mr. HUFFMAN. That would be for the first year. Yes.

Mr. COSTELLO. And how do you see, looking down the road, 10 years--a 10-year plan? How much would you expect the Congress to appropriate over a 10-year period?

Mr. HUFFMAN. If you look in the last page of the summary, the business overview that I have provided to you, there is actually a graph. The assumption in that economic model is that the program would ramp up to $250 million a year of federal funding in the 4th year and then would stay stable at that level through the 10-year first phase of the program.

And there are obviously different models that you can run, but that model is revenue-positive to the Federal Government over the lifetime of the program, including the tax credits that would be taken for R&D, the revenues from royalties, and not including the trickle-down effects from the income taxes and other industrial impacts of a large program like this.

Mr. COSTELLO. Let me ask you to direct your attention to the deep water Gulf of Mexico. I know that little work has been done there. But, one, what do we know about the potential for oil and gas production from the deep water in the Gulf at this time?

Mr. HUFFMAN. Based on the numbers that we have from our current exploration and production in the Gulf, it is probably one of the most prolific remaining frontiers within the United States for future production of oil and gas. There are, to my knowledge, no other areas that are currently being explored and developed that contain the scale of potential that the deep water contains.

Mr. COSTELLO. And what might that scale of potential be? Do we have any idea?

Mr. HUFFMAN. In terms of production, it could be several million barrels a day of additional production over a 10 or 20-year lifetime. So a fairly significant total reserve base exists out there yet to be developed.

Mr. COSTELLO. And what is that potential reserve

base--how did we determine that? What is that based upon?

Mr. HUFFMAN. That is based on the industry projections. And I can get you some detailed information on that later if you would like to see some more actual numbers. I didn't bring those with me today.

Mr. COSTELLO. Dr. Van Kirk, you mentioned in your testimony about the technology advances in the '60s and '70s, and that today's supplies of oil and natural gas would not be here today had it not been for the development of those technologies. And I just wonder how much of those technology advances were attributed to government oil and gas research versus the private sector?

Mr. VAN KIRK. I cannot quantify the distribution, whether it be 50 percent--I can't do that and I don't think anybody can, but it has been significant. Department of Energy participation with us in our researches on university campuses and with private industry almost always are partnerships among three or four of our groups--government, industry, and universities, and academia. And the funding is shared also. Usually, there is a requirement for cost sharing on the university's part and with private industry. Government's participation and contributing some funding is--has been essential and crucial and useful. And also the government participation guarantees distribution of the results on a broad basis to everyone in the country.

Mr. COSTELLO. I wonder if--and I realize you have--you said you cannot give a definitive answer. But did you have--is it 50/50, more than 50/50? Or, Mr. Kripowicz, would you know, during that period of time?

Mr. KRIPOWICZ. I would agree with Mr. Van Kirk. It would be very difficult to align the percentages. Industry, in general, spends a--you know, if what they count as R&D, a considerable amount more than the government does, but the government focuses on high-risk areas. And so, over time, the government research has more bang for the dollar than you would think because it looks at high-risk things that the industry might not look at immediately, and the industry picks it up and spends a great deal more money bringing that technology to market.

Mr. VAN KIRK. Mr. Costello, may I--

Mr. COSTELLO. Please.

Mr. VAN KIRK. --proceed? Thank you. I hadn't thought of it this way before, but it occurs to me that if you are asking for a distribution, and we cannot quantify it, I think it is similar to considering an athletic team, a team sport, where the team is successful, and then to try to distribute the success among the team players. You can't do it just by how many points are scored or how much money somebody put in.

Mr. COSTELLO. I wish I could explain that to my constituents back home. They don't look at it that way. But

let me ask a question about the oil companies--and it is my understanding that their R&D commitment has been reduced in the past few years. And I wonder if I might ask anyone who would like to answer the question why that has been. I am sure there are several obvious reasons, but I wonder if you would begin, Dr. Van Kirk.

Mr. VAN KIRK. Well, I am speaking on my perspective from the university standpoint and my close association with professionals in industry also--our professional societies and meetings and conferences. Over the past 15 years, there has been quite a consolidation in our industry. Depressed prices, 10, 15 years ago, consolidations, mergers, and the oil industry reducing its own internal research and development activities and evolving and migrating into a newer relationship with universities and the government and the DOE doing research and service companies also--major oil field service companies, doing joint-team research. So there has been an evolution in recent years. And, as a matter of fact, last week in our meeting in Houston, we talked about continuing that evolution even further.

Mr. COSTELLO. Mr. Huffman.

Mr. HUFFMAN. Well, that is the job that I do inside my company, is running a technology organization. And, yes, you are correct in the general statement that over the last, say, 10 to 15 years, the total amount of money spent by industry

has dropped significantly. That has been partly, as Dr. Van Kirk said, to the long period of low energy prices and the resulting low return on capital that the industry was able to achieve in that environment.

The second thing that has occurred is the consolidations, as Dr. Van Kirk mentioned. And if you look at the industry research laboratories, some of the finest labs in the industry are now gone. Two of them, Amoco and Arco's research labs, for example. And those were legendary laboratories. And it is unfortunate that we have seen that happen, but that is what happens when you do consolidate. The R&D spending in the last year or so, as prices have gone up, has actually begun to increase again. But, as you can imagine, after 15 years of poor returns, the industry is hesitant to rapidly begin investing large amounts of money until we are sure that the return on capital employed is going to be sufficiently high enough to warrant those R&D expenditures.

The other issue, and in particular to what I spoke of in deep water, is the risk issue. And I think this is one of the reasons that the deep water is an attractive area for us in getting government support and co-funding with industry, is that is a very risky environment.

Now, some of you may recall the recent incident in Brazil, where the P-36 semi-submersible rig, at Roncador Field sank in the south Atlantic. That incident was of

sufficient magnitude in cost that it would break a smaller oil company than Petrobras. The total cost of that incident will be somewhere between a half a billion to a billion dollars against Petrobras' bottom line.

So we have to balance both the risk of our research, but I believe we are increasing the spending in the industry right now. I know our company is. We have seen significant increases in R&D expenditures in the last 2 years. So that is a positive trend that we are starting to see.

Mr. COSTELLO. Thank you. Mr. Cuneo, I wonder if you were setting the priorities for fossil--the Fossil Energy Program at DOE what your priorities would be.

Mr. CUNEO. When we look at the downstream business, we would say that the first priority is on pre-competitive technologies. We are working with DOE in the area of industries of the future to try and get some pre-competitive work done in a number of areas. Those would include behavior of materials, novel approaches for removing contaminants from crude oil, such as metals, sulfur, nitrogen. Our basic position is that we would like to see DOE very actively involved with the pre-competitive work and then we believe that industry funding is adequate to take that to commercialization.

When we look at this whole question, we also go beyond DOE. I was President of the Coordinating Research Council,

which is joint between the auto and the oils, and we find needs within EPA to step up funding for environmental models, such as air shed modeling and things like that. In the past few years, our joint consortium has funded some very basic research that, in my mind, was done mostly by universities, but would have been appropriate to have the public fund. Such as the behavior of aromatic components in the atmosphere, behavior of alkenes, behavior of alkanes. And we do a lot of work to validate models as they come out. And I would think that that ought to be a priority for EPA as they think about their funding to step up what they do to contribute to this broad area for society.

Mr. COSTELLO. A final question and then a comment, I guess, for the panelists, other than Mr. Kripowicz. The President has been criticized in his Administration for his energy proposal, that it is too heavy on oil and not enough in the area of alternative fuels. And I wonder if the four of you might want to comment. If you agree with the criticism that the Administration has received, that it is too heavy on oil and not looking at alternative fuels. Whoever would like to take a stab at that.

Mr. CUNEO. I would like to take a quick stab at part of that. I think in a lot of areas what that criticism ignores is the economic realities. The fact of life is that the American public wants to pay a relatively low price for

energy. And when we look at some of the alternative technologies--and I was enjoying the discussion about--that we had in the previous Panel around solar investment. When solar becomes the most economic choice for the investor to put their money to get a return, that is when we will see a lot more wind power. Until that time, what you will see is using available, relatively clean fuels, like natural gas. And so I think there is a lot of technology already developed in the alternative fuel area, but in general, most of the alternative fuels require public subsidy to get them commercial. And in many cases, that can go on for decades.

Mr. COSTELLO. Ms. Lazenby, any other comments?

Ms. LAZENBY. I would just like to say that I think that in the realm of enhanced oil recovery that the Administration has made a strong point that we should increase that. And I think that is a--that the footprint for that energy is already there and the technology that the Department of Energy can help us with would be very beneficial. And I think the Administration recognizes that we need additional fossil fuel energy and that we also need to focus on renewables. But I don't think he has overemphasized it in any way. It is going to be there. It is a large part of our energy base. And to ignore it, and to ignore how we can improve it, both in an environmental way, is--would be the wrong thing to do. So I think he is doing the right thing and I think working on

renewables is--should be--also be funded, but we can't ignore the facts.

Mr. COSTELLO. Any--Mr. Huffman.

Mr. HUFFMAN. Well, I guess I would add to that that the challenge that we face right now is that we have under-invested in our energy infrastructure and supply for most of the last 20 years. And part of that is because energy prices have been cheap. There has been less incentive. And we must find a balance that includes oil and gas, coal, all forms of electrical generation, including alternative fuels. And we must grow our energy base in all of those areas, keeping the proper balance with the environmental concerns, to supply the energy that the Nation needs. And that is not going to be a trivial exercise and it is going to require a national effort and all the stakeholders in energy are going to have to work together to achieve that. And that is something that has always been a challenge, but I think we have to overcome that challenge if we want to have a stable economy and society in the future.

Mr. VAN KIRK. I agree. And, furthermore, just speaking of enhanced oil recovery, many, many years ago, we started injecting fluids into reservoirs to increase recovery--water, gases, steam, chemicals, thick vicious polymers, to increase oil recovery. And one of the newer techniques that has been researched and developed and proven in recent years is CO2

injection--carbon dioxide injection for enhanced oil recovery.

Ms. LAZENBY. We are doing that right now.

Mr. VAN KIRK. And we would love to have more CO2 to put into the ground underground for improving the recovery and perhaps sequestering the CO2 underground.

Mr. COSTELLO. Mr. Chairman, I thank you and I thank our witnesses. For the record, I would like to state that our colleague on this Subcommittee, Congresswoman Sheila Jackson Lee, wanted to be here today. She is a member of this Subcommittee, but as most of you probably know, about half of her district is under water. So she is at home trying to help her constituents. But she did call and wanted us to let you know that she is sorry that she could not be with us today. Mr. Chairman, thank you.

Chairman BARTLETT. Thank you very much. Ms. Lazenby, you mentioned that enhanced recovery could produce 60 billion barrels more oil. Was that just in this country?

Ms. LAZENBY. Yes. There--yes. There are about 350 billion barrels of oil in place that have not been recovered from existing wells. And you--the 60 billion is the percentage that we think is attainable within--with enhanced oil recovery techniques that are either in place now or could be developed with additional research and development. And it has been proven--I think we just heard this morning about a

project in California, and I have just told about mine--we can do it. And it is out of existing wells. And, for example, we are putting CO2 in addition to nitrogen into our wells now and we have already gotten good response from CO2 and nitrogen in our wells. So that is one place to put the nitrogen--I mean, the CO2 also.

So there are a lot of positive benefits to taking the resource base that exist in existing wells that have already been drilled, that are already there, that are now producing approximately--both oil and gas, approximately 1/3 of our oil and oil equivalent needs in this country. And with just a little bit of extra R&D we can really keep the--keep a good source of energy coming.

Chairman BARTLETT. These are big numbers and it is useful to put them in perspective so that you can get some idea of what they mean. In terms of oil consumption, at present use rates, and we ought to preface every statement relative to use at present use rates, because use rates are going up and--but at present use rates, that is about a 2 years' supply for this country. And so that is a meaningful amount of oil.

Mr. VAN KIRK. Mr. Chairman--

Chairman BARTLETT. Some of you mentioned the petrochemical industry. Mr. Cuneo, you mentioned that, and, Dr. Van Kirk, you mentioned that also.

Mr. VAN KIRK. I think you might have misquoted some numbers. If you are talking about 60 billion.

Chairman BARTLETT. Yeah. That is about a 2 years' supply.

Mr. VAN KIRK. No. We consume about 2 billion in crude oil per year--or we produce about 2 billion barrels per year--we produce. We consume--

Chairman BARTLETT. Oh. I am talking about our consumption.

Mr. VAN KIRK. We consume--

Chairman BARTLETT. We consume about 20 million barrels a day; the world about 80. If you multiply that by roughly 400 days in a year, you are somewhere in the neighborhood of 30 billion barrels a year and 60 billion--

Ms. LAZENBY. He means for the country.

Chairman BARTLETT. Oh. Okay. You are right. But that is world supply.

Ms. LAZENBY. World supply. Right.

Chairman BARTLETT. Yeah. We are a fourth--that is 8 years for us and--

Mr. VAN KIRK. Right.

Chairman BARTLETT. Thank you for correcting.

Mr. VAN KIRK. You are welcome.

Chairman BARTLETT. That is 8 years for us and 2 years for the world. Thank you.

Mr. VAN KIRK. You are welcome.

Chairman BARTLETT. Okay. Thank you. Thank you. Two of you mentioned petrochemical industry. I think there is too little appreciation of how important oil and natural gas are in this petrochemical industry, which is very large, as you have pointed out. We live in a plastic world. Our clothes, our automobiles, much of our automobiles, the television in front of you there, the plastic cups here, the containers for the water, the laminate on top of the desk here--these are all made from oil. What will we do when natural gas and oil are in really short supply, essentially gone? Could we make these things from agricultural products? Mr. Cuneo.

Mr. CUNEO. I would like to respond that, Mr. Chairman. There is technology today to make all of the products from what we call syn-gas, which is a mixture of carbon monoxide and hydrogen. Syn-gas can be made from coal. And, in fact, coal gasification does that before it converts it to electrical generation. That technology of being able to make these building blocks is commercial today. We have been producing detergents from syn-gas for years. We have been producing other components from syn-gas. So what we really need is--it is more expensive, obviously, in terms of total capital and operating costs to do it that way versus using the building blocks which occur in petroleum. But the technology is available today to continue to produce our chemical building blocks through the syn-gas and

Fisher-Tropsh type technology.

Chairman BARTLETT. Another byproduct--another product made from this is nitrogen fertilizer. Today, essentially all of the nitrogen fertilizer is made from natural gas. Before we learn how to mimic what nature does in a summer thunderstorm, we got our nitrogen fertilizer from the barnyard or from guano, from bat caves and islands where birds have nested for thousands of years. So the food we eat is, in a very real sense, petroleum and gas that powered the farm machinery that produced it and produced the nitrogen fertilizer. And, by the way, without nitrogen fertilizer, productivity of food and fiber would be drastically, drastically reduced. In a very real sense, natural gas, particularly, and oil, secondarily, aren't they really too good to burn?

Mr. CUNEO. In many ways that is true. On the other hand, there is nothing that provides the economic transportation fuel for the country with the mobility that people want, especially in vehicle systems, than petroleum. It is the most cost-effective out there today. And when you look at the overall theme that I think this Panel and the previous Panel had, this country needs a good mix of energy sources, including things like coal for stationary power generation. We have a large installed capital base in the power plant. But just imagine trying to translate that to petroleum fuels

or fuels to fuel a vehicle. It is--

Chairman BARTLETT. Let me ask the Panel a question. Is there general agreement--we had a hearing several weeks ago on the available fossil fuel resources in the world. And there was general consensus that there is about a thousand giga-barrels of oil remaining in the world. That maybe if you are wildly optimistic about recovery that you might get almost that much more by recovery. But that thousand giga-barrels is not forever. That translates to roughly 30 years of use at present use rates. And if you factor in increased use rates, maybe that which we will find, maybe the enhanced recovery will give us enough to make up for the increased use rates.

The point I am trying to make is that we should--and I am trying to think of an analogy that really explains it. It is true that these fossil fuels are very cheap today. But those that are of high quality, gas, particularly, and oil, there is roughly 30 years remaining in the world. Just because they are cheap today, does that mean we should use them all today and let our kids and our grandkids worry about tomorrow? Certainly, they are cheap. But this is a finite resource that we need to husband and I don't see us addressing that consideration hardly at all in our energy policy.

A better way of looking at the energy policy is that it is a giant hide-and-go-seek game. That God knew how

profligate we would be in the use of fossil fuels, so he hid a very large amount out there and our only challenge is to go find where he hid it. I think that a rational national energy policy needs to reflect the fact that these high-quality, readily available, cheap fossil fuels are not going to be there forever and we need to consider that in our national policy. Do you agree?

Mr. VAN KIRK. Certainly, it has to be--certainly, it has to be considered and forecasts have to be made naturally. And, certainly, we don't want to leave our children and grandchildren to suffer because of what we have done and wasted. Excuse me. But as was mentioned a few minutes ago, hydrocarbons--we humans have a lot of hydrocarbons in our bodies. Coal, oil, gas, trees, plants, animals--it is a very common substance on earth. And scientifically, we can make--we can convert one to the other and back and forth in the laboratory and in the field. Most of these transformations are not profitable and they are not useful. But some time in the future it may be that the price of a particular resource might be such that competition from other possibilities becomes profitable and reasonable and takes over. I see oil and gas being produced for another few hundred years, but not to fuel transportation. Something else will fuel transportation and we will enjoy oil and gas to make medicines and plastics, artificial things, synthetic

things, as we have talked about earlier today.

Chairman BARTLETT. But at the rate of their consumption today, we need to have a policy which husbands them or they won't be available for the next 2 or 300 years as a feed stock for the industries that mentioned.

Mr. VAN KIRK. I think the policy needs to be balance and forecasting realistic futures.

Chairman BARTLETT. How good a job are we doing at using byproducts? The better we do of using byproducts, the lower the cost of the ultimate fuel will be and the kinder we will be to our environment. Do we have an aggressive program to develop uses for these byproducts?

Mr. HUFFMAN. I guess I will try and speak to that, Mr. Chairman. Our company, for example, has developed a carbon fiber technology that uses what we call the bottom of the barrel, the pitch that comes out of the refining process. And many other companies are pursing similar technologies that will use the parts of the barrel of oil that in the past have considered debris or waste. We are seeing, as was mentioned earlier, gas-to-liquids technology, which allows us to actually separate in the Fisher-Tropsh process some of the impurities and byproducts and separate them into quantities that can be sold and delivered to markets.

So we are seeing the industry move in the direction of modifying the hydrocarbon molecule and utilizing all the

parts of that molecule as efficiently as possible. And I think we will continue to see that trend in the next 20 or 30 years, hopefully to the point where we are not burning gasoline in cars anymore and we are seeing other types of fuels that are by products of the hydrocarbon molecule. And we are using the carbon for certain things, such as carbon fibers, and composite materials. And I think that would be a very wise use in the long term.

The challenge we face, as you pointed out in the first Panel, is, how do you make that transformation quickly without disrupting the economy. And I think that is the balance that we have to keep in making those kind of transformations, working with government and industry together.

Chairman BARTLETT. Mr. Huffman, I would like to comment briefly on your suggestion for the USE Center, the U.S. Energy Center. We have been concentrating here in these two hearings this morning--these two Panels this morning, on the availability internationally of gas and oil and somewhat on the availability here in this country. I would like to point to another dimension that makes your U.S. Energy Center even more needed. We have 2 percent of the known reserves of oil in the world. We consume 25 percent of the world's oil. This is clearly a prescription for disaster. At the time of the Arab Oil Embargo when we, in effect, went screaming into the

night because of the problems that we were facing. We imported 35 percent of our oil. Today, we import 56 or more percent of our oil. From a national security viewpoint, we desperately need the kind of a center that you point to.

And freeing ourselves from our dependence on these high-quality fossil fuels, gas and oil, isn't just an economic consideration. It is a national security consideration. We cannot afford to be held hostage by the rest of the world because we produce so little of the oil that we use in this country. With only 2 percent of the known reserves in this country, we clearly face a very uncertain energy future. And I would concur with you that we need the equivalent of the national effort that we put into putting a man on the moon.

By the way, there are 200-and-some industries in Maryland alone that wouldn't be there if it weren't for the spin-off that came to that. No longer does government push the envelope. We now are buying most of the stuff we put in our space and our military equipment, we are buying it what we call COTS, commercial-off-the-shelf. And I would like to see an effort equivalent to putting a man on the moon to do something about energy. We face a very uncertain energy future worldwide. And particularly in this country, with having only 2 percent of the known reserves of oil, we face a very, very uncertain energy future that impacts our national

security. And I think that should be reason enough to justify a center of that magnitude.

Let me recognize my colleague if he has additional questions or comments.

Mr. COSTELLO. Mr. Chairman, I do not. I thank the witnesses for being here today and I thank you for calling the hearing.

Chairman BARTLETT. I want to thank the witnesses. Thank you very much for your testimony. This has been a productive hearing, I think. And we will now be in adjournment.

[Whereupon, at 12:55 p.m., the Subcommittee was adjourned.]

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SPEAKER LISTING

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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE

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August 7, 2001

Mr. Robert Kripowicz
Acting Assistant Secretary for Fossil Energy
U.S. Department of Energy
Washington, DC 20585

Dear Mr. Kripowicz:

I wish to express my sincere appreciation for your testimony during the June 12, 2001 Committee on Science hearing, "***President's National Energy Policy: Clean Coal Technology and Oil and Gas R&D.***"

Enclosed are additional questions from Members of the Committee, as well as a copy of the hearing transcript. Your responses will be published as part of the official record of the hearing. In addition to a hard copy of your answers, the Committee requires an additional copy, including any supporting graphs or charts, saved on a DOS formatted 3.5 inch diskette, in either Word Perfect, Word or ASCII text. Please send your responses to Tom Hammond of the Committee staff. If you prefer, you may E-mail your responses to tom.hammond@mail.house.gov.

I would appreciate receiving your responses to the enclosed questions by **September 17, 2001.**

Also enclosed is a copy of the verbatim transcript for your review. The Committee's rule pertaining to the printing of transcripts is as follows:

> *The transcripts...shall be published in **verbatim form**, with the material requested for the record, as appropriate. Any requests to correct any errors, other than transcription, shall be appended to the record, and the appropriate place where the change is requested will be footnoted.*

The complete revisions to the transcripts submitted for the record must be received by **September 17, 2001** and should be sent to Mr. Tom Hammond, Subcommittee on Energy, H2-389 Ford House Office Building, Washington, DC 20515. If you have any questions, please contact Mr. Hammond at (202) 225-9662.

Thank you again for making this hearing successful.

Sincerely,

ROSCOE BARTLETT
Chairman
Subcommittee on Energy

RB/th

Enclosures

COMMITTEE ON SCIENCE
SUBCOMMITTEE ON ENERGY
U.S. HOUSE OF REPRESENTATIVES

President's National Energy Policy: Clean Coal Technology and Oil and Gas R&D
June 12, 2001

Post-Hearing Questions Submitted to

Mr. Robert Kripowicz, Acting Assistant Secretary for Fossil Energy
U.S. DOE Office of Fossil Energy

Post-Hearing Questions Submitted by Majority Members

Source of the "Energy Crisis"

EIA

Q1. What are your perceptions of the current energy shortage? Would you characterize the current situation as an energy supply constraint, an infrastructure constraint, a regulatory constraint, or some combination of the above? Based on your characterization, what is the quickest, most effective way to address energy shortages?

Unconventional Sources of Natural Gas

FE

Q2. It appears that increasing quantities of natural gas are going to come from unconventional sources that may require the development of new technologies. Please describe how technologies may help us develop resources such as tight gas, coalbed methane and gas hydrates.

DOE Research and Oil & Gas Production and Exploration

Q3. Please describe in more detail how [spell out] DOE's research is producing "deeper, faster, smarter and cleaner" ways to explore for and extract petroleum and natural gas.

Q4. Please provide any figures or examples to illustrate the effectiveness of taxpayer's dollars spent on oil and gas R&D over the last 10 or 20 years.

DOE Research on Ultra-Low Sulfur Diesel

FE

Q5. The Energy Information Administration recently found that diesel fuel would be in short supply in 2007 after the implementation of the new 15-PPM standard. Yet, many auto manufacturers are relying on a steady, clean supply of diesel to power the next generation of diesel engines, and some are even examining the possibility of reforming ultra-low sulfur diesel (ULSD) for use in fuel cells. What is DOE's research providing, the American public, in terms of technologies to produce ULSD, and what is the future potential of diesel fuel?

Oil Field Life-Extension Technologies

Q6. Please discuss in further detail how the Bakersfield oil lease was brought back to production., Are these technologies site specific, or can they be used at other sites around the country? Is there a down side to field life extension technologies that the Committee should be aware of?

COMMITTEE ON SCIENCE
SUBCOMMITTEE ON ENERGY
U.S. HOUSE OF REPRESENTATIVES

President's National Energy Policy: Clean Coal Technology and Oil and Gas R&D
June 12, 2001

Post-Hearing Questions Submitted to

Mr. Robert Kripowicz, Acting Assistant Secretary for Fossil Energy
U.S. DOE Office of Fossil Energy

Post-Hearing Questions Submitted by Majority Members

FE

Coal Quality, Recoverability and Technology

Q1. There has been a lot of discussion about the quantity of coal we have in the ground, how much is recoverable, and how much is of high enough quality to consider recovery. Can you discuss this, and tell us how technology may perhaps allow us to recover more coal from the mine as well as use lower grades of coal for fuel?

Q2. How do advanced technologies allow us to use coal in ways other than simply burning it in its original form? What advantages do these advanced technologies offer?

Producing Electricity from Coal with *de minimus* Emissions

Q3. Do you believe that it will be possible to produce electricity from coal with *de minimus* emissions by 2020 as envisioned by CURC? Do you believe that technology can be developed to accomplish this in the 2020 timeframe?

Other Uses for Coal

Q4. What are some of the other uses for coal? Is it practical to consider coal as a transportation fuel?

Carbon Sequestration Technologies

Q5. Are there any practical cost effective technologies for carbon sequestration available today? Will any become available in the near future?

Potential for Coalbed Methane

Q6. What is the potential for coalbed methane in this country?

FE

Benefits of the Clean Coal Technology Program

Q7. Are you aware of any industry estimates that quantify the benefits derived

from clean coal technology? Do they correlate with DOE's internal estimates?

Q8. The President's National Energy Policy proposes $2 billion in spending on clean coal technology. How do you see this money being used, and how can we guarantee that taxpayers get the most "bang for the buck?"

DOE R&D Programs

Q9. Please describe DOE's advanced turbine and other high efficiency technologies and how these designs may be incorporated with next generation power plant designs. Can we reasonably expect efficiency to increase as much as CURC estimates?

Q10. Controlling emissions is critical to the success of any power plant technology. Can you give specific examples of DOE's research efforts to reduce stack emissions and recycling ash and other scrubbed stack pollutants?

Coal as a Source for Hydrogen

Q11. Can coal be used to competitively generate hydrogen or as a hydrogen carrier for fuel cells?

Relative Transportation Efficiencies between Coal and Electricity

Q12. Is it more efficient to generate electricity from coal in Utah and transport it to California on the grid -- with its associated line loss -- or is it more efficient to mine and ship coal to California and generate electricity closer to the user? How do infrastructure and air quality considerations influence these decisions?

Liebman & Associates

Energy & Environmental Consulting

Murray S. Liebman, Esq.
President

June 12, 2001

The Honorable Spencer Abraham
Secretary
US Department of Energy (7E-079)
1000 Independence Avenue, SW
Washington, DC 20585

2001-014374 Jun 14 p 4:28

Dear Secretary Abraham:

The Technology Experience to Accelerate Markets for Utility Photovoltaics (TEAM-UP) is one of the most successful public/private renewable energy partnerships supported by the US Department of Energy (DOE). TEAM-UP is the only partnership between the electric power industry and solar energy industry. The program has positively impacted the photovoltaics (PV) marketplace over its seven-year lifespan. Seventy-five percent of the PV produced in the U.S. is exported, and in the President's budget, TEAM-UP is the only program aimed at domestic grid-connected PV deployment. TEAM-UP has contributed to approximately 60% of all commercial grid-tied PV deployments nationwide. Companies participating in TEAM-UP provide a cost-share ratio of roughly 4-to-1, one of the highest ratios of any program that DOE offers.

DOE and industry must define pathways that fully engage the energy service provider community and other important stakeholders in order to accomplish the ultimate goal: a self-sustaining role for PV as part of the U.S. electricity portfolio. Investments in PV R&D without programs focused on domestic commercial deployment and barriers to PV market expansion will not benefit the nation.

The TEAM-UP program is administered through the Edison Electric Institute (EEI) and Solar Electric Power Association (SEPA). EEI's members generate about three-quarters of all the electricity generated by electric companies in the nation and serve about 70 percent of all ultimate customers in the nation. SEPA's broad membership consists of 118 utilities, energy service providers, and PV industry members.

We would like to request a meeting with you in July to discuss this program and its relationship to the Administration's National Energy Plan. Please have someone from your office contact me at (202) 966-5851 to set up an appointment.

Sincerely,

Murray Liebman

4413 Lowell Street, NW • Washington, D.C. 20016 • (202) 966-5851 • (202) 966-5641 - Fax

28410

STROM THURMOND
SOUTH CAROLINA

2001-014837 Jun 22 A 9:53

PRESIDENT PRO TEMPORE
UNITED STATES SENATE

COMMITTEES
ARMED SERVICES
JUDICIARY
VETERANS' AFFAIRS

United States Senate

WASHINGTON, DC 20510-4001

June 12, 2001

Mr. Michael Whatley
Director of Congressional Affairs
Department of Energy
Forrestal Building
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Whatley:

Enclosed is a copy of correspondence I have received from Doyne Loyd. I believe you will find it self-explanatory.

Your reviewing this material and providing any assistance or information possible under the governing statutes and regulations will be greatly appreciated. Thank you for your attention in this matter. I look forward to hearing from you soon.

With kindest regards and best wishes,

Sincerely,

Strom Thurmond

ST/hk
Enclosure
Please refer to case # 468079

28411

Liebman & Associates

Energy & Environmental Consulting

Murray S. Liebman, Esq.
President

June 12, 2001

The Honorable Spencer Abraham
Secretary
US Department of Energy (7E-079)
1000 Independence Avenue, SW
Washington, DC 20585

2001-014374 Jun 14 p 4:28

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Sincerely,

Murray Liebman

4413 Lowell Street, NW • Washington, D.C. 20016 • (202) 966-5851 • (202) 966-5641 - Fax

28412

Michigan House of Representatives

2001-014572 6/18 P 4:04

June 12, 2001

President of the United States
The White House
Washington, DC 20500

Dear Mr. President:

We wish to congratulate you on the leadership you have shown through the National Energy Policy that was recently released. We believe that this is a solid plan, a plan that looks into the future and will help provide added security for our country.

There are a number of additional issues dealing with high gasoline prices that we wish to bring to your attention that have some bearing on the situation in the Midwest and especially in Michigan. These high prices are creating a very difficult situation for Michigan consumers and will have a negative effect on Michigan's economy.

We believe that the Federal government must standardize the number of reformulated gasoline formulas that are used in the United States. There are fifteen types of "boutique" fuels sold in the United States. Michigan, while not mandated to use reformulated gasoline, receives 86% its gasoline supply from the Chicago area, an area mandated to use reformulated gas. Due to the variety of mandated standards, the supply of gasoline is very tight. Any disruption in the supply could drive gasoline prices to record high levels. Cutting to two or three different formulas could still meet the requirements set forth in the Clean Air Act and ease the burden of the tight gasoline supply in Michigan. This decision can only be made at the federal level.

The yearly change-over from winter to summer fuels also tightens the supply in the Midwest. EPA regulations prohibit the selling of a "blended" mix of winter and summer fuel. This presents a large logistical challenge. With inventories already low at the start of the year, there was a twelve-cent price jump. Perhaps allowing a two-week time period that will allow refineries to transition from winter to summer fuels could ease the logistical burden to the Midwest gas supply.

We support the sections of the National Energy Policy that will help to streamline the permitting process for energy production. Particularly, the directive to federal agencies to expedite permits will be very helpful to Michigan. Over the past 20 years, seven refineries have closed in our state – leaving one refinery in operation. The main reason for their closure is the numerous regulations involved with the permits for expansions and/or maintenance on those facilities. Streamlining this process will help encourage new refineries to start up. This in turn will help increase the supply of gasoline within our state.

We also support directives to the Secretaries of State, Commerce, and Energy to improve dialogue among energy producing and consuming nations. By improving relations with energy producing nations outside of the OPEC alliance, the United States will be less susceptible to collusion by the OPEC countries.

In addition, we applaud your call for more energy conservation in our country. The sections of the policy that direct federal agencies to take appropriate actions to conserve energy in their facilities, the call for increased funding for renewable energy and energy efficiency research, and the tax credit for consumers who purchase hybrid and fuel cell vehicles are excellent ideas. We have started to follow your example already, by adding similar language to our fiscal year 2002 budget bills. It is proper that we, as public officials, lead by example in conserving our energy resources.

Lastly, we support U.S. Representative Nick Smith's (R-Michigan) bill that will temporarily suspend the 4.3 cent per gallon tax increase that was enacted under the Clinton Administration. In 1994, this increase was passed for deficit reduction. However, with the Federal government running high surpluses – even in tough economic times, there is no reason this increase cannot be removed to provide immediate relief at the gas pump for the people of the United States. We believe that this small part of the federal gas tax can be suspended without reduction to the Federal Highway Trust Fund.

On May 9, 2001 – our Governor, John Engler, wrote Vice President Cheney about the gasoline situation in Michigan. In that letter he wrote, "We did not arrive at the current situation overnight, and we recognized that there are no simple short term solutions to address this problem ... The gasoline supply issue in the Midwest exemplifies the problems we face because our nation lacks a comprehensive national energy policy." Your leadership in creating a National Energy Policy Task Force is helping to generate an energy policy for the future. We applaud your continuing efforts and thank you for undertaking this daunting challenge.

Sincerely,

Speaker Rick Johnson

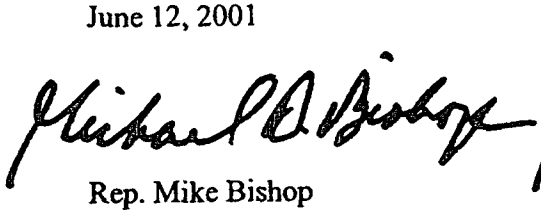
Rep. Laura Toy

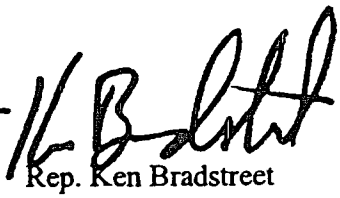
Rep. Bruce Patterson

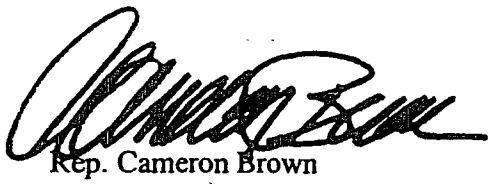
Rep. Jason Allen

Rep. Patricia Birkholz

Rep. Clark Bisbee


Rep. Mike Bishop

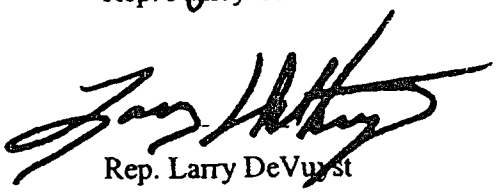

Rep. Ken Bradstreet


Rep. Cameron Brown


Rep. Nancy Cassis

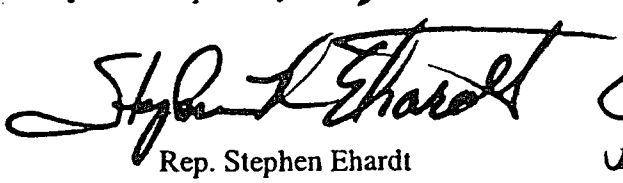

Rep. Sandy Caul

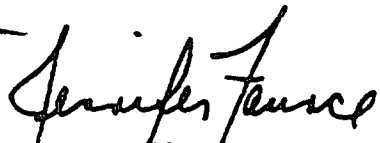

Rep. Gene DeRossett


Rep. Larry DeVuyst


Rep. Paul DeWeese


Rep. Leon Drolet

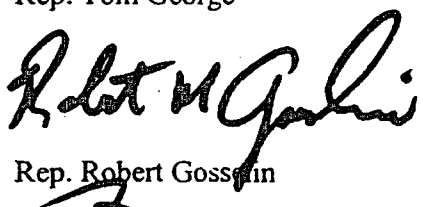

Rep. Stephen Ehardt


Rep. Jennifer Faunce

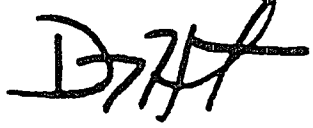

Rep. Tom George

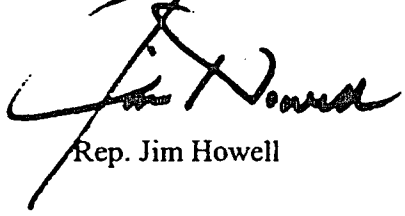

Rep. Jud Gilbert

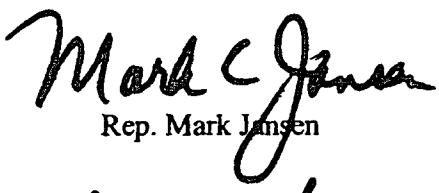

Rep. Patricia Godchaux


Rep. Robert Gosselin


Rep. Lauren Hager


Rep. Doug Hart


Rep. Jim Howell

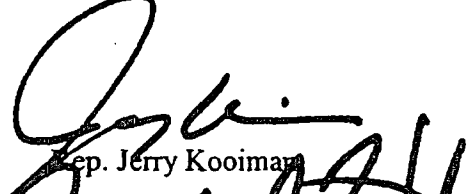

Rep. Mark Jansen


Rep. Ron Jelinek

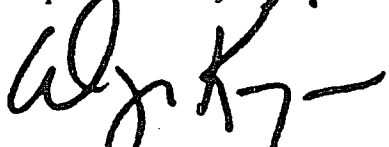

Rep. Ruth Johnson

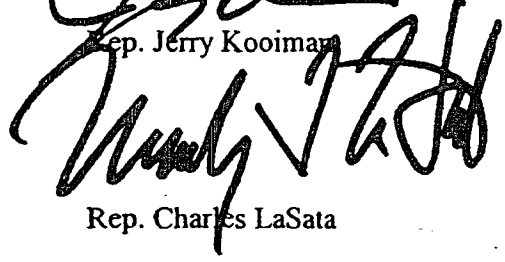

Rep. Larry Julian

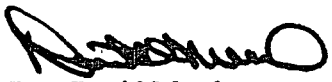

Rep. James Koetje

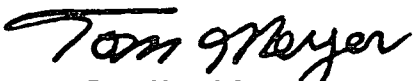

Rep. Jerry Kooiman

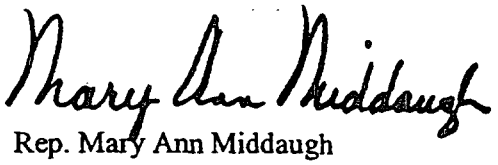

Rep. Mike Kowall


Rep. Wayne Kuipers

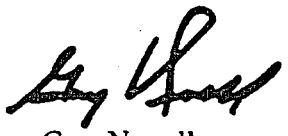

Rep. Charles LaSata

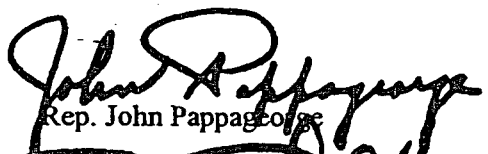

Rep. David Mead

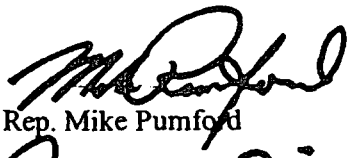

Rep. Tom Meyer

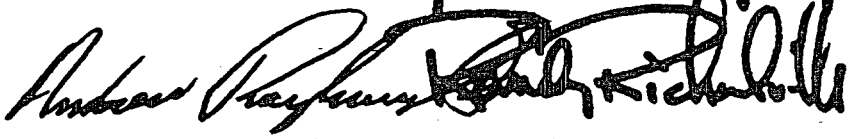

Rep. Mary Ann Middaugh


Rep. Mickey Mortimer

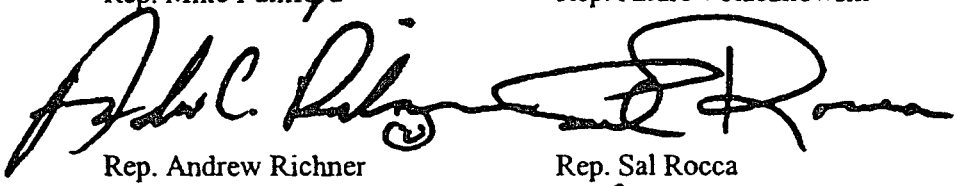

Rep. Gary Newell


Rep. John Pappageorge


Rep. Mike Pumford

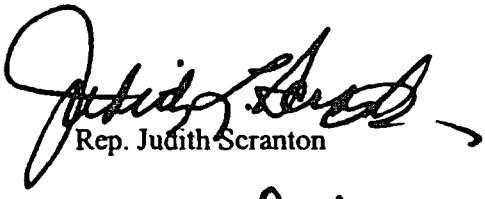

Rep. Andrew Raczkowski

Rep. Randy Richardville


Rep. Andrew Richner

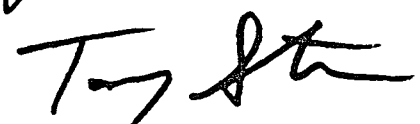
Rep. Sal Rocca


Rep. Alan Sanborn


Rep. Judith Scranton


Rep. Scott Shackleton


Rep. Marc Shulman


Rep. Tony Stamas


Rep. John Stewart

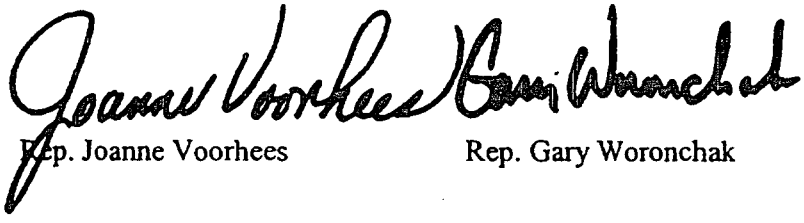

Rep. Susan Tabor


Rep. Jerry Vander Roest


Rep. Barbara Vander Veen


Rep. Gerald Van Woerkom


Rep. Steve Vear


Rep. Joanne Voorhees

Rep. Gary Woronchak

cc: The Honorable Richard Cheney
The Honorable Spencer Abraham
The Honorable Christine Todd Whitman

014623

ASSOCIATED BUILDERS AND CONTRACTORS, INC.

June 13, 2001

Mr. Karl Rove
Senior Advisor to the President
The White House
Washington, DC 20500

2001-014623 6/19 P 4:01

Dear Karl,

I am pleased to inform you that on June 4, 2001, Associated Builders and Contractor's Board of Directors unanimously and enthusiastically voted to endorse the National Energy Policy. ABC's 23,000 member companies nationwide are gravely concerned about the impact of skyrocketing energy costs, rolling blackouts and aging energy infrastructure on all Americans. We believe the energy policy will safely and effectively promote new energy supplies and improved infrastructure while at the same time protecting our environment and conserving our natural resources. Our members stand ready to help provide reliable, efficient, and environmentally sound energy to all Americans by building and improving our nation's infrastructure capability.

All new federal construction will be subject to Executive Order 13202, and therefore will be built utilizing full and open competition. ABC once again commends the Bush Administration for issuing this Order, which ensures federal taxpayer's dollars are spent in the most cost-effective and fair manner. This Order will ensure that all new federal construction resulting from the energy policy will be built with full and open competition.

As the various energy bills move through Congress, ABC will be vigilant to ensure that any new construction will not have Davis-Bacon requirements attached to it. As you know, Davis-Bacon requirements inflate the cost of construction by 5 to 39 percent. The inevitable result of cost inflation will be less money for construction; therefore fewer plants, pipelines, and power lines will be built if Davis-Bacon requirements are imposed. Our nation's infrastructure is in desperate need of repair and upgrade. We cannot afford to needlessly waste much-needed funds for these purposes. ABC urges you to stand firm against any attempts to expand Davis-Bacon to any new construction associated with the Energy Policy.

ABC commends the Bush Administration for its commitment to providing reliable, affordable, and environmentally sound energy to all Americans with free enterprise and open competition. We look forward to working with you to achieve this end.

Sincerely,

Bill Spencer

William B. Spencer
Vice President, Government Affairs

CC: The Honorable Spencer Abraham
Andrew Card
Joshua Bolten
Kirk Blalock
Ken Mehlman
Andrew Lundquist

1300 North Seventeenth Street ▪ Rosslyn, Virginia 22209 ▪ (703) 812-2000

28417

ASSOCIATED BUILDERS AND CONTRACTORS, INC.

Resolution

Whereas Associated Builders and Contractors recognizes the desperate need for a national energy policy that combines environmental protections, increased supply, and infrastructure upgrade and modernization built with free, fair and open competition; and

Whereas the country is currently in the midst of an energy crisis marked by widespread rolling blackouts and skyrocketing gas and electricity costs that are expected to worsen in the coming months; and

Whereas the National Energy Policy as laid out by the National Energy Policy Development Group recommends measures to promote increased energy efficiency and conservation, encourage construction of new power plants and transmission lines, and upgrade and rehabilitate existing production and transmission infrastructure in order to ensure reliable and affordable energy for all Americans;

Whereas the policy calls for the building of substantial new infrastructure, which will be built using full and open competition and government neutrality in contracting as prescribed in Executive Order 13202;

Be it Resolved

That Associated Builders and Contractors proudly endorses the National Energy Policy as recommended by the National Energy Policy Development Group; and

That ABC believes the National Energy Policy will have a positive impact on the construction industry through the creation of thousands of new jobs that will be awarded on the basis of open competition and government neutrality; and

That ABC believes the National Energy Policy will benefit all Americans through more reliable, affordable, and environmentally-sound energy; and

That ABC members stand ready to meet the challenges set forth in the National Energy Policy.

1300 North Seventeenth Street ■ Rosslyn, Virginia 22209 ■ (703) 812-2000

ILLINOIS HOUSE OF REPRESENTATIVES

MINORITY SPOKESMAN:
Counties & Townships

COMMITTEES:
Aging - **Vice - Spokesperson**
Elementary & Secondary Education
Tourism
Prison Management Reform
Appropriations-General Services & Government Oversight

DONALD L. MOFFITT
STATE REPRESENTATIVE • 94TH DISTRICT

2025-H STRATTON BUILDING
SPRINGFIELD, IL 62706
217/782-8032 • 217/557-0179 FAX

POST OFFICE BOX 894
MONMOUTH, IL 61462
309/734-5125 • 309/734-3293 FAX

5 WEINBERG ARCADE
64 S PRAIRIE ST, STE 5
GALESBURG, IL 61401-4623
309/343-8000 • 309/343-2683 FAX
800/342-8010 TOLL-FREE

June 13, 2001

2001-014519 Jun 19 p 12:21

The Honorable Spencer Abraham
Secretary of Energy
Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Abraham:

I have enclosed a copy of House Resolution 385 that passed in the Illinois House of Representatives on Thursday, May 31, 2001, by a unanimous vote. This resolution has been sent to President Bush and members of the Illinois Congressional Delegation to promote the production and use of ethanol and bio-diesel by providing these fuels a prominent place in our national energy policy.

Thank you for your consideration and support of our renewable fuels.

Sincerely,

Donald L. Moffitt

Donald L. Moffitt
State Representative
94th District

DLM:mcw
Enclosure

STATE OF ILLINOIS
NINETY-SECOND GENERAL ASSEMBLY
HOUSE OF REPRESENTATIVES

House Resolution No. 385

Offered by Representatives Moffitt - Lawfer - Novak - J. Mitchell - Mathias, Tenhouse, Wirsing, B. Mitchell, Bost, Poe, Wait, Brady, Mautino, Fowler, Smith, Boland, Winkel, Berns, J. Jones, Curry, Black, Stephens, Reitz, Hartke, Forby and Brunsvold

WHEREAS, The United States currently faces its most serious energy shortage since the oil embargoes of the 1970's; and

WHEREAS, The United States' energy consumption is expected to increase by approximately 32% by the year 2020; and

WHEREAS, Domestic, renewable, and alternative fuels such as ethanol and biodiesel offer hope for America's future; and

WHEREAS, President Bush's National Energy Policy recommends that a sound national energy policy should encourage a clean and diverse portfolio of domestic energy supplies so that future generations of Americans will have access to the energy they need; and

WHEREAS, The continued growth of renewable energy will continue to be important in delivering larger supplies of clean, domestic power for America's growing economy; and

WHEREAS, President Bush's National Energy Policy recommends increased funding for renewable energy and energy efficiency research and development programs that are performance-based and cost-shared, and

WHEREAS, Biomass, unlike other renewable energy sources, can be converted directly into liquid fuels, called biofuels, to meet our transportation needs; the two most common are ethanol and biodiesel; and

WHEREAS, The development of biomass benefits rural economies that produce crops used for biomass, particularly ethanol and biomass electricity generation; and

WHEREAS, Ethanol is the most widely used biofuel, and its production has increased sharply since 1980, rising from 200 million gallons per year to 1.9 billion gallons; and

WHEREAS, There are currently approximately 450,000 alternative fuel vehicles in the United States, and more than 1.5 million flexible-fuel vehicles that can use gasoline or a mixture of ethanol and gasoline; and

WHEREAS, The State of Illinois is considering eliminating the use of MTBE which will likely increase our reliance on ethanol; and

WHEREAS, Alternative fuels not only reduce dependence on petroleum transportation fuels, they also reduce or entirely eliminate harmful emissions; and

WHEREAS, The National Energy Policy Development Group recommends that the President direct the Secretary of Treasury to work with Congress to continue the ethanol excise tax exemption; therefore be it

RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE NINETY-SECOND GENERAL ASSEMBLY OF THE STATE OF ILLINOIS, that we urge the President of the United States and the United States Congress to ensure ethanol and biodiesel are included as part of any lasting energy policy; and be it further

RESOLVED, That we urge the President of the United States and the United States Congress to promote the production and use of ethanol and biodiesel by providing these fuels a prominent place in national energy policy; and be it further

RESOLVED, That a suitable copy of this resolution be delivered to the President of the United States and to each member of the Illinois congressional delegation.

Adopted by the House of Representatives on May 31, 2001.

Michael J. Madigan, Speaker of the House

Anthony D. Rossi, Clerk of the House

28421

Department of Energy
Washington, DC 20585

June 14, 2001

Mr. Jean Gaulin
Chairman
President and Chief Executive Officer
Ultramar Diamond Shamrock Corporation
P.O. Box 696000
San Antonio, Texas 78269-6000

Dear Mr Gaulin:

Thank you for your thoughtful letter concerning the need to focus on the continuing importance of petroleum products and refinery capacity as part of our National Energy Policy (NEP). As you are well aware at this point, the National Energy Policy Development Group gave specific attention to a number of the issues raised in your letter. In addition, the President, Vice President and other members of the Administration, as well as the national media, have paid significant attention to clean fuels and refining issues in the past few months.

Underlying this attention is a recognition, as suggested in your letter, that this country will remain dependent, for a long time, on petroleum products and that we need to take steps to assure that we will have a reliable supply of affordable, clean petroleum products. This does not mean that we should ignore the environmental and economic opportunities that alternatives to petroleum fuels for transportation may offer. However, I share your view that the contribution these alternatives can make is limited in the near term and that reality has to inform our overall energy policy approach.

Your letter raised several specific issues that I would like to address:

- First, you noted that future efforts to reduce emissions must rely on both fuel and vehicle changes. Federal Tier 2 emission reduction programs as well as reduced sulfur requirements for gasoline and diesel have placed significant new requirements on light and heavy duty vehicle emissions. Balancing these requirements, and any additional requirements that States may impose, with their impacts on the cost and supply of fuels is an area which the Department has and will continue to focus significant resources.

- Second, you commented on the delays associated with certain aspects of environmental permitting. The NEP directed the EPA, working with the Department, to review the New Source Review regulations and to report within 90 days on the impact of those regulations on energy capacity including investment in new refining facilities. I am hopeful this process

will address the problem you raised.

- Third, your letter raised the question of the merit of the oxygenate requirement for reformulated gasoline. This is a difficult issue in that Congress had a number of purposes in mind when it established the oxygenate requirement. Any change made in that requirement, whether by Congress or through regulatory action, is going to have to balance those competing needs. The Department's concern and responsibility is focused on the fuel supply implications of any changes and we view the various limitations, being pursued by States and in Congress, on the use of the oxygenate Methyl Tertiary Butyl Ether to likely have a far greater negative impact that the oxygenate requirement per se.

- Fourth, you raised the "boutique fuels" issue, pointing out that various areas' differing air quality needs are most efficiently met with fuels of differing qualities. But, your also letter noted that this approach can place some stress on the distribution infrastructure that requires attention. The Department will be working with the EPA in their assessment of the "boutique fuels" situation, as directed by the NEP, and we look forward to your input into this study. We share your concern that alternatives solutions to distribution problems, like a national fuel, can bring their own set of problems and costs.

We look forward to working with you and others in the refining industry as we address both our NEP initiatives and our ongoing efforts to assure a continuing adequate supply of clean, reasonably-priced fuels to American consumers.

Sincerely,

Margot Anderson
Acting Director
Office of Policy

NGA

National Grocers Association

June 14, 2001 2001-014506 Jun 18 p 12:19

The Honorable Richard Cheney
Vice President of the United States of America
Old Executive Office Building
Washington, DC 20501

Dear Mr. Vice President,

The National Grocers Association was pleased to attend your recent briefing on the Administration's national energy policy. We strongly support that policy and will work to see it implemented. It is visionary and comprehensive as well as pragmatic. We agree that a national energy policy should focus on developing more diversified and efficient sources of supply as well as encourage greater conservation.

Next to the cost of labor, energy is the second biggest expense to the grocery industry. Historically, grocers have implemented a series of practices to conserve energy. For example, they include:

- Dimming lights to save on electricity consumption without compromising customer safety,
- Retrofitting incandescent light bulbs with compact fluorescent lights,
- Replacing old HVAC systems with new energy-efficient systems,
- Installing time clocks or setback-programmable thermostats to maximize efficiency,
- Installing locking covers on thermostats to prevent tampering with temperature settings,

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E-mail: info@NationalGrocers.org • Website: http://www.NationalGrocers.org

- Performing scheduled maintenance on units including cleaning condenser coils, replacing air filters regularly and checking ducts and pipe insulation for damage,
- Keeping refrigerator evaporator coils clean and free of ice or debris build-up,
- Using night covers on display cases,
- Urging the installation of auto door-closers and strip curtains on walk-in freezers and coolers, and
- Reducing air conditioning.

Mr. Vice President, it is clear that food retailers, although large consumers of power, are also sensitive to the importance of being efficient energy users. The grocery industry, including retail stores, distribution centers and transportation fleets, plays a key role in the energy market today. N.G.A. members have a vital role in the national economy and food chain, and are facing the challenge of providing consumers with a reliable, plentiful and safe supply of fresh food and grocery products year round. To do so requires the use of a considerable amount of electric power, which is required to cool and freeze products to ensure safety and freshness, to light the store, to provide heating and air conditioning and to run food preparation equipment and many other appliances throughout the store.

In this quest to be responsible energy consumers, N.G.A. supports the Administration's energy policy. Please let us know how we can assist in promoting its success.

Sincerely,

Thomas K. Zaucha
President and CEO

cc: President George W. Bush
Energy Secretary Spencer Abraham

2001-014406 Jun 15 p 3:59

Fusion Power Associates

Stephen O. Dean, Ph.D., President

June 14, 2001

The Hon. Spencer Abraham
Secretary of Energy
Washington, DC 20585

Dear Secretary Abraham:

Thank you for your letter of March 26 and for your efforts on behalf of the U. S. fusion energy program. We are very heartened by your support for a comprehensive long-range energy strategy.

This letter is to invite you to present a talk of about 30 minutes on the subject of U.S. National Energy Policy at Fusion Power Associates annual meeting and symposium, September 25 at the Canadian Embassy auditorium in Washington, DC. A copy of the preliminary program is enclosed.

Thank you for your consideration.

Sincerely yours,

Stephen O. Dean

Encl.

2 Professional Drive, Suite 249 • Gaithersburg, Maryland 20879 • 301-258-0545 • Fax: 301-975-9869

28426

FUSION POWER ASSOCIATES
ANNUAL MEETING AND SYMPOSIUM

Frontiers in Fusion Research

September 25-26
At the
Canadian Embassy
Fifth Street and Pennsylvania Avenue, NW
Washington, DC

PRELIMINARY AGENDA

September 25

7:30 Registration
8:00 Welcome
- Canadian Ambassador to the United States

8:15 Opening Remarks and Presentation of Awards
- Dr. Stephen O. Dean, President, Fusion Power Associates

8:30 U. S. National Energy Policy - Speakers to be Announced

10:00 Break

10:30 Science, Energy and the US National Economy
- John Hambor, Director, Office of Microeconomic Analysis
  U.S. Dept. of the Treasury (invited)

11:00 The Role of PCAST in National Science and Energy Policy - Speaker to be Announced
11:30 Fusion at the US Department of Energy - Speaker to be Announced

12:00 Lunch

1:00 The Science Frontier of Burning Plasma Physics
- Prof. Gerald Navratil, Columbia U.

1:30 Burning Plasma Physics Experimental Options
- Prof. Ronald Parker, MIT (invited)

2:00 Status of International Planning for ITER
- Dr. Robert Aymar, ITER Director (invited)

2:30 Status of Sites for ITER
- Peter Barnard, Director, Iter Canada
- Reps from Japan and Europe (invited)

3:30 Break

4:00 Status of FIRE Design Study
- Dr. Dale Meade, Princeton Plasma Physics Laboratory

4:30 Frontiers in Computational Plasma and Fusion Physics
- Dr. William Tang, Princeton Plasma Physics Laboratory

FRED L. OLIVER
SUITE 205
4625 GREENVILLE AVE.
DALLAS, TEXAS 75206-5044

June 15, 2001

JUN 21 ...

The Honorable Richard Cheney
Vice President of the United States
1600 Pennsylvania Ave. NW
Washington, DC 20510

Re: The U.S Energy Policy and
Global Climate Change

Dear Mr. Vice President:

You and I have met briefly and casually when you were a resident of Dallas. I am a longtime member of the Dallas Petroleum Club and have been a practicing professional petroleum engineer and geologist for over 50 years. This letter will be as direct and as short as I can make it in anticipation that it may get to your desk and you may take time to read it. If it becomes of interest to you, I will be glad to provide significant backup confirming factual scientific evidence and data to you or your staff.

This year I completed a study and article based on known historical geologic and measured physical data entitled "Beware of Global Cooling." This was sent to you. The title is regrettable. It is not a throwback to the 1970's scientific concepts. It questions the assumed infallibility of (mathematical) Global Climate Models used by UN-IPCC and also presents the need for a practical energy policy.

Subsequent to that, the AAPG recently published a 372-page book titled Geological Perspectives of Global Climate Change, which includes 18 chapters written by 33 qualified scientific authors -- all chapters peer reviewed.

Only Chapter 4 -- entitled "Are we headed for a Thermohaline Catastrophe?" by Wallace S. Broecker of the Lamont-Doherty Earth Observatory -- seems to partially agree with and utilize certain interpretations or conclusions reached in the Report for the UN-IPCC Kyoto Meeting and Protocol. He bases his opinions on the findings using GCM's as the "best guide," in direct opposition to the findings of Dr. Richard Lindzen of MIT, whose interpretations are derived from actual natural past performance of the atmosphere and climate. In all other respects, my 10-page article is in general scientific agreement with this new major AAPG publication.

It seems the President and his Administration (you?) are utilizing the recent report on Climate Change prepared by the National Academy of Sciences to assist in making

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decisions on both Climate Change (cooling or warming) and our Energy Policy. If the UN-IPCC GCM's are wrong, inappropriate or risky science, then the Academy studies are also subject to question because they are both based on the same limited set of computer-derived data that is not in agreement with past or current actual atmospheric performance.

In considering the reasons for a need for additional studies, for instance, in the case of your efforts on developing a usable Energy Policy, it is assumed your efforts have utilized an expected future U.S. demand and availability of 30 trillion cubic feet of gas per year. There is serious geologic and engineering question if such a deliverability is economically possible even with the availability of ANWR and the western U.S. lands for exploration. Your plan of conservation and additional supply is the only solution to our future requirements.

It appears to me additional independent studies are necessary for your use -- by qualified scientists who are not politicized or evironmentalized or on record in behalf of the concepts of UN-IPCC sponsored "Global Warming." Cooling may be a more realistic future scientifically-derived expectation, and it would have a more severe effect on humanity than warming.

Sincerely yours,

Fred F. Clare

City of Seattle
Paul Schell, Mayor
Office of the Mayor

JUN 27 2001

June 18, 2001

The Honorable Richard B. Cheney
Vice President
The White House
1600 Pennsylvania Avenue NW
Washington, D.C. 20500

Dear Vice President Cheney:

I would like to take this opportunity to thank you for the hard work put forth by you and other members of the National Energy Policy Development Group. Although the nation needs to move ahead on implementing an energy policy, I believe it needs to focus on a policy with clean energy and the long-term protection of the environment assuming center stage.

Please consider the enclosed detailed comments submitted by the City's energy Utility, Seattle City Light. I hope that these comments will be useful to the Department of Energy, members of Congress, and other members of the National Energy Policy Development Group.

My concerns about the Administrations' proposal are:

1. The proposed national energy strategy needs to address climate change in a serious and proactive manner, at a minimum, this means achieving the measures in the Kyoto protocol.

2. The strategy places too much emphasis on the development of new energy supplies without paying a corresponding level of attention to increasing energy efficiency. Efficiency is both timely and cost-effective. City Light's conservation investments will save the utility and its ratepayers $160 million in reduced wholesale market purchases from January, 2000 through September, 2001.

3. The report underestimates the cost and ease of building 1,300 – 1,900 large, new power plants. With a more substantial funding approach toward energy efficiency, many of these plants will never be needed.

4. A national energy strategy for the new millennia needs to take a close look at the role of hydrogen fuel cells both for electricity generation and automotive transport.

5. The report needs to emphasize the critical and central role that utilities can play in conservation, distributed generation, and renewable energy. Seattle plans to meet its load growth over the next ten years through a combination of aggressive conservation and the development and purchase of renewable energy sources.

600 Fourth Avenue, 12th Floor, Seattle, WA 98104-1873
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Each of these points is elaborated in greater detail in the enclosed comments from Seattle City Light.

Finally, I think the report understates both the cost and difficulty of many supply solutions. I believe the report is absolutely correct in saying that the oil industry has been unable to make many long-term, capital-intensive investments with the cyclic conditions of the world oil market. Yet I am concerned that the report doesn't seem to acknowledge that the same phenomenon bedevils capital-intensive investments in gas and electricity supply and in pipelines and transmission.

I hope that the attached comments are useful to the continued refinement of our national energy policy. Please feel free to direct any questions to Jim Harding, director of external affairs for Seattle City Light; he can be reached at 206-386-4504.

Very truly yours,

Paul Schell

Enclosure

cc: Colin Powell, Secretary of State
Paul O'Neill, Secretary of Treasury
Gale Norton, Secretary of Interior
Ann Veneman, Secretary of Agriculture
Donald Evans, Secretary of Commerce
Norman Mineta, Secretary of Transportation
Spencer Abraham, Secretary of Energy
Joe Allbaugh, Federal Emergency Management Agency
Christine Todd Whitman, Environmental Protection Agency
Joshua Bolten, Executive Office of the President
Mitchell Daniels, Office of Management and Budget
Lawrence Lindsey, Executive Office of the President
Ruben Barrales, Executive Office of the President
Andrew Lundquist, U.S. Department of Energy
Governor Gary Locke, State of Washington
WA State Delegation

Comments on National Energy Strategy

We appreciate the opportunity to comment on the report of the National Energy Policy Development (NEPD) Group, as submitted May 16 to President George W. Bush. The report includes timely and important advice on many energy and environmental issues. We recognize, also, that the report and its recommendations were compiled quickly, and a thorough comment period may correct misconceptions and help focus on the most important and sound suggestions. We hope the Administration takes this opportunity to refine the recommendations so that they can offer a strong basis for leadership and legislation.

In general, we believe the report correctly highlights many of the key issues in energy policy. It correctly identifies improved efficiency as a major contributor to the nation's supply-demand balance. It correctly emphasizes the extraordinary challenge in meeting electricity demand, with capacity shortages and tight transmission a growing problem in many regions of the nation. It correctly states the importance of a diverse energy supply, to protect against supply interruptions and price increases associated with a particular fuel.

In general, we also believe the report suffers some weakness in two key areas – the diagnosis of the electricity problem (along with associated recommendations) and its overemphasis on supply alternatives that are unlikely to contribute either quickly or economically to its solution. Some supply, demand, and restructuring issues receive less attention than we believe they should. We have a number of suggestions in these areas that we hope the Administration will consider.

Specific comments follow:

Overview

Page viii. The Overview assumes that growth in energy consumption will continue at historical rates, but domestic production for the period 2000-2020 will not exceed the 1990-2000 rate. This seems extremely unlikely. Energy production from 1990-2000 was flat, primarily because of inexpensive gas, coal, oil, surpluses of generating capacity, and uncertainties associated with electric deregulation. High prices and tight supplies in this decade have led to substantial increases in drilling activity, pipeline siting, and generation capacity announcements. It would seem preferable to use standard economic models rather than deterministic assumptions to assess the gap between domestic consumption and domestic production.

The strategy also needs a better description of why import dependence is a bad idea. Gas and oil imports are often cheaper and more environmentally benign than attempting to produce the same energy within the United States. Moreover, it is not necessarily true that increased US production of oil and gas would translate into lower net imports, because the supply-demand balance is driven by international market conditions, rather

than proximity to production. It is certainly true that growing dependence on imported fuels is a significant economic and security issue, but there is an economic and environmental price associated with reduced import dependence. This issue can and should be addressed directly.

Page ix. The Overview notes that the US suffers from an aging and inadequate network of gas pipelines and a transmission system that cannot support substantial intra-regional electricity sales. Both may be true. But the problem needs a better institutional context. Gas pipeline capacity is sited by the Federal Energy Regulatory Commission; for the most part, developers can recover incremental expansion costs easily in FERC tariffs. The failure of pipeline capacity to keep pace with gas demand may be associated with FERC rules. More simply, it may be associated with cyclic market the report later describes for oil drilling that makes long term investment more difficult. If either of the latter two explanations hold water, the Report should emphasize changes to FERC policy or tariff that encourage capacity development in advance of dire need.

Price spikes on natural gas in the western market are also very closely associated with FERC policy on market pricing for capacity in the secondary market. This issue warrants urgent attention by FERC and the Bush Administration.

While transmission system construction is subject to substantial state regulation and siting difficulties, the report pays insufficient attention to market factors that make transmission investment and cost recovery difficult. Transmission investment has been stalled by uncertain rules for cost recovery in wholesale markets. It is also stalled by the cyclic nature of the electric supply market. More importantly, transmission investment can be stalled by competition (or potential competition) from generation sited close to load. The lead time and capital cost for siting new generation is generally much shorter and cheaper than a major transmission system investment. In general, competition between generation and transmission is a good characteristic of the wholesale electricity market, though the result may be a strained transmission system. Regional bodies should be able to address these issues; federal eminent domain may be overkill.

The Overview notes that "renewable and alternative fuels offer hope for America's energy future. But they supply only a small fraction of present energy needs. The day they fulfill the bulk of our needs is still years away. Until that day comes, we must continue meeting the nation's energy requirements by the means available to us." This language is unfortunate, and should be changed. It implies that these energy sources are not worthy of attention or support until they supply "the bulk" of US energy needs, and "hope" will be the dominant strategy for achieving that target.

Page x. It is certainly true that we rely more on foreign oil than in 1970. But several things have changed. One is that our supplies are far more diverse than in 1970, making import dependence less risky than at the onset of the Arab oil embargo. Second, imports have been extremely inexpensive. There is a significant premium associated with eliminating or substantially reducing import dependence. It may be true that some price is worth paying, but the strategy should not assume that import dependence is, by

definition, bad. Our reliance on western Canadian natural gas has grown substantially in the last decade, lowering gas prices, reducing electric prices, and often offsetting emissions from more polluting electricity sources.

Page xi. The report notes that 1,300-1,900 large new electric plants, or about one 1,000 megawatt plant per week, will be needed over the next two decades. This is a huge number, and deserves more detailed attention. Can this amount of generation be built entirely by independent power producers, or does the Administration foresee a significant utility role? Will wholesale market price signals be sufficient to deliver that capacity, or will one region after another suffer the same delayed reaction to price now felt up and down the West Coast?

Page xi. It is not clear what the Overview means by "modernizing" conservation. The report expresses substantial skepticism about historic efforts on renewable energy and energy efficiency, and recommends that all future efforts be "performance-based" and "cost-shared." In no other areas of DOE effort is this language used. There should be some discussion of these criteria, are why they are needed in renewables and energy efficiency R&D, but not in other areas funded by DOE.

Page xii. "The energy we use passes through a vast nationwide network of generating facilities, transmission lines, pipelines, and refineries... that system is deteriorating, and is now strained to capacity. One reason for this is government regulation, often excessive and redundant." While redundant regulation may contribute to supply uncertainty, it is important to assess whether deregulation of wholesale electricity and gas markets have contributed to tight supplies with little capacity built in advance of acute need. The cure for this problem is not necessarily more regulation, but it may be different regulation. It seems unimaginable to us that 1,300-1,900 new central station power plants could be built in the next two decades without a greater government role in determining supply adequacy and ensuring cost recovery.

Page xiii. "Grant authority to obtain rights-of-way for electricity transmission lines." As above, the use of federal eminent domain authority to build new transmission should not discourage investment in new generation that perform the same congestion-relieving function.

Page xv. "Support a North American Energy Framework to expand and accelerate cross-border energy investment, oil and gas pipelines, and electricity grid connections." This recommendation clearly recognizes that it is economically efficient and environmentally desirable to build constructive relationships on oil, gas, and electricity with our northern and southern neighbors. But it appears to conflict with the notion of reducing reliance on energy imports. The conflict is best eliminated by greater clarity in the import discussion. Some imports lower cost and add security. Some domestic production increases cost and does nothing for security.

Taking Stock – Energy Challenges Facing the United States

This is a particularly important section, because it offers a problem diagnosis that sets the stage for all the policy recommendations that follow.

Page 1-3. "Recent and looming electricity blackouts in California demonstrate the problem of neglecting energy supply." This may be true, but it was an axiom of wholesale deregulation that the state and federal government, and utilities, get out of the business of determining how much generation is built. The market would play this role. Unfortunately, prices in the West Coast wholesale power market from 1996-1999 could not support much new generation in California or in western states with far easier siting rules. As a consequence, the region entered the new millennium with very thin margins, and substantial opportunities for misuse of market power.

California is now addressing its supply insufficiency by building new capacity, but under terms and conditions that completely undercut the notion of a competitive wholesale or retail power market. Many utilities up and down the West Coast are doing the same thing. The National Energy Strategy needs to confront this issue squarely: competitive power markets do not necessarily build sufficient margin. Either governments find ways to ensure the development of this margin through regionally-run competitive auctions, or state regulators and utilities will return to the notion of building or owning these reserves outside the competitive market. Both strategies have serious implications for FERC regulation and national electricity policy.

Page 1-4. "Had energy use kept pace with economic growth, the nation would have consumed 171 quadrillion BTUs last year instead of 99 quadrillion BTUs." The 72 quad difference since 1973 is attributed properly to expanded use of energy efficient technologies. This point is accurate, and it makes the point that energy efficiency is not so much a matter of virtuousness, but must be a cornerstone of national economic, environmental, and security policy. As FRB Chairman Alan Greenspan has often noted, our economic growth is associated with less and less energy and raw material. This is the principal source of productivity improvements in the economy, and a reason we can prosper without significant inflation or exposure to energy price escalation.

"The impact that improvements in energy efficiency can have on energy supply markets grows over time... A decrease in (projected) electricity demand from 1.8 percent to 1.5 percent (per year over 20 years) would reduce the need for new generation by 60-66,000 MW. While this projection shows that conservation can help ensure the United States has adequate energy supplies for the future, it also shows that conservation alone is not the necessary." This is true, but the example profoundly understates the importance of the efficiency resource. Sixty-six thousand megawatts of new generating capacity would consume about 3.5 quads of energy annually. It does not seem credible to argue that it was enormously valuable to save 72 quads of energy annually over the last 27 years, but 3.5 quads would be a good target for the next 20.

Page 1-5. "Across the country, we are seeing the same signs that California faced in the mid-1990s: significant economic regulatory uncertainty, which can result in inadequate supply... Of the approximately 43,000 MW of new generating capacity that power

companies planned in 1994 for construction from 1995-1999, only about 18,000 MW were actually built. Although plans have been announced to build more capacity than the country will need over the next five to seven years, this new construction assumes market and regulatory conditions that are not yet assured. Over the next twenty years, the United States will need 1300-1900 new power plants, which is equivalent of 60-90 new power plants a year."

We applaud the Administration for recognizing that uncertain cost recovery for new generation is a problem that is growing throughout the country, and is not limited to California. It is also a problem that 60 percent of announced and, in many cases, fully permitted, merchant plants are not built, particularly if the US needs 1,600 new power plants in the next two decades, or 1.5 new 1000 megawatt power plants each week for the next two decades.

Page 1-7. "Electricity generated by natural gas is expected to grow to 33 percent in 2020 – a growth driven by electricity restructuring and the economics of natural gas power plants. Lower capital costs, shorter construction lead times, higher efficiencies, and lower emissions give gas an advantage over coal and other fuels for new generation in most regions of the country." This is definitely true, but it clearly conflicts with language and data presented in section 5. It is also true that electricity restructuring, for the most part, discourages investments in many technologies with exposure or a longer term payback, including high voltage transmission, nuclear power, clean coal technologies, and, to a lesser extent, renewables, gas generation, and energy efficiency investments by utilities.

Page 1-9. "Non-hydropower renewable electricity generation is projected to grow at a faster rate than all other generation sources, except natural gas... Although its production costs remain higher than other sources, renewable energy has not experienced the price volatility of other energy resources." The first part of this argument seems reasonable, but somewhat in conflict with the emphasis and arguments on coal and nuclear power. The second part is both simplistic and entirely inconsistent with the first. Our experience is that generation costs from wind and gas are essentially comparable, though many wind and gas generation developers in the West Coast market are asking prices that are a distant multiple of production cost. Wind generation owned and developed by public or private utilities would be substantially cheaper and easier to finance than power from new coal or nuclear plants.

Page 1-12. "(Oil) prices are set in a market where supply is geographically concentrated. Almost two-thirds of world proven reserves are in the Middle East. Elsewhere, Central and South American accounts for 9 percent; Africa, 7 percent; North America, 5 percent; Eastern Europe and the Soviet Union, 5 percent; the rest of Asia, 4 percent; and Western Europe, 2 percent." This is clearly true. The policy needs to explain whether and how development of North Slope oil and gas resources would lower prices, and when.

Page 1-13. "Without a change in current policy, the share of US oil demand met by net imports is projected to increase from 52 percent in 2000 to 64 percent in 2020. The

sources of this imported oil have changed considerably over the last thirty years, with more of our imports coming from the Western Hemisphere." This is largely true, though dependent on efforts to reduce US oil consumption. The overall conclusion emphasizes the point made above; that import dependence is more complicated than a simple calculation.

Page 1-15. "California's energy consumption has grown by about 7 percent a year, while production has remained flat." This sentence does not reveal a source, but it cannot be true. According to the Department's Energy Information Administration, California's energy consumption grew at an average annual rate of 0.9% per year from 1990-1999, from about 7.7 to 8.4 quads. It is unimaginable that statewide energy consumption has grown 7 percent a year over any significant period.

If this sentence meant to focus on electricity, the growth rate also seems inaccurate. California's electricity consumption over the last eighteen years has grown an average rate of 2.1 percent per year, far below 7 percent. Sales from 1999-2000 fell. If the focus in peak demand, growth is hardly visible. Peak demand in the California ISO control area actually dropped about 400 megawatts from summer 1998 through summer 2000.

The point on production is similarly questionable. It is our understanding that California added 4,710 megawatts of generation in the 1990s, not including on-site emergency capacity. This is slightly greater than 10 percent of statewide peak demand.

National Energy Policy

Page 2-5. "A wide variety of highly liquid futures contracts on energy products such as oil, natural gas, and electricity allows energy users and market participants to reduce or add financial exposure to energy prices... As these markets become increasingly liquid and efficient, more firms will take advantage of these products, reducing the economy's sensitivity to shifts in energy prices."

It is our experience that futures contracts do little to reduce exposure to volatile prices for both natural gas and electricity.

Page 2-8. "A recent study by a San Francisco Bay business group concluded that blackouts could cost California as much as $16 billion annually, and $5 billion in the Bay Area alone. California's economic is equivalent to about 13 percent of US gross domestic product... American consumers and businesses are best served when markets function freely. Free markets allow prices to reflect changes in demand and supply, and avoid subsidies, price caps, and other constraints."

It is certainly true that blackouts have an enormous economic toll on the economy. We would not disagree with the order of magnitude estimated for California. The larger question is whether $16 billion in consumer costs and perhaps as much as $70 billion in wholesale electric costs make sense, when as little as 3000 megawatts of supply, costing

perhaps $1-2 billion in capital cost, could entirely alleviate the problem. Price signals have value, but price signals that are vast multiples of cost involve all pain and no gain.

Protecting America's Environment

Page 3-4. Low sulfur diesel and particulate traps. The report should discuss the European strategy of relying on diesel engine technology, cleaner diesel blends, and particulate traps. We – meaning the City of Seattle – is actively examining this option for vehicle fleets owned by the City and by King County.

Page 3-5. "One of the most promising new approaches for using coal for clean production of electricity is integrated gasification combined cycle (IGCC) technology." Many of the technologies described here can substantially improve the environmental impacts of coal-fired electricity generation. Several points should be stressed. First, fluid beds and IGCC are not new technologies. There are plants in the US using both technologies that are more than two decades old. SoCalEdison's Coolwater IGCC plant received substantial DOE funding before it shut down in the late 1980s, owing to high operating costs. Second, none of the clean coal technologies described here reduces carbon emissions. Carbon releases represent both an environmental impact and an investment risk. The strategy should identify how DOE's "clean coal" program addresses this issue.

Page 3-10. Climate change. The NEPD Group report properly attributes 85 percent of greenhouse gas emissions to energy production and consumption. The report also correctly states that the rate of increased greenhouse gas release has been cut through a wide range of public-private partnerships on energy efficiency and renewable energy development. But the report is completely silent on recommendations to accelerate these efforts.

Using Energy Wisely

Pages 4-4 through 4-9. The report correctly describes many of the barriers to cost-effective investment in improved efficiency – lack of information, incomplete price signals, and divided incentives, for example among builders and buyers, and landlords and tenants. The report recommends better labeling, educational programs, and appliance efficiency, setting tighter standards "where technologically feasible and economically justified." The only recommendations on industrial efficiency address faster permitting and depreciation schedules for cogeneration.

Page 4-10. "Unless US automakers can remain competitive with their overseas counterparts, it is unlikely they will invest in new, more efficient technologies. Vehicle efficiency technologies, such as advanced engines, fuel cells, and cutting edge electronic drive train technologies, will become widely available only when component costs are reduced or demand is increased." In general, we believe it is inappropriate to determine the merits of improved vehicle efficiency on US automaker profitability. This will be, inherently, a short range perspective, much like the short range perspective that caught

domestic auto manufacturers unprepared for foreign import competition in the late 1970s. Improved efficiency standards may have reduced short run automaker profitability, but they have also served the US industry well over the longer term.

Page 4-11. "The NEPD Group recommends that the President direct the Secretary of Energy to conduct a review of current funding and historical performance of energy efficiency research and development programs in light of the recommendations of this report. Based on this review, the Secretary of Energy is then directed to propose appropriate funding of those research and development programs that are performance-based and are modeled as public-private partnerships." This language appears to apply only to DOE efforts in energy efficiency and renewable resources. It is unclear why the standard should apply only in those areas, and even why the standard is appropriate.

Pages 4-11 and 4-12. "The NEPD Group recommends that the President direct the Secretary of Transportation to review and provide recommendations on establishing Corporate Average Fuel Economy standards.... Responsibly crafted CAFÉ standards should increase efficiency without negatively impacting the US automobile industry... Consider passenger safety, economic concerns, and disparate impact on the US versus foreign fleet of automobiles.... Look at other market based approaches to increasing the national average fuel economy of new motor vehicles." The issue of negative impacts on the US auto industry is important, but should not be used as a test for CAFÉ standards. As a test, this rule is inappropriate, subjective, and myopic.

Energy for a New Century

Page 5-10. This section properly describes the "crippling effect that electricity shortages and blackouts can have on a state or region." It also correct points out the possibility of "more intense electricity shortfalls in the West, with additional problems possible in New York City and on Long Island." The section then estimates that the US will need 60-90 new large power plants, "or more than one a week," over the next 20 years.

This conclusion and recommendation vastly oversimplifies an intricate problem. Electricity shortages and spectacular increases in wholesale electric price are not making the investment climate better for new generation; they are making it worse. And the possibility is remote of financing any significant fraction of 1300-1900 huge generators in the next twenty years, given market price volatility and structural changes. Our view is that high wholesale prices have raised the following problems.

Prices of $80-150/MWh were expected throughout the West Coast when demand and supply equalized. Those prices would create incentives for new generation and greater efficiency. They can support major conservation investments, distributed generation, wind, geothermal, emergency diesels, gas combined cycles, gas simple cycles, coal, solar, and perhaps new nuclear reactors. But sustained prices of $350-1000/MWh create instability.

The financial environment for new capacity looks like an eighteen month gold mine following by a glut. Merchant plants can be financed, but the risk leads to high return requirements and low debt capitalization. Utilities, public or private, face the same investment risk, with the additional problem that market power purchases have eliminated substantial liquidity. Six months ago, SCE proposed construction of new rate-based generation to escape market purchases; in today's financial circumstance, they can finance nothing.

A secondary consequence of this environment is great political instability. Bankruptcies, blackouts, and rate increases; distrust of utilities, merchant plant owners, FERC, and state regulators will drive ratepayers to the ballot box and initiative process. Seizure of California merchant plant assets through the initiative process is a credible outcome. Meanwhile, California has eliminated retail choice, and is pursuing state ownership of IOU transmission and a state power authority to build new generation for sale at cost to utility customers. These uncertainties, driven fundamentally by wholesale prices that are orders of magnitude above marginal cost, undermine all investments in new generation, whether they are being considered by independent power producers, investor owned utilities, or publicly-owned utilities.

Page 5-10 and 5-11. "Over the next few years, if the demand for electricity continues to grow as predicted, and if we fail to implement a comprehensive energy plan that recognizes the need to increase capacity, we can expect our electricity shortage problems to grow." This conclusion may be true, but the problem goes far beyond a plan that simply "recognizes the need to increase capacity."

Page 5-12. "The NEPD Group recommends that the President direct the Secretary of Energy to propose comprehensive electricity legislation that promotes competition, protects consumers, enhances reliability, improves efficiency, promotes renewable energy, repeals the Public Utility Holding Company Act, and reforms the Public Utility Regulatory Policies Act." We support comprehensive electricity legislation along these general lines, and support the implicit notion of concentrating on the wholesale electricity market. We believe retail market questions should be left to the states and local jurisdictions. We also recognize that it will be difficult to pass legislation in this area, given the unstable nature of many existing deregulation experiments.

Page 5-12. It is argued that California's crisis "is not a test of the merits of competition in electricity markets. Instead, it demonstrates that a poorly designed state retail competition plan can have disastrous results if electricity supply does not keep pace with increase demand... California allowed demand to outstrip supply, and did little to lower barriers to entry through reform of an inflexible siting process. The risk that the California experience will repeat itself is low, since other states have not modeled their retail competition plans on California's plan."

California's approach to electric deregulation was borrowed from Prime Minister Thatcher's approach to privatizing, and liberalizing, the UK electric system. Many features of California's initial approach to deregulation have been abandoned, including

the single price auction system, retail customer choice, and acquisition of all power through a single power exchange. The assessment should acknowledge changes now underway.

Many states have, in fact, modeled their retail competition approach on the California model. Nearly all rely, for example, on wholesale price signals to trigger new plant construction. Nearly all eliminate the utilities' obligation to serve load, and the government's responsibility to determine how much supply is needed. The notion that individual states, such as California, should maintain regulatory tools to ensure that supply and demand are in balance is ultimately in conflict with many of the principles of wholesale competition, let alone retail choice. Finally, the focus on load/resource balance within California, and with its siting process both seem misplaced. California utilities have traditionally built some generation outside the state, mainly because it is cheaper and easier to build and import from a mine-mouth coal plant than bring the coal into a state with limited water supply and rail links. The Northwest and Southwest have also traditionally relied on each other's seasonal surpluses to meet need at low cost and environmental impact.

If the solution to this problem lies in revisiting the role of planning and regulation to ensure adequate state or regional electric supplies, the Administration should provide a forum for this discussion.

It is also important to note that some states do not have a capacity problem because of the inherent economic characteristics of their systems. In Pennsylvania and Texas, the fully bundled cost of new generation (including capital and fuel costs) can undercut the cost of existing generation. In those cases, new capacity can profitably be built in advance of need, creating an entirely different outcome from restructuring. But all deregulation experiments depend on the new supply market, and the sustainability of even the best-designed approaches is in question.

Page 5-14. The report states that the goal of DOE programs is "to develop and demonstrate coal power systems with near zero environmental emissions, while maintaining low production costs." This is a worthwhile goal, though nearly all "clean coal" technologies have no impact on carbon emissions.

Page 5-15 and 5-16. The report correctly states that "nuclear energy accounts for 20 percent of all US electricity generation... There are a number of reasons why nuclear energy expansion halted in the 1980s. Regulatory changes implemented after the Three Mile Island incident in 1979 lengthened the licensing period to an average of fourteen years, resulting in large cost overruns."

There are many reasons that nuclear power collapsed in the 1980. Licensing time was the least important. Studies done during that period identified only a few reactors significantly delayed by NRC licensing, and only a small fraction of those were affected by changes implemented after the TMI 2 accident. Some reactors, like St. Lucie, were built and licensed quite quickly during this period. Most plants were delayed not by the

licensing process, but over-estimation of demand, financing difficulties, and labor or material delays. We are aware of no credible source that assigns fourteen years to the licensing process.

"Other countries have developed different approaches for nuclear waste disposal. For example, the French, British and Japanese rely on reprocessing, an industrial approach that separates nuclear waste into usable fuel and highly concentrated waste. While this approach does not obviate the need for geological disposal of nuclear waste, it could significantly optimize the use of a geologic repository. The United States should reexamine its policies to allow for research, development and deployment of fuel conditioning methods (such as pyroprocessing) that reduce waste streams and enhance proliferation resistance."

The report correctly states that many countries reprocess commercial spent fuel. But the technology does not necessarily hasten, ease, or cheapen the task of radioactive waste management. By statute, the French will make no decision on geologic disposition until 2006. Japan and the UK do not expect to implement geologic disposition until the mid-21st century.

Numerous studies have concluded that reprocessing does little, if anything, to help the waste management problem. Actinide separation and transmutation in breeders, advanced light water reactors, and accelerators has been studied for decades, and the conclusion of this work is that many technological questions remain. If solved, massive subsidies would be required; decades, if not centuries, would be required to diminish some lived actinides. But the benefit of actinide reduction on repository size or design is not very substantial.[1] It certainly makes waste management more expensive. The process yields usable uranium and plutonium, but at a price much more expensive, controversial, and technically challenging than mining, enriching, and fabricating natural uranium, as the French, British, and Japanese have belatedly recognized.

Finally, we are not aware of any oxide fuel reprocessing method that produces usable fuel without the attendant proliferation risks cited by the Ford Administration in its decision to halt commercial reprocessing in 1978.

Figure 5-6 shows that "nuclear generation is competitively priced," demonstrating this point with a graph showing oil, gas, coal, and nuclear costs from 1981 through 1998. Nuclear costs range from 2-3 cents/kWh. Coal is about the same price. Gas costs range from about 7 to 4 cents/kWh. This figure is wrong and seriously misleading. The data include only operating costs, not capital amortization, which dominates the generating cost of both nuclear and coal fired electricity. By this standard, photovoltaic electricity

[1] See for example, US Department of Energy, A Roadmap for Developing Accelerator Transmutation of Waste Technology, October 1999. DOE concludes a 6 year $280 million R&D effort is needed; if successful, implementation would cost $280 billion over 117 years. Also see National Academy Press, Nuclear Wastes – Technologies for Separations and Transmutation, 1996; National Academy Press, Disposal of High Level Waste and Spent Nuclear Fuel – the Continuing Societal and Technical Challenge, 2001.

would cost nothing and a Yugo would be more expensive than a Porsche. Reactors completed in the late 1980s have generating costs that range from roughly 7.5 to 15 cents/kWh, inclusive of capital cost. Gas plants, inclusive of capital cost, cost 4.5-6.0 cents/kWh, even with today's high gas price. The report needs to be credible on the cost of new generation resources, particularly when it is urging 1,600 very large new power plants. If this capacity were all nuclear – an impossibility – the capital investment – at the average cost of reactors completed in the 1980s, adjusted for inflation, is $10 trillion. That sort of investment, or even a small fraction of it, cannot stand a shaky underpinning.

Page 5-19. The report notes that "the most important barrier to increased renewable energy production remains economic; non-hydropower renewable energy generation costs are greater than other traditional energy sources." Our experience is that the cost of power from several non-hydro renewable resources, most importantly wind, is substantially less expensive than either new coal or nuclear generation.

Page 5-20. "The NEPD Group recommends that the President support the expansion of nuclear energy in the United States as a major component of our national energy policy." This recommendation would only make sense if reactors were as inexpensive as Figure 5-6 suggests they are. Many other resources, including efficiency resources, can contribute to our electric system with less controversy, less cost, and greater speed than a new nuclear reactor.

Page 5-22. The report concludes that "the United States should also consider technologies to develop reprocessing and fuel treatment technologies that are cleaner, more efficient, less waste-intensive, and more proliferation resistant." The thinking behind this recommendation is not clear. Reprocessing is not necessary for the expansion of nuclear power. As a step for extracting usable fuel, it is much more expensive than mining raw uranium. As pre-treatment for waste disposal, studies differ, but none show a substantial technical or economic advantage over direct disposition of spent fuel. Many show distinct disadvantages.

Nature's Power

Page 6-4. "The NEPD Group recommends that the President direct the Secretary of Energy to conduct a review of current funding and historic performance of renewable energy and alternative energy research and development programs in light of the recommendations of this report. Based on this review, the Secretary of Energy is then directed to propose appropriate funding of those research and development programs that are performance-based and are modeled as public-private partnerships." Once again, this is language that is neither easy to understand nor reassuring. This standard is only suggested for conservation and renewables, and appears not to apply for to DOE programs on fusion, distributed generation, clean oil, conventional reactors and fuel cycles, and many other efforts. If a standard is applied, it should be applied equitably. But it is also not clear that this is the right standard; many DOE efforts in conservation and renewables involve basic science that may not easily pass a narrow performance test.

This clearly describes some photovoltaic work and conversion of cellulosic materials to ethanol.

Page 6-6. "Advances by research labs, universities, utilities, and wind energy developers have helped cut wind energy's costs by more than 80 percent during the last twenty years. The industry is poised for growth. In some parts of the country, electricity from wind power can be produced at prices that are comparable to other conventional energy technologies. The United States has many areas with abundant wind energy potential, namely in the West, the Great Plains, and New England."

We generally agree with this conclusion, but it appears inconsistent with the finding on page 5-19 that "non-hydropower renewable generation costs are greater than other traditional energy sources."

Page 6-7. The NEPD Group recommends that the President direct the Administrator of the Environmental Protection Agency to develop a new renewable energy partnership program to help companies more easily buy renewable energy..." It is somewhat difficult to envision the meaning of this recommendation. Companies generally buy electricity through their electric utilities. Electric utilities may buy wind generation on behalf of their customers. It is certainly possible for utilities to offer "green power" to customers that want to contribute to the development of renewable resources. Our experience, however, is that "green power" tariffs do not necessarily translate into more wind projects. The administration should consider other ways to accelerate wind project development, including tradable tax credits that could be used by both public and private sector project developers.

Page 6-9. The discussion of distributed energy resources is confusingly commingled with the discussion of renewable resources. Most renewable resource projects, including biomass, geothermal, hydro, and wind, are central station applications. Most distributed generation projects, including microturbines and diesel generators, are fossil-fired. The discussion is also limited to the customer-side benefits of distributed resources, and cites permitting and metering as the key challenges.

Most studies have shown that the vast majority of benefits associated with distributed generation lie not with the customer, but with the serving utility and its total customer base. DOE programs will be poorly designed and targeted if they do not identify the most important developers of resources. Our experience is that permitting and metering are not significant issues.

Page 6-10. The hydrogen discussion is also confusing commingled with fuel cells. Fuel cells currently in operation rely on reformation of methane from natural gas into hydrogen. We would expect that fuel cells would remain reliant on the natural gas supply system for some time to come. The report also notes that the automobile industry is aggressively exploring the fuel cell as the future of the industry.

This does present a number of issues. In particular, extensive vehicular use of fuel cells probably cannot happen without a national policy to develop a strong hydrogen infrastructure. Use of some existing pipeline infrastructure is certainly possible, but not without resolution of a number of key issues. Because of the role of fuel cells in both distributed generation and vehicles, the report should describe their role separately from the hydrogen issue.

The report concludes that "the primary challenge to using more hydrogen in our energy systems is the cost of producing, storing, and transporting it. A serious challenge confronting a move toward distributed energy is the transition away from centralized energy systems of supply and production. The automobile industry is aggressively exploring the fuel cell as the future of the industry." This seems not to do justice to the range of issues. If there is a serious possibility that vehicles will rely on fuel cells for motion, there are a range of impacts associated with refineries, gas and oil pipelines, and demand for natural gas. All merit careful consideration in national energy policy. The second sentence seems meaningless. A transition away from centralized energy production is an opportunity for fuel cells, not a serious challenge. If we are in fact in a process away from centralized electricity production, then many of the recommendations favoring much more central station generation and federally mandated transmission expansion are both expensive and unnecessary.

Page 6-13. The report indicates that "as of 1996, California alone had over 10 MW of installed distributed energy, a large increase in generating capacity during a period of otherwise limited growth in generation (Figure 6-3)." The report does not provide a definition of distributed energy, but by any definition, the by the standard definition (installed capacity with the distribution, as opposed to high voltage transmission, system), California has far more than 10 MW of distributed generation. Figure 6-3 does not refer to either distributed generation or total growth in California generation capacity. It does describe the growth of California's renewable capacity, from 187 MW in 1980 to 4,139 MW in 1996. Finally, our data suggest substantial increases in total California generating capacity during the 1990s, roughly 4,700 MW, or about equal to statewide nuclear capacity.

Page 6-14. "For example, the cost of wind energy has declined by more than 80 percent over the past twenty years and is increasingly competitive with conventional electricity generation sources. Wind, biomass, and geothermal are all increasingly competitive with conventional electricity generation... For renewable and alternative energy to play a greater role in meeting our energy demands, these sources of generation must be able to integrate into our existing distribution system. The tools that form the necessary interface between distributed energy systems and the grid need to be less expensive, faster, more reliable, and more compact."

The report seems to conclude that wind, biomass, and geothermal generation must be integrated into distribution systems, rather than high voltage transmission, and that some "tools" are needed before these resources become meaningful. The vast majority of biomass, wind, and geothermal projects on the West Coast are central station projects that

are integrated into the high voltage transmission system. There are no interface issues that frustrate expansion.

There are, however, policy and regulatory questions that could help or hinder development of renewable resources. Transmission policy and pricing can gravely undermine the cost and deliverability of intermittent renewable resources. DOE can and should work with the Federal Energy Regulatory Commission to implement open access prices and policies that favor, rather than discourage, new wind development. Federal power marketing agencies may also be able to take additional steps, using hydroelectric reservoirs, for example, to "shape" or "firm" wind generation.

Page 6-15. The report adds that although "few states have established interconnection standards, there is no national standard to facilitate development of distributed energy (Figure 6-4)." Again, the report seems to overlook the huge potential benefits of distributed generation to the utility and its customers. Distributed generation was originally advanced by the Swiss (in the early 1970s) and by Pacific Gas and Electric (in the late 1980s) as a way to improve end-use reliability at less cost than central station generation and offset incremental investments in distribution system capacity. These benefits dwarf end-user benefits associated with utilization of waste heat and avoidance of transmission losses. These issues are important, because DOE policies and programs will be mistargeted and ineffective if they address the wrong players or the wrong issue. Figure 6-4 has no obvious connection to interconnection standards, or the number of states that have adopted programs. It shows an increase in venture capital investments in alternative energy sources that has climbed from about $20 million annually (1980-1995) to roughly $1 billion per year today.

Page 6-16. "Geographically dispersed renewable energy plants often face significant transmission barriers, including unfavorable grid schedule policies and increased embedded costs.... Uncertainty regarding the tax treatment of these technologies and energy sources can discourage long term investment. Though existing tax credits provide an incentive for investing in some types of renewable energy, the limited scope of the credit and its frequent expiration discourages investment." These points are absolutely correct, and should be the focus of policy initiatives by the administration.

America's Energy Infrastructure

Pg 7-5. There are roughly 5,000 power plants in the United States, and they have a total generating capacity of nearly 800,000 megawatts. Over the past few years, there has been an explosion of "merchant" power plants proposed by independent power producers seeking to sell into wholesale markets. In spite of this interest, a number of regions of the country are experiencing capacity shortages as a result of wholesale market design problems and barrier to siting and building new power plants.

Page 7-6. The report indicates that "there are various reasons why transmission constraints exist. One is the lack of sufficient investment in transmission. Transmission investment has lagged dramatically over the past decade. There is a need to ensure that

transmission rates create incentives for adequate investment in the transmission system, especially as restructuring leads to the creation of transmission companies whose only business is operation of transmission facilities.

"Another cause of transmission constraints is the siting process. Under current law, siting of transmission facilities is a responsibility of state governments, not the federal government.... This stands in stark contrast to siting of other interstate facilities, such as natural gas pipelines, oil pipelines, railroads, and interstate highways.

"State decisions on where to locate transmission lines often do not recognize the importance of proposed transmission facilities to the interstate grid.... Some state siting laws require that the benefits of a proposed transmission facility accrue to the individual state, resulting in the rejection of transmission proposals that benefit an entire region, rather than a single state.

"The NEPD Group recommends that the President... direct the Secretary of Energy, by December 31, 2001, to examine the benefits of establishing a national grid, identify transmission bottlenecks, and identify measures to remove transmission bottlenecks.... direct the Secretary of Energy, in consultation with appropriate federal agencies and state and local government officials, to develop legislation to grant authority to obtain rights-of-way for electricity transmission lies, with the goal of creating a reliable national transmission grid."

It is certainly true that the nation faces growing transmission constraints. The question is federal eminent domain solves the problem. Federal eminent domain on gas pipelines has evidently not solved the supply problem in many parts of the country. The potential for eminent domain may add further uncertainty to conservation and supply investments that may also reduce transmission congestion.

Page 7-11. "Some parts of the country, such as California and New England, already face (gas pipeline) capacity shortages. Several pipeline operators have applied for permits to increase their delivery of natural gas to California, but right-of-way issues and local permitting delays have constrained the ability to transport natural gas to California, contributing to high prices.

"Several factors complicate efforts to meet the need for increased pipeline capacity, including encroachment on existing rights-of-way and heightened community resistance to pipeline construction. Currently it takes an average of four years to obtain approvals to construct a new natural gas pipeline. In some cases it can take much longer.... Consistent federal, state, and local government policies, and faster, more predictable regulatory decisions on permitting are needed to enable timely and cost-effective infrastructure development." These points are correct, but they enforce the general point that federal siting authority on gas pipelines, now sought for electric transmission, isn't automatically the answer.

Page 7-14. "Price volatility and the cyclical nature of oil markets inhibit investment in supply infrastructure. While investors can withstand market fluctuations for some commodities, large investments in oil exploration and development – such as for drilling required to maintain a steady supply and the pipelines needed to bring supply to market – are often curtailed during times of low oil prices. The outcome of this lack of steady investment is less supply, higher prices, and the abandonment of marginal oil resources that may never be recovered." We agree wholeheartedly with this conclusion, and it is a perspective that is lacking in the sections on electricity and gas.

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June 18, 2001

Mr. Andrew Lundquist
U.S. Department of Energy
Energy Task Force
Forrestal Building
1000 Independence Avenue, S.W.
Washington, D.C. 20001

Dear Mr. Lundquist:

I am extending an invitation for you to join me in Midland, Texas, during the July District Work Period when I will be meeting with local oil and gas producers to discuss President Bush's National Energy Policy. This portion of my district is in the heart of the oilpatch and would be excited to hear from you about the National Energy Policy, and in particular, the NEPD Group recommendation to the Secretaries of Energy and the Interior to promote enhanced oil and gas recovery from existing wells through new technology. Like many of the fields in the U.S., those in the Permian Basin region are mature and declining, but operators there are already doing much to keep existing wells productive. I believe the meeting, and especially your participation, would be a good opportunity to exchange information about enhanced oil and gas recovery efforts and technologies, and how they can help the U.S. meet its energy needs.

I would be glad to work with you if you are interested in a mutually agreeable date to travel to Midland. Please contact Shanna Brown of my staff to indicate whether you will be able to join me, or if you have any questions.

Sincerely,

Larry Combest

28449

TOM DASCHLE
SOUTH DAKOTA

United States Senate
Office of the Majority Leader
Washington, DC 20510-7020

June 19, 2001

The Honorable George W. Bush
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear President Bush:

Development of a comprehensive and balanced national energy policy is a high priority for Senate Democrats. We look forward to working with the Administration on legislation that will ensure adequate and reliable supplies of affordable energy, improved efficiency in our use of energy, enhanced capabilities for energy-related R & D, and thoughtful integration of energy policy with environmental and climate change policy.

We appreciate the significance that you and the Vice President have placed on addressing the nation's pressing energy needs. A number of our Republican colleagues have urged that the Senate move expeditiously to consider energy legislation.

In the Senate, energy policy falls primarily under the jurisdiction of the Committee on Energy and Natural Resources. The Committee on Environment and Public Works and the Committee on Finance also have significant legislative responsibilities in this area. These committees are planning hearings that will cover the major issues under discussion with the goal of developing a comprehensive national energy bill.

Your National Energy Policy Development (NEPD) Task Force report includes a number of recommendations for legislation that will be considered during the hearing process, and Senate Democrats are eager to engage in a constructive discussion with the Administration on the various elements of a national energy policy. Therefore, timely transmittal of the NEPD Task Force's legislative recommendations to Congress is essential.

The NEPD Task Force recommended authorizing legislation on 17 topics or topical areas. It also recommended tax incentive legislation in 8 other areas. Some of these recommendations are both important and complex. For example, the Task Force recommended that you "direct the Secretary of Energy to propose comprehensive electricity legislation that promotes competition, protects consumers, enhances reliability, improves efficiency, promotes renewable energy, repeals the Public Utility Holding Company Act, and reforms the Public Utility Regulatory Policies Act." This subject is of central importance to the development of effective national energy policy.

To expedite consideration of national energy policy legislation in the Senate, I respectfully request that the Administration send legislative language to Congress by July 11 for each of the NEPD Task Force's legislative recommendations. If that date is not workable for the Administration, we will bepleased to discuss an alternative schedule for receiving your legislative proposals.

I have asked the Chairs of the relevant Senate Committees to move forward to develop comprehensive and balanced energy legislation for priority consideration by the Senate. I look forward to receiving the Administration's specific proposals, so that the process of achieving bipartisan consensus can be facilitated.

Sincerely,

Tom Daschle

Tom Daschle
United States Senate

Statement of Robert Card
Under Secretary of Energy
before the Senate Committee
on Energy and Natural Resources
June 21, 2001

Mr Chairman and Members of the Committee:

Thank you for the opportunity to present testimony addressing the important national energy policy topic of the impacts of fuel specifications and infrastructure constraints on energy supplies and prices. The Committee specifically asked that the Department of Energy address questions relating to impacts on gasoline markets from possible reductions in the number of different gasoline types, state actions to limit the use of certain gasoline additives like methyl tertiary butyl ether (MTBE) and the recent decision by the Environmental Protection Agency (EPA) to deny California's request for a waiver of the reformulated gasoline oxygenate requirement under the Clean Air Act. I will address each of the Committee's concerns, but would like to start with the broader National Energy Policy context, and recent energy markets experience, as a framework for these issues.

The early focus of this Administration on the development of a comprehensive National Energy Policy was motivated to a significant degree by the rising concerns over the adequacy and cost of energy supplies, not the least of which is gasoline and other petroleum products on which much of our economic activity depends. We have observed over the past few years a tightening of the supply/demand balance in the petroleum product market in general and gasoline in particular. Recent events in the world oil markets have contributed to the high and volatile prices we have experienced this summer and last year, and they need to be understood before trying to come up with solutions. Dr. Cook of the Department's Energy Information Administration addressed these near term issues in testimony before the House Committee on Government Reform, Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs last week and I will not repeat that here. More relevant to this Committee's interests at this hearing are some of the underlying refinery capacity and fuel specifications issues that have been developing for a much longer time.

These include:

- The poor investment climate throughout the 1990s associated with the refining industry's historic over capacity and competition from foreign refineries;
- The subsequent closure of uneconomic refineries some of which were also unable to meet new environmental requirements; and
- High investment requirements simply to maintain existing capacity due to the imposition of a range of new clean fuel requirements starting with reformulated gasoline in 1995 and continuing through at least 2006.

Having experienced a decade of poor returns, facing legal challenges related to permitting on previous expansion, and having to comply with significant new requirements for cleaner fuels that will demand large stay-in-business investments, it is not surprising that the financial decision making in the refining industry has responded very cautiously to the recent strong growth in gasoline (and other transportation fuels) demand. We also believe that efforts to significantly improve vehicle fuel ·onomy and introduce or require use of non-petroleum fuels, while potentially valid in and of :mselves, further raise the financial risk associated with investment in additional capacity. Other

parts of the petroleum product supply system, including pipelines and terminals, have faced similar financial situations that have discouraged investment and have left us with limited capacity.

Assuring adequate capacity to meet future demand in an environmentally responsible manner in the longer term is not an easy matter but we must take on this challenge. In the short term, our choices are even fewer and any changes that have been proposed must carefully consider impacts on price and supply. Under this framework, I will take each of the three questions raised by the Committee in order.

Streamlining the Array of Gasoline Specifications

Concern has been expressed about the wide range of gasoline types used in the United States and their impact on system flexibility. In response to the National Energy Policy recommendations we are working with the Environmental Protection Agency in an interagency effort to examine the current situation surrounding what has come to be called "boutique fuels" and to explore possible alternatives. However, I think it is important to understand that the current situation of using different fuels to meet the differing air quality needs of various urban areas has economic benefits, at least at this time. Under this approach, areas that do not need the more expensive clean fuel do not have to bear the cost of that fuel.

Problems arise with this localized fuel approach when there is an upset in the supply system and fuel supplies need to be brought in from alternative sources that may not normally store or make the particular fuel needed. In the past, such as last summer in St Louis, EPA and the Department have dealt with these supply disruption situations by considering fuel supplier or state government requests to allow the sale of non-conforming gasoline (typically conventional gasoline) on an as-needed basis. This system has worked well and continuing it is certainly one option. Other approaches may be possible and will be considered as part of this NEP review of the "boutique" fuels.

In the meantime, we need to be sure that what we do to attempt to "fix" the perceived problems doesn't make the overall situation worse. For example, some stake holders have proposed a near-term move to widespread use of federal reformulated gasoline, or regional fuels, in lieu of the current mix of clean and conventional gasolines. While this might help make for a simpler distribution system, it would reduce the total volume of gasoline that today's refineries could produce and place significant additional investment requirements on refineries.

These changes and additional investments would have to be addressed at the same time refineries are making investments to meet important new fuel quality requirements for gasoline and diesel fuel. A loss of additional refining capacity is an almost certain result of such a near-term change. Again, a longer term change may be possible and will be considered in this NEP review.

State Limitations on Gasoline Additives

The Department has been involved for some time with EPA, other Federal agencies and state organizations like the Northeast States for Coordinated Air Use Management (NESCAUM) in addressing the issue of MTBE, an oxygenate used in clean gasoline formulation, affecting water supplies. This problem arises primarily from leaking underground gasoline storage tanks and there is an ongoing, federally-mandated effort to fix and upgrade most of these tanks. Individual states have made additional efforts to address these leaking gasoline tanks and their potential impacts on water supplies. However, some states have made the choice to resolve the problem by banning the use of MTBE in gasoline. This clearly is one option for addressing the problem and we can appreciate that some states, like California and New York, believe that it is the best option. However, we believe addressing these water quality concerns with near-term bans of gasoline additives represents a major threat to the adequacy of gasoline supplies in those states and potentially on a more widespread basis.

As refiners face additional requirements to meet even tighter clean fuel standards for their gasoline, ke the recently promulgated standards for Tier II low sulfur gasoline, and anti-backsliding toxic mission control requirements for conventional and reformulated gasolines, and address commercial

considerations like the Unocal patent, they will find oxygenates such as MTBE even more necessary and valuable to increase volume, make up for lost octane and address other property changes such as distillation characteristics. The availability of oxygenates also provides valuable immediate gasoline blending flexibility to refiners trying to meet tight product specifications; the oxygenates are aromatic-free, high octane, virtually sulfur-free blendstocks that can be put in almost any shipment of gasoline to offset performance shortfalls in other parts of the refinery. This is particularly true for MTBE which can be blended at the refinery, shipped in pipelines and which has little negative impact on vapor pressure. The effect of being able to readily blend even small amounts of MTBE into gasoline is to help assure product deliverability, reliable supplies and affordable gasoline prices to consumers.

If a sufficient number of States were to restrict use of MTBE, refiners and distributors might choose to remove MTBE from all gasoline to protect the fungibility of the gasoline distribution system and avoid even more "boutique" fuels. MTBE's contribution to gasoline supplies nationally is equivalent to about 400,000 barrels a day of gasoline production capacity or the gasoline output of four to five large refineries. Additionally, a loss of ability to use MTBE may also affect the ability of the US gasoline market to draw gasoline supplies from Europe, the major source of our price-sensitive gasoline imports, since those refiners widely use MTBE, albeit typically at lower concentrations than in the U.S.

Alternatively, gasolines with and without MTBE could be produced but with less flexibility and fewer exchange opportunities in the distribution system. In addition to the ongoing supply problems one could expect from trying to produce both reformulated and conventional gasolines without MTBE, regional refinery or distribution supply problems could lead to additional short-term difficulties under state-by-state bans. One would expect these situations to contribute to regional gasoline shortfalls and longer periods of price volatility as markets struggle to re-balance on a state-by-state basis. In addition, for Northeast states, which depend heavily on imported reformulated gasoline, MTBE bans and the subsequent need for special gasoline blendstocks for ethanol blending could be even more problematic.

EPA's Denial of California's Request for a Reformulated Gasoline Oxygenate Waiver

The first step in assessing the implications of the EPA decision to deny California's waiver request is to understand the full range of factors affecting California's gasoline supply and price. -California, like the rest of the nation, has experienced strong growth in gasoline demand.

- This has come at the same time that clean fuel standards were tightened to meet important air quality needs.
- These product quality requirements as well as limitations on the emissions from the refineries themselves have limited gasoline capacity and have contributed to closure of some of the economically weaker refineries.

Together with events in the broader world oil market, these factors have caused a severe tightening of the supply/demand balance in the California gasoline market. The unique nature of California's clean gasoline requirements and its distance from, and lack of ready access to, the major U.S. refining center in the Gulf Coast make outside supply of gasoline to California very difficult, further contributing to the higher and more volatile prices in that market.

It is against this background that California made its decision to eliminate MTBE from gasoline at the end of 2002 and to increase use of ethanol and other gasoline components produced outside the California refining system. With or without an oxygenate requirement for Federal reformulated gasoline in California, a very large amount of ethanol and other outside components will have to be used to meet California's quality and volume requirements. While an oxygenate waiver may have increased refinery flexibility at the margin, its affect would have been minor relative to the basic decision to eliminate MTBE and the pre-existing, very tight supply/demand balance that has developed in California.

The Department of Energy remains very concerned about our current and longer-term energy supply situation. We will continue to work with EPA and others to better understand the energy supply implications of all our actions and look for additional ways to improve the current capacity situation.

While we fully support the various clean fuel requirements that are necessary to achieve our air quality goals and we share a strong desire to protect the nation's water quality, we believe that it is important that these initiatives are implemented in a way that has the least negative impact on fuel supplies. As we move forward, the National Energy Policy provides important guidance and Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," will appropriately focus our attention on these impacts in future rule makings. Assuring adequate supplies of energy, gasoline in this case, in an environmentally responsible way and at reasonable prices to support continued , strong economic growth is a key goal of this Administration.

Mr. Chairman, that ends my testimony and I would be happy to answer any questions the Committee may have.

Thank you.

Date: June 21, 2001

Back to Previous Page>

CMS ENERGY *Fax Cover Sheet*

GOVERNMENTAL AND INTERNATIONAL AFFAIRS DEPARTMENT

Date : 6/20/01

Pages + cover : 1

To : Robin Johnston

Fax : (202) 586-8794

From : Lisa Kluskowski

Fax : (202) 223-6178

Phone : (202) 293-5794

Message : Hi, Robin. As requested, Bill McCormick and David Mengebier would like to meet with Secretary Abraham on July 11 or 12 for 30 minutes. They would like to discuss the Energy Policy. Please call me at your earliest convenience. Thank you! Lisa

If this transmission is illegible or incomplete, please contact Tasia Manson at (202) 293-5794.

** TOTAL PAGE.002 **

2001-014757 Jun 21 A 10:11

Professor Cutler J. Cleveland
Director, Center for Energy and
Environmental Studies
675 Commonwealth Avenue
Boston, MA 02215

Dear Professor Cleveland:

On behalf of Secretary Martinez, thank you for your letter of May 21, 2001, conveying the concerns of scientists about the direction of the nation's energy policy.

The Department of Housing and Urban Development is indeed concerned with the impact of energy costs on the housing we assist and with the use of renewable energy. But in response to your concerns about climate change, the potential use of nuclear power and drilling for oil and gas, we have referred your letter to the Department of Energy for their consideration.

Thank you for your interest in the Department's programs. Please let me know if I can be of further assistance.

Sincerely,

Donna M. Abbenante

Donna M. Abbenante
Acting General Deputy
Assistant Secretary

cc:
CAM CU Files 7233 DPVE R.Groberg 7250
DPV R.Broun/Chron 7240 AX-1 10139

DPVE:R.Groberg:dpr 6/13/01 (wordfile) Disk:Groberg HP Code:ProfClevelandNEP
CG 0327222

cc: James Solit, Director
Executive Secretariat
U.S. Department of Energy
Washington, D.C. 20585

28457

WASHINGTON COUNTY

June 22, 2001

President George W. Bush
White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear President Bush:

I am very supportive of your energy policy and of the expansion of oil drilling in the Arctic National Reserve. I think the American public has been snowed by the environmental community as to the harmful effects on the environment for such drilling.

I have a thought that may be helpful in presenting a different approach in getting public support. Your comments that this drilling can be done with environmentally sensitive methods or without harming the environment are true, but need more detail. I think they are seen as a ploy for big oil.

When we were in Juno, Alaska, about three years ago for Western Interstate Region meetings for the National Association of Counties, there was a presentation made that was very impressive to me, even though I already favored drilling for oil in the Reserve. This presentation started by recounting the methods of drilling used in earlier years when one well would be drilled straight down on a site that required up to forty acres for a pad, plus the roads that had to be built and so forth. They compared that method with modern technology where the roads built into the drill site are made by spraying water and forming a thick layer of ice. All drilling is done in the wintertime when things are frozen so that equipment can move around on the surface of the ground without causing any damage to the environment. When the spring thaw comes, the roads go away. Plus, at these smaller sites (I believe they indicated they were in the nature of four or five acres) they can drill multiple wells and, with directional boring, go up to two miles in all directions. They can recover oil from a great area with very little surface disturbance.

I was very impressed by this new technology and think if a greater number of Americans could be made aware of what these new environmental methods are, coupled with the fact of the great benefit to wildlife that the Trans-Alaskan Oil Pipeline has been, they would be much more in favor of expanded drilling.

28458

I would also encourage you to issue an Executive Order that would allow coal bed methane to be drilled and low sulphur coal mined in the Grand Staircase National Monument.

WASHINGTON COUNTY COMMISSION

Alan D. Gardner, Commissioner

ADG:gh
cc: Senator Frank H. Murkowski, Energy and Natural Resources Chair
Senator Robert Bennett
Senator Orrin G. Hatch, Judiciary Chair
Congressman James V. Hansen, National Resources Committee Chair
Congressman W. J. Tauzin, Chairman, House Energy & Commerce Committee Chair

Facsimile Cover Sheet

Washington Office
1015 Fifteenth Street, N.W.
Suite 700
Washington, D.C. 20005-2605 **Tele: 202-828-5200** **Fax: 202-785-2645**
Fax: 202-842-1691

Date: June 22, 2001

To: Judd Swift **Fax No:** 202-586-7573

From: Ted Garrish **Pages:** 4

If you do not receive any of these pages, please call me on (202) 828-5200.

MESSAGE

Dear Judd –

Tom Hash, President of Bechtel National, would like to come by to meet with the Secretary on a number of issues. (Please see the attached letter.) Could you give me a hand in arranging this? The best dates for us would be July 26 or 27th. I really appreciate your help.

Thanks for your help –

Ted

Attachment

TFH-01-272
June 21, 2001

Honorable Spencer Abraham
Secretary, Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

Dear Secretary Abraham:

For the purpose of introduction, I am Tom Hash, President of Bechtel National, Inc. (BNI). BNI is the engineering, construction, and environmental company of the Bechtel Group, headquartered in San Francisco, serving U.S. government, aerospace, commercial and foreign government customers with site management, project management, design-build, and environmental services. We are currently involved in several DOE activities including:

- The Environmental Restoration prime contractor at the Hanford site
- The EPC prime contractor for the Waste Treatment Plant facility at the Hanford site
- The M&O prime contractor at the Idaho Engineering and Environmental Laboratory
- The M&O prime contractor at the Nevada Test Site
- The Yucca Mountain prime contractor in Nevada
- The clean-up prime contractor for the Oak Ridge (TN), Portsmouth (OH), and Paducah (KY) sites
- The M&O prime contractor for the Bettis Atomic Power Lab in Pittsburgh (PA)
- A team member with Mid-West Research managing the National Renewable Energy Laboratory in Golden (CO)
- A team member with Washington Group at the Department's Savannah River Site
- A team member with BWXT managing both the Y-12 operation in Oak Ridge (TN) and Pantex in Amarillo (TX)

The Bechtel Group is also the nation's largest developer, engineer, and constructor of power plants, from fossil to renewable to nuclear.

I would welcome the opportunity to introduce myself and share with you some of the initiatives we have underway to leverage our multi-site DOE presence to provide greater value to DOE's EM and NNSA programs. I would also like to explore with you how Bechtel might help advance the new administration's energy plan.

BECHTEL NATIONAL, INC.

45 Fremont Street
San Francisco, CA 94105-1895 USA

mailing address P.O. Box 193965
San Francisco, CA 94119-3965 U

I have asked Dan Kennedy, a Vice President in our Washington office, to contact your staff to determine if you have any availability in late July. In the meantime, if you have any questions or concerns, feel free to call me at 415-768-1740. It is my hope that this meeting will begin an on-going dialogue that proves to be valuable to you and the Department.

Sincerely,

Tom Hash
President

dk/im

2001-014861 6/22 P 1:38

Thomas F. Hash

Mr. Hash is the President of Bechtel National, Inc., the high-technology subsidiary of the Bechtel Group of Companies. Bechtel Group is an organization with a century-long history in engineering, procurement, construction, and project management of complex projects and programs worldwide.

Bechtel National specializes in large, complex projects in the areas of defense, space, energy, security, and the environment. The company, whose principal customers are federal agencies and their prime contractors, manages and operates national laboratories and technology sites, conducts environmental remediation at military and nuclear installations, and is a leading provider of defense and space infrastructure. Bechtel National currently has 16,000 personnel working on some 50 projects worldwide.

After joining Bechtel National as principal vice president and manager of marketing and business development in 1996, Mr. Hash focused on expanding Bechtel's presence across the Department of Energy's national laboratories and increasing participation in Department of Defense facilities and range operations. Mr. Hash was named President of Bechtel National, Inc., in August of 1999 and was elected a Bechtel Partner in September of 1999. Under his leadership, Bechtel National was successful in winning the management and operations contracts for the Bettis Atomic Power Laboratory in Pittsburgh and the Idaho National Engineering and Environmental Laboratory in Idaho Falls, as well as the design, build, and operations contract for the chemical weapons destruction facility at Aberdeen Proving Ground in Maryland.

Prior to joining Bechtel, Mr. Hash was the President of Babcock & Wilcox's (B&W) Federal Services Company in Lynchburg, Virginia. He is nationally recognized for successfully building a customer-focused technical services company and managing its rapid growth. This achievement concluded a distinguished 26-year career with B&W.

He obtained his Bachelor of Science degree in Mechanical Engineering from Clemson University in South Carolina and earned a Masters in Business Administration from Lynchburg College, Lynchburg, VA.

Mr. Hash is married with three children.

Global Foundation, Inc.

A Nonprofit Organization for Global Issues Requiring Global Solutions, and forProblems on the Frontiers of Science

P.O. Box 249055
Coral Gables, Florida 33124-9055
Phone: 305-669-9411
Fax: 305-669-9464
E-mail: kursun@globalfoundationinc.org
Website: http://www.globalfoundationinc.org

The Honorable George Bush, President
United States of America
The White House
Washington , D.C.

June 25, 2001

Dear Mr. President,

At the end of the Conference *"Global Warming and Energy Policy"* of the Global Foundation in Miami, FL in December 2000, we sent you a letter pointing out the importance of paying attention to the issues that are involved with global warming.

We noted that carbon dioxide concentrations are rising on a time scale that is fast compared with the time span of human existence; and that world temperatures are also rising probably as a consequence. We urged the immediate attention of your administration to the consequences of these facts.

In our conference we pointed out that nuclear energy, which does not produce carbon dioxide, is poised to take over an appreciable fraction of world energy supplies, and that procedures are being developed to sequester carbon dioxide- perhaps at a coal fired power plant- so that reserves of coal might in a few years again be used.
The book containing the papers presented at the Conference, and the conclusions, have now been published and we now have the honor to present you with a copy.

Yours Sincerely,

Behram N. Kursunoglu
Chairman of the Board and President
The Global Foundation, Professor of
Physics, emeritus, University of Miami,

Richard Wilson
Mallinckrodt Research Professor of Physics
Harvard University

28464

STATE OF BAHRAIN

MINISTRY OF OIL

OFFICE OF THE MINISTER

دولة البحرين

وزارة النفط

مكتب الوزير

Ref. : ..... الرقم : .....

Date : 23rd June 2001 التاريخ : .....

2001-016307 Jul 9 p 12:08

Mr Spencer Abraham
Secretary for Energy
Forrestal Building
1000 Independence Avenue SW
Washington DC 20585
UNITED STATES OF AMERICA

Your Excellency,

I have received with great pleasure your letter, together with the copy of the USA's new "National Energy Policy", for which I extend my thanks and utmost gratitude.

I would like to take this opportunity to emphasise the importance we in this Ministry place on the fruitful relationship between our two countries, especially in the field of energy, and look forward to further enhancement of our mutual co-operation in the future.

Yours sincerely,

ISA BIN ALI AL-KHALIFA
Minister of Oil

THE WHITE HOUSE

WASHINGTON

TO	NANCY DORN ANDREW LUNDQUIST KAREN KNUTSON CANDI WOLF SECRETARY SPENCE ABRAHAM KYLE MCSLARROW DAN BROUILLETTE
CC	ZIAD OJAKLI
FROM	NICHOLAS E. CALIO
SUBJECT	MAJORITY LEADER DASCHLE LETTER
DATE	SATURDAY, JUNE 23, 2001

A letter regarding energy legislation from Majority Leader Tom Daschle is attached and requires a response. I assume Task Force will draft the response, but I thought everyone should see it.

Novetek Octane Enhancement, ltd

June 25, 2001

Mr. Spencer Abraham
Secretary of Energy
U.S. Department of Energy, AB-1
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Abraham:

I am writing this letter to you, the Secretary of Energy, in connection with the Report of the National Energy Policy Development Group.

President Bush indicated in his speech in Minnesota on May 17, 2001 that "the major reason for dramatic increase in gasoline prices today is the lack of refining capability." I have created a new technology designed to dramatically increase the efficiency of American refineries. Our studies conclusively proved that by using our technology the efficiency of refineries that turn oil into fuel would be increased by more than 20% while simultaneously decreasing the malignant effect of motor fuel exhausts on the environment. Our technology has been tested in laboratories and is ready to be used in refineries. A brief description of our technology is attached. We have also assembled the equipment with our technology, will deliver it to the United States shortly and it will be available for demonstration.

I would be happy to furnish to the Department of Energy all available documentation and studies that may provide additional information to experts regarding the technology and demonstrate the technology in action and would appreciate your assistance in this matter.

Please contact me at (212) 279-5421 with any questions regarding my proposal.

Sincerely,

Leonid Gandelman

Attachments

350 Fifth Avenue, Suite 1033 / NewYork, New York 10118 /
Tel: (212) 279-54-21, 279-50-34 Fax (212) 279-83-99

NOVETEK OCTANE ENHANCEMENT LTD.
350 5th Avenue
Suite 1033
New York, New York 10118
(212) 279-5421
(212) 279-8399 (fax)

INCREASE AND IMPROVEMENT OF PETROLEUM PRODUCTS

The Report of the National Energy Policy Development Group provides that the U.S. refining capacity has not kept pace with, and has begun to lag behind, the increasing demand for refined petroleum products, such as gasoline and heating oil, which demand currently exceeds our domestic capacity to produce them. The excess demand for petroleum products has been met by increased imports and U.S. dependence on imports of petroleum products.

Innovative Technology. Over the last five years, a group of Novetek Octane Enhancement Ltd. scientists have developed an innovative technology for improving the quality and increasing the amount of petroleum products.

The technological process in question is based upon an intensive ozonization of petroleum products with a simultaneous feed of prepared water and subsequent separation of the atomized mixture in different impulse electrical fields. We have manufactured a functional model of this technology with the capacity of 250 liters/hr and have been working with it for two years. During this period of time, we have performed plenty of trials and received plenty of positive results confirmed by laboratory tests and bench tests of the fuel carried out on an engine.

The technology uses ozone (out of the air) and water. A special ozonizer has been produced by Novetek Octane Enhancement Ltd. No chemical reagents are used. No rubbing parts are employed by the technology.

The water and fuel are heated to 70^0C and 80^0C, respectively.

Power consumption is 1.5 kW per 1000 liters.

Pressure in the system does not exceed 0.4 MPa.

Final Product. By adding 25 liters of water to 100 liters of diesel fuel, our technology produces 118-122 liters of the new, higher quality fuel. The remaining 3 to 7 liters represent the water that was not involved in the reaction, precipitated paraffins, hydroxides, the lightest carbohydrates (ethers), etc. Available samples of the new fuel preserved stability after one year of storage with no water separation occurring during the whole period.

Advantages of the Technology:

- increases the output of petroleum products by 18-22%;
- substantially improves the ecology of exhaust gases;
- reduces freezing by 8-10^{0}C;
- performs the conversion of sulfur and nitrogen-containing compounds;
- converts hydroxides into combustible compounds;
- converts polyaromatics into monoaromatics;
- increases the cetane number by 3-5 points;
- achieves a smoother operation of existing internal combustion engines;
- decreased the sulfurous compounds content; and
- increases environment safety and improves engine operation quality.

The suggested technology is unprecedented and unequaled throughout the world, as it uses ozonization and an electrical field to produce a new fuel, homogeneous in its composition and volume and essentially different from all existing water-and-fuel emulsions (WAFE) suggested by R.V. Gutterman (USA), Professor Isaev (Russia), and others.

The calculations for the scaling of the parts and designs for increasing the capacity of the existing technology 10, 20, 40, and 60 times are near completion. Technology payback is expected in approximately six to eight months.

Demonstration and Testing. The equipment based upon our technology is available for the demonstration and testing of products produced by it.

We shall be happy to submit the complete package of documents and answer all questions that might arise.

This technology, design and specific units have been patented and assigned to Novetek Octane Enhancement Ltd.

Novetek Octane Enhancement Ltd. has invested substantial efforts in designing an innovative technology that increases the refining capacity and provides for enhanced refined petroleum products. In the light of the Report of the National Energy Policy Development Group, we seek your assistance in directing the Secretary of Energy or other governmental agency to review our innovative technology in order to put it to its best use for improving the U.S. energy efficiency. Please contact Mr.Leonid Gandelman, President of Novetek Octane Enhancement Ltd., at phone number (212) 279-5421 or by fax at (212) 279-8399 with any questions you may have.

Sincerely,

Leonid Gandelman
President
Novetek Octane Enhancement Ltd.

VALIS ASSOCIATES

Secty. Spence Abraham —
This has been a huge plus for the President. My client will help, if asked —

Best,
Wayne

June 27, 2001

Memorandum For: Vice President Cheney

From: Wayne Valis

PS — Kyle is a prince among men — W

Subject: Support in the Midwest for the President's Energy Plan

---

First, heartfelt thanks for your outstanding presentation to the New Majority Society on Monday, June 11. The reaction to your luncheon remarks has been uniformly enthusiastic and positive. You've energized the coalition and have triggered deployment of its resources.

The EPA's recent decision to deny the California waiver has been a policy and political home run for the President in the Midwest and in the agricultural community. I'm attaching information I think you will find interesting. It includes some praise from parts of the environmental community - - somewhat of a rare occurrence. I hope the President can use this to get a little credit. I have also enclosed very positive quotes from Democratic and Republican Members - - as I said, a home run.

I only hope that Nick Calio and his fine staff or Karl Rove and his great troops will be contacting the Members and coalition groups quoted to seek support for the President's Energy Plan. The EPA's decision geometrically increased the value of the President's plan in the Midwest, and in other areas where ethanol is being produced (California, Washington, Mississippi, etc.)

My ethanol client, the Renewable Fuels Association (RFA), its board of directors, and its new leader Robert Dinneen, is prepared to assist the President. They want to be active - please advise.

Enclosures

CC: Karl Rove, Nick Calio, Secretary Abraham, Kyle McSlarrow, Administrator Whitman, Eileen McGinnis, Ari Fleischer, Larry Lindsey, Andrew Lundquist

1700 Pennsylvania Avenue, N.W., Suite 950 • Washington, D.C. 20006 • 202 393-5055 • FAX 202 393-0120

South Coast
Air Quality Management District
21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • http://www.aqmd.gov

Office of the Executive Officer
Barry R. Wallerstein, D.Env.
909.396.2100, fax: 909.396.3340

June 27, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

Comments on National Energy Policy Report

Dear Secretary Abraham:

The South Coast Air Quality Management District (SCAQMD) staff provides for your consideration the following comments on the May 16, 2001 National Energy Policy Report. Our goal is to help the U.S. Department of Energy (DOE) strengthen this document with positive and critical suggestions that will benefit both the people of Southern California and the nation at large. SCAQMD has a long track record of cooperative partnership and an excellent working relationship with DOE and other federal departments and agencies in advancing both environmental and energy goals that are mutually beneficial.

Background

The South Coast air district is home to about 5 percent of the nation's population and nearly half of the people residing in California. As the local agency responsible for air quality in Southern California, our agency has made groundbreaking efforts to provide clean, healthy air to all our residents while maintaining sound economic growth and vitality. While our job is not yet done, our efforts have produced remarkable advances in new technologies, emission control programs, regulatory initiatives, and other policies that clean up the air -- and make considerations for energy efficiency, energy diversity, fuel choices, and renewable energy sources.

Intent of Comments

The goals of your National Energy Policy have much in common with our air district's environmental goals and mandates set by federal law. In this letter, our comments will be directed primarily towards transportation sources, as they are by far the major contributors to our local air quality problems. We believe much can still be accomplished in this sector with adequate support from the federal government, and we highlight four specific areas deserving increased emphasis.

1. Strengthened Light-Duty Vehicle R&D. First, we encourage you to provide adequate funding for federal research and development (R&D) efforts for both light-duty and heavy-duty vehicle applications. While heavy-duty vehicle emissions and efficiency along with the health impacts of particulate emissions remain a significant concern to us, it is also important to seek improvements in light-duty vehicle efficiency and lower emissions, due to their strong and increasing presence in urban areas. R&D funds should be allocated to advanced technologies such as light-weight materials, alternative fuels such as natural gas and hydrogen, and new engine technologies such as electric hybrid vehicles to maintain the existing program thrusts and achieve the desired results. It is important to maintain a robust program so that the benefits of R&D are fully realized for both light-duty and heavy-duty applications.

2. Expanded Alternative-Fuel Support. Second, we believe that the nation must develop an effective multiple fuels strategy to serve our commitments towards energy independence, energy security, fuel diversity, and environmental protection. As you know, competition among fuels is beneficial for the public, the economy, and the environment. Therefore, we urge you to expand the alternative fuels program to address the needs of increasing variety of alternative fueled vehicles and engines. Natural gas infrastructure, hydrogen infrastructure, and battery storage technology are some areas in need of greater support for development of multiple fuel paths for transportation technologies. The South Coast District must have clean options to achieve federal Clean Air Standards.

3. Strengthened Fuel Cell Emphasis. Third, fuel cell technologies and hydrogen infrastructure hold some of the brightest hopes for energy security, energy diversity, and a clean environment, while serving the needs for economic growth. In California, DOE is participating in at least two private/public partnerships to bring fuel cell vehicles, technologies, and fuels to the people. More such partnerships and increased federal support are necessary to lower fuel cell cost, improve performance, and address infrastructure needs to produce, store, and distribute hydrogen.

4. Partnership in Offering Clean-Up Incentives. Lastly, strategies are necessary to overcome the high cost of initial production and other commercialization barriers encountered by manufacturers and vendors of new breakthrough

technologies. Fellow stakeholding agencies at the local and federal levels, such as DOE and SCAQMD, must work together to design attractive packages with appropriate regulatory requirements and incentives to address such issues. For example, SCAQMD has recently adopted a series of "Clean Fleet" rules designed to increase the demand for cleaner alternative fuel vehicles used as taxi cabs, waste-haulers, school buses, etc. At the same time, the SCAQMD has also made provisions for a number of voluntary credit generation rules that provide market incentives for voluntary actions that promote clean, efficient technologies. In this regard, tax exemptions and tax credits can be effective tools to address such commercialization barriers, when used in combination with regulatory requirements such as CAFE standards, which have not been utilized to their fullest in many years.

We hope that these comments are helpful as you deliberate on the appropriate course of action for the nation's energy policy. We would be happy to assist you in any way from our Southern California perspective, in keeping with our environmental responsibility and in view of our long-standing partnership with DOE and other federal departments and agencies.

Comments and questions regarding these matters may be directed to me or Dr. Chung Liu, Deputy Executive Officer, Science & Technology Advancement (909-396-2105; cliu@aqmd.gov). Thank you for your consideration.

Sincerely,

Barry R. Wallerstein, D.Env.
Executive Officer

CSL:AG

cc: Tom Gross, DOE

E:PomPom:DOEcomment6-01

2001-014661

The Secretary of Energy
Washington, DC 20585

June 28, 2001

Mr. Joe M. Allbaugh
Director
Federal Emergency Management Agency
500 C Street, S.W.
Washington, D.C. 20472

Dear Mr. Allbaugh:

The National Energy Plan provides an excellent roadmap for addressing the long-term energy concerns of the Nation. The Department of Energy is developing a detailed strategy to support the Plan and accomplish its many recommendations in a timely manner. We are not only addressing those areas where we are the agency of prime responsibility, but also those areas where we support other agencies.

The Plan tasked the Federal Emergency Management Agency (FEMA) as the lead Agency to prepare for potential energy emergencies in two areas where we believe this Department can be of assistance. The two areas are:

- working with States' Offices of Emergency Management and using the Regional Incident Report System;
- using the structure of the Federal Response Plan to conduct Regional Interagency Steering Committee (RISC) meetings for states affected by the energy shortfalls.

The Department has been actively working to resolve potential California energy emergency problems this summer and stands ready to assist FEMA in any way possible. I want to update you on several initiatives that may prove beneficial to your efforts.

First, DOE formed an energy emergency task force in early May to address the California energy crisis and also to look at other geographic areas of concern around the country. Major General John McBroom, USAF (Ret.), heads this task force and has briefed the Catastrophic Disaster Response Group (CDRG). Additionally, we have provided the California Office of Emergency Services with briefings and staff assistance visits.

Second, there have been several meetings and workshops with key State and industry leaders and RISC representatives in California and elsewhere. These meetings have been designed to open lines of communications and provide a forum for infrastructure interdependencies discussions. Our task force is prepared to provide information and analysis to support your RISC outreach and planning efforts.

Third, the Department is involved in many other efforts to help California address its energy problems. Our efforts have been as far-reaching as reducing the Federal Government's electricity consumption; to promoting conservation by residential electricity consumers; and speeding electrical connections between generators in Mexico and Canada to the California grid.

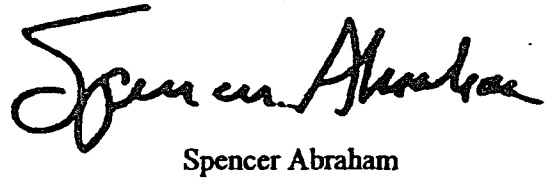
Finally, we are currently working with industry to ensure energy companies' computers are protected from security breaches. This is particularly timely, given the recent hacking incident involving the California Independent Systems Operators, the prime controllers of the California electrical grid.

I would like to suggest that, given the importance of close collaboration between your Agency and this Department, our key staffs meet soon to discuss the California energy situation before the CDRG meeting with the State's Office of Emergency Services on July 12, 2001.

This Department is ready to support you in any and every way as you tackle the energy emergency tasking in the Plans.

If you have further questions, please do not hesitate to contact me or General McBroom at (202) 586-9892.

Sincerely,



Spencer Abraham

JUN 29 2001

430 Poindexter
Plano, TX. 75094
June 26, 2001

Senator Phil Gramm
United States Senate
Washington, D.C.

JUN 29 2001

Dear Senator Gramm:

Attached is an article from the *Dallas Morning News* June 25, 2001. The article by J. Coopersmith a Texas A&M teacher states that the United States was the predominate producer of oil from 1895 through 1948 and that we were a major producer through the 1960's. But those days are gone. We now have only 2% of the worlds known reserves and 66% of the worlds known reserves are in the Middle East. J. Coopersmith goes on to say that there is no way we can become energy independent or even close to it so long as we maintain our heavy dependence on oil.

I have had family members in the oil business since in 1950. From time to time I have asked them about our ability to produce appreciably more oil and they have always told me the same story Mr. Coopersmith is saying in the attached article. We, in the United States do not have this resource anymore.

I am surprised by the stand the administration has taken on an energy policy. I was expecting a policy to emphasize conservation and a shift to other fuels, natural gas and coal. But first, conservation. It is my understanding we do have lots of natural gas and coal but very little oil.

To have established this energy policy the administration must have different information or ideas than Mr. Coopersmith and than I have been hearing from people I know in the oil business for the last 30 years. I don't understand how anyone can expect to find appreciable more oil in the United States when conventional and professional wisdom has said for years that it's not there.

I believe conservation should come first and I see many opportunities.

1. The use of florescent lights opposed to incandescent lights that use 4 times as much energy.

2. Develop and use mass transit as opposite to individual cars.

3. Demand higher fuel efficiency for cars.

4. Improve and expand the use of rail transportation for both freight and passengers. It costs 1/9 as much energy to move freight by rail as it does by truck.

5. Electrify our rail systems. Coal or natural gas can generate electricity and we have an ample supply of these fossil fuels.

And I have a question. In the energy debate I have often heard the phrase, "clean coal technology". Is this a reality now or a plan for the future? And how clean is the proposed "clean coal", compared to natural gas?

Thank you for your time;

A. F. Delaloye

Federal policy should encourage new automotive technologies

The reasons for our growing dependence on foreign oil aren't, as some have proclaimed, onerous government regulations and petty bureaucrats. The reality is that geology and a century of exploitation here have made foreign oil far cheaper to produce than American oil.

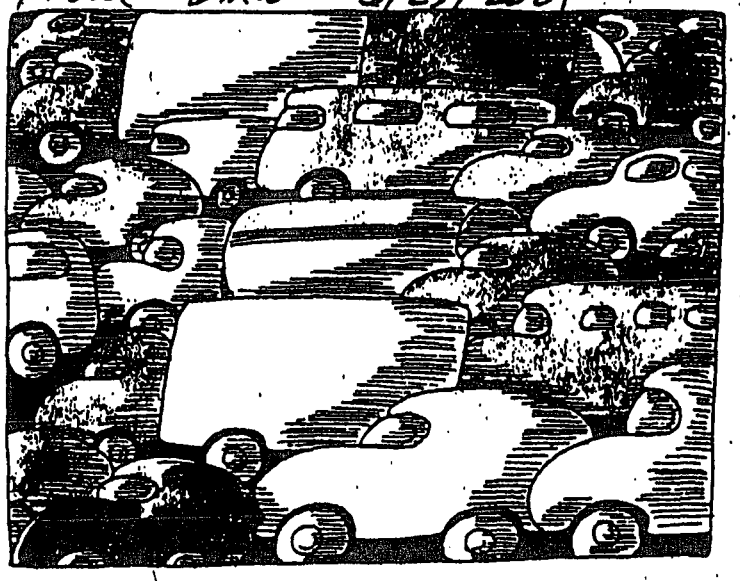
JONATHAN COOPERSMITH

The United States contains only 2 percent of the world's known oil reserves (22 billion barrels) compared with 66 percent in the Middle East (660 billion barrels). Saudi Arabia now can produce a barrel of oil for a few dollars; the break-even point for Texas oil is more than $15. In a truly free market, cheap Middle East oil would decimate domestic American production.

From 1859 through 1948, the United States exported more oil than it consumed. When World War II ended, we produced two-thirds of the world's petroleum. But production in other parts of the world grew quickly. By 1968, the United States produced less than a quarter of the world's oil. Today, we produce only a tenth but consume a quarter of the world's output.

Why does dependence on imported oil matter? Economically, approximately a third of our trade imbalance is due to oil imports. Politically, the major oil-producing regions aren't necessarily bastions of stability. Revolution or war in the Middle East can upset the flow of oil, dragging the United States and the rest of the world into a recession. That happened with the 1973 Arab oil embargo and the 1979 Iranian revolution and nearly happened with the 1990 Iraqi invasion of Kuwait.

What does that mean for American energy policy? Essentially, we can increase supply or reduce demand. The problem with increasing domestic drilling is that the large "elephant" oilfields are gone. They were drilled generations ago in the outpouring of production that made America the world's oil colossus.



Margaret Scott

Opening new offshore and Alaskan sites to drilling would yield only a few million barrels a day — 10 percent to 15 percent of current production. Any large increase in production can come only from outside the United States. Even the latest Republican proposal would reduce American dependence on imported oil from 56 percent today to 50 percent by 2010.

Reducing demand is more promising. The easiest way of doing that is increasing the efficiency of motor vehicles, which consume most of the nation's oil. Improve fuel efficiency, and you reduce consumption.

One positive change since 1973 is that several new technologies are on the verge of technical and — equally important — economic feasibility. The two most promising are hybrid systems and fuel cells. The first adds an electric motor to improve fuel efficiency; the second replaces the internal combustion engine completely.

Two Japanese hybrid vehicles — the Toyota Prius and Honda Insight — already are on the market. American car manufacturers promise to follow suit soon. Even more exciting, cars powered by fuel cells will enter the market within a few years.

Nor are powerplants the only promising area. A focus on efficiency can redesign the entire car, based on new technologies and materials. Amory Lovin's Rocky Mountain Institute is designing a full-size sedan, the Hypercar, with a goal of achieving 100 miles per gallon, a fourfold increase from today's cars (and 10 times more efficient than a big SUV). Similar efforts could encourage the consumption of natural gas, a clean fuel that America has in abundance.

Federal policy should aggressively encourage the development and deployment of hybrid systems and fuel cells. Creating market incentives by altering the tax code is the easiest and most economically efficient way of encouraging car makers to build and consumers to buy new, more efficient vehicles.

To cries that this is government interference in the market, the appropriate reply is that the government has fixed the playing field in favor of petroleum for nearly a century with depletion allowances, royalty arrangements and other benefits that transferred tens of billions of dollars to oil companies. Now, it is time to level the playing field.

More efficient vehicles would benefit the United States not just by reducing oil consumption and reducing pollution. Taking advantage of new technologies would enable American firms to sell cars for the 21st century domestically and worldwide. The economic potential is great.

Investing in conserving oil — by increasing efficiency — promises much greater and quicker returns than increasing production. Reducing demand will be easier than increasing supply. American energy policy should reflect those geological and economic realities.

Jonathan Coopersmith teaches the history of technology at Texas A&M University.

2001-016437 Jul 10 A 9:43

The Secretary of State for Industry July 2, 2001

Mister Secretary:

Thank you for sending me a copy of the "National Energy Policy" Report, elaborated by President Bush and the National Energy Policy Development Group.

I congratulate you on the quality of the analysis that was realized, and I have no doubt that the U.S. will benefit. I was especially interested in the issues of energy security and the preservation of the environment, which are short and long-term public policy concerns. I have also noted the recommendations favoring nuclear power as an environmentally clean source.

I hope that this report will bring to the U.S. Government the material and the arguments required to implement an appropriate energy policy.

I ask you to believe, Mr. Secretary, in the assurance of my distinguished consideration.

Christian Pierret

Translated by Phil Seiser
Office of the Executive Secretariat

28479

République Française

Le Secrétaire d'Etat à l'Industrie

N/Réf. : I/2001/30364/GV/BD

Paris le - 2 JUIL. 2001

Monsieur le Secrétaire,

J'ai bien reçu le rapport "National Energy Policy" élaboré pour le Président George BUSH par le National Energy Policy Development Group, et je vous en remercie.

Je vous félicite pour la qualité de l'analyse ainsi réalisée dont je ne doute pas que les Etats-Unis d'Amérique sauront tirer profit. J'ai été particulièrement intéressé par les développements concernant la sécurité d'approvisionnement et la préservation de l'environnement qui sont des préoccupations de court et long terme auxquelles les pouvoirs publics doivent se consacrer. J'ai noté également les recommandations en faveur du nucléaire qui est une source d'énergie ne contribuant pas à l'effet de serre.

Je souhaite que ce rapport puisse apporter au Gouvernement des Etats-Unis la matière et les arguments pour mettre en place une politique énergétique appropriée.

Je vous prie de croire, Monsieur le Secrétaire, à l'assurance de ma considération distinguée.

With my best regards.

Christian PIERRET

Monsieur Spencer ABRAHAM
Secrétaire à l'Energie
Washington, DC 20585
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Brussels, 12 -07- 2001
CABBUSQPB(01)D/1444

Mr. Spencer Abraham
Secretary of Energy
Department of Energy
Washington, DC 20585
United-States of America

Dear Mr Abraham,

Thank you very much for your letter of May 17, 2001 explaining the key considerations of the US energy policy and for the enclosed *National Energy Policy Report.* I fully appreciate the importance of this report, as the starting point for the United States' engagement on energy policy at home and abroad, and as a possible basis for mutual cooperation.

As a global issue of increasing importance, energy is given special emphasis in our transatlantic dialogue. The United States and the European Union are confronted by the challenges of energy supply security, liberalization of energy production and distribution, energy cost and competitivity and climate change. The US and the EU have been giving similar answers to many of those challenges: energy supply is addressed through the development of more efficient technologies exploiting national and renewable energy sources, the strengthening of associations with major energy producers around the world and the preservation of diversity in energy choices. Nevertheless, some issues, like climate change, also need common answers. The Göteborg meeting gave us the opportunity to recognize that this is the most urgent global environmental challenge and a threat to future well-being and economic progress, requiring strong leadership and efficient action to significantly reduce greenhouse gas emissions by the industrialized countries.

I therefore welcome the opportunities to strengthen our partnership by undertaking together research and development for the implementation and further development of climate friendly technologies, market approaches and other innovative solutions. The renewal of our nuclear fusion agreement and the implementing agreement relating to research and development in non-nuclear energy open the way for co-operation between energy R&D communities of both sides of the Atlantic. Indeed, our collaboration in research areas such as fossil energies, climate change, fuel cells and new energy sources such as hydrogen, solar energy and, with a long term view, fusion will be advantageous for everyone.

OFFICIAL RESPONSIBLE : Mr H. Bruhns (tel : +32 2 295 79 23)

Let me again thank you for your visit in Brussels in May, which allowed us to have a fruitful exchange on common points of interest in energy research policy.

Yours sincerely.

P. Busquin

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July 2, 2001

The Honorable Richard B. Cheney
Vice President of the United States
Eisenhower Executive Office Building
Washington, DC 20500

Dear Mr. Vice President,

The Engine Manufacturers Association is an organization of 29 of the Nation's premier engine manufacturers. We move the country, build its roads, cultivate its crops and, more recently, have been part of the solution to the electricity supply shortages in the West.

The Association supports and applauds the Bush Administration's efforts to address this Nation's long-term energy needs. The President has produced a visionary, comprehensive and far-reaching energy policy and the EMA agrees with its overall goals and objectives. The enclosed paper offers our comments on several recommendations included in the National Energy Policy Development Group's report in which the Association has particular interest and expertise.

The EMA supports the President's Executive Order directing federal agencies to review the energy impacts of regulatory actions, particularly with respect to emissions standards and mandates restricting fuel or energy technology options. We agree that tax credits and other incentives are effective tools to promote fuel efficiency and environmental protection. The EMA advocates using such market-based mechanisms to retire older model commercial diesel trucks in order to accelerate the introduction of cleaner, more efficient vehicles into the commercial fleet. We believe that a stable regulatory structure, clear national goals, market-based incentives and a level playing field are all critical components of a sound comprehensive energy policy.

Of particular importance in an efficient and reliable energy system is the expanded use of distributed generation. Increasingly, our Members supply on-site and emergency electric generation to improve reliability, add supply during times of shortage to reduce the risks and frequency of blackouts, and keep businesses, homes and critical energy users such as hospitals functioning despite inadequate electricity supplies, transmission and volatile prices.

As the need for our product and demand for it has mushroomed, we want to be sure that you are armed with the information necessary to understand how we can contribute to the Nation's energy supply. And we want you to have the facts about concerns that have been raised

on the emissions and potential health effects from increased use of these critical power supply options. We're proud of our products and believe they contribute to energy supply, cleaner air and energy efficiency. We are part of the long-term solution. And, we also stand ready to help in the short term.

We hope that our comments on the President's energy policy and the enclosed update on back-up generation will be of use to you and the National Energy Policy Development Group. We stand ready to assist you with more information if necessary. Please feel free to call on us.

Sincerely,

Rita Castle

Rita Castle
Chair, EMA Public Policy Group

Enclosures

Cc: ✓Andrew Lundquist
Karen Knutson

ENGINE POWER...MEETING OUR NATION'S ENERGY AND TRANSPORTATION NEEDS

Recommendations on Implementing the National Energy Policy Review
June 2001

Prepared By:

Engine Manufacturers Association
Two North LaSalle Street
Chicago, Illinois 60602

The Engine Manufacturers Association (EMA) is an international membership organization representing the interests of manufacturers of internal combustion engines. EMA's members make the engines that power the world's transportation, portable equipment, and distributed generation infrastructure including construction and farm equipment, locomotives, marine, trucks and buses, lawn and garden equipment, and electrical generators. Working with government, customers, and the public, EMA is committed to reducing emissions and improving energy efficiency through application of enhanced technology.

ENGINE POWER...MEETING OUR NATION'S ENERGY AND TRANSPORTATION NEEDS

Recommendations on Implementing the National Energy Policy Review

As the Bush Administration and Congress develop a national energy policy, U.S. engine manufacturers and the products they produce can play a critical role in meeting our energy challenges. Engines power the transportation systems and provide the energy to meet the demands of our nation's economy. Engines impact virtually every aspect of our lives, from farming and electrical power generation to powering oil and gas exploration and distribution to operating lawnmowers and other hand-held devices.

The U.S. engine manufacturing industry comprises over 30 companies employing over 600,000 people with approximately $30 billion in annual sales. Combine the sales of those who use the engines to build commercial products and you have an estimated $150 billion in annual sales. And approximately one-third of the $ 30 billion in agriculture and construction equipment manufactured in the U.S. each year is exported, contributing to a favorable balance of trade and preserving more than 84,000 American jobs.

In reviewing the National Energy Policy Report prepared by the National Energy Policy Development (NEPD) Group, the Engine Manufacturers Association (EMA) agrees with the overall goals and objectives contained in the report. Following are EMA comments on several recommendations of particular interest to the Association and for which the engine industry has particular expertise.

- **Executive Order directing federal agencies to include a review of adverse energy impacts from regulatory actions.**

Federal regulatory actions can adversely affect energy supplies and efficient use of natural resources. Federal actions, particularly those dealing with environmental protection, need to provide a balanced approach that considers energy use and efficiency. Unnecessarily strict emissions standards or mandates restricting fuel or technology options may eliminate or restrict more efficient energy production technologies and negatively impact the nation's energy resources. Such consequences should be considered by federal regulatory agencies to ensure that energy efficiency and conservation goals are not sacrificed.

In particular, when setting emissions standards for new engines, EPA should be required to consider the impact such standards would have on:

Fuel efficiency and economy
National fuel demand and long-term supplies
Increased costs of fuel prices and distribution
Use of the most fuel-efficient technologies

Cumulative impacts on energy output per unit of fuel consumed, and
Impact of actions on fuel distribution and pricing.

Stringent triggers and criteria should be established for when an agency must complete a formal energy analysis, and risk-based assessments should be used to justify regulations that have a significant adverse impact on the nation's energy equation.

- **Development and implementation of programs to encourage increased energy efficiency through combined heat and power (CHP) projects.**

CHP projects provide the opportunity to increase energy production in an efficient and effective manner. Such projects can increase energy production by utilizing energy resources that would otherwise be wasted. The development of CHP should be encouraged by implementing flexible environmental regulation and ensuring that appropriate and realistic emissions credits are given to CHP projects.

- **Secretary of Energy to establish a national priority for improving energy efficiency and recommends the expansion of tax credits for fuel-efficient vehicles.**

Tax credits and other incentives are appropriate mechanisms for the federal government to encourage industry to improve fuel efficiency and for consumers to purchase fuel-efficient vehicles. Market-based incentives are preferable to regulatory mandates or other directives that limit or exclude certain technologies or fuels.

Federal and state policies have in the past often promoted alternative fuels and new technologies to the exclusion of existing options such as compression ignition engines. Compression ignition engines provide a very energy efficient power source for the nation's transportation infrastructure as well as advantages in reliability, durability, and cost. Emerging emissions control technology can assure low emissions as well.

Energy and environmental policies need to assure a place for compression ignition engines in the mix of technology options and provide a level playing field to promote technological improvement and advances. Any incentive package must ensure that the incentives are fuel and technology neutral. Appropriate and realistic fuel efficiency goals should be established that do not restrict the innovation and technology of America's engine and vehicles manufacturers. Such incentives, combined with EPA's national emissions standards, will promote energy conservation, technology improvement, and environmental protection.

EMA Recommendation: Heavy-Duty Truck Retirement Program:

There are 22 major metropolitan areas across the United States that are in non-attainment with the ambient air quality standards set by the EPA. EPA and

CARB have established stringent new NOx and particulate (PM) standards for new diesel truck engines beginning in 2004 (2002 for consent decree companies) and near zero emissions standards in 2007. However, it will take several years before the full effects of these new standards on air quality are realized because of the slow turnover in the heavy truck fleet. EPA has also established a voluntary diesel retrofit program to partner with States, operators, and manufacturers to promote reductions from current vehicles and is considering financial incentives including "tax credits." CARB also plans to retrofit all commercial diesel vehicles over the next 10 years by methods yet to be defined.

Today there are approximately 1.5 million pre-1988 model diesel commercial trucks in operation. Nearly 700,000 of these are large (class 8, >33,000 lbs GVWR), accounting for 20% of all vehicles in use. In addition to emitting nearly 3 times the NOx and 10 times the PM levels of today's modern diesel powered trucks, these vehicles are approximately 25% less fuel-efficient than current models.

The Engine Manufacturers Association strongly supports a federal program to provide financial incentives to retire and recycle pre-1988 commercial diesel trucks to accelerate the introduction of fuel efficient, low emitting vehicles into today's commercial fleets. This program, focusing on small fleets and owner-operators with up to 5 vehicles, would provide a tax credit for the retirement of pre 1988 heavy duty engines or vehicles (over 8500 lbs GVWR) that are replaced with 1994 or later model year engines with EPA approved upgrades, where applicable. In order to realize the greatest benefits related to emission reductions and increased fuel efficiency, priority should be given to replacing heavy-heavy duty class 8 engines and trucks.

- **All federal agencies will be directed to use technological advances to better protect the environment**

Technological advances in engine design and emissions controls will result in continued fuel efficiency improvements and reduced emissions. The Administration can best promote such advancements through a stable regulatory structure, clear national goals and objectives, incentives to industry for continued improvements, and funding research and development initiatives. In the latter category, the Administration should recommend full funding of the Advanced Petroleum Fuels Development project jointly being developed by the Department of Energy and industry.

- **The development of comprehensive electricity legislation that promotes competition, protects consumers, enhances reliability, promotes renewable energy, and improves efficiency**

An important element in an efficient and reliable energy system is the expanded use of Distributed Generation (DG). In the short run, DG can provide needed power to reduce demand on strained electrical grids relying on centralized power production. The regulatory structure and grid system should allow the use of all available DG sources, including generators powered by internal combustion engines, to meet emergency demands. Federal, state, or local emissions regulations should not restrict or prohibit the use of DG to alleviate local or regional power shortages or the need to provide power to maintain essential services or economic activity.

In the long term, DG provides excellent options for improving the economic efficiency, reliability and capacity of the electricity supply. Federal, state, and local regulations need not only to allow DG sources to provide electricity to the power grid, but should promote and encourage the development of DG.

Diesel, natural gas and gas turbine engines play a major role in providing supplemental and prime power to meet our energy needs. These engines, collectively known as internal combustion engines, are the fastest-selling, lowest-cost distributed generation technology in the world today. Ranging from 0.05 kW to 6.5 MW, these engines can be used in substations and small municipalities, as well as commercial, industrial, institutional, and even residential applications. They offer low capital costs, easy start-up, proven reliability, good load-following characteristics and heat recovery potential. Power generation applications could include continuous or prime power generation, peak shaving, back-up power, premium power, remote power, standby power and mechanical drive use. Reciprocating engines make up a substantial portion of the combined heat and power (CHP) or cogeneration market.

Of the three engine types, diesel engines are the most fuel efficient, durable, reliable and affordable source of distributed power. Most stand-by and emergency power generation is provided by diesel engines, ranging from hospitals with critical patient care needs, to public safety demands for emergency communications and maintaining our air traffic control system, to keeping our e-commerce on line and functioning for its global customers. However, environmental constraints on the use of diesel engines to meet increasing demand for electric power are a concern and need to be carefully evaluated.

EMA Recommendation: The Engine Manufacturers Association strongly believes that a national energy plan must include a level playing field to maximize the use of all fuels and technologies. Providing environmental relief or incentives to only one fuel or technology jeopardizes the ability of states and municipalities to deal with their energy demands in the most cost-effective, and energy efficient manner.

- **The increased use of renewable and alternative energy sources including programs to promote consumer choice of renewables, federal tax incentives for biomass fuels, and development of hydrogen and fuels cells.**

Alternative and renewable sources of energy hold long-term promise to alleviate the nation's reliance on foreign petroleum sources, and it is appropriate for the federal government to fund research, provide incentives, and promote the development and use of such fuels. In doing so, the continued use of incentives and market-based programs should be encouraged as opposed to regulatory mandates. In addition, efforts to promote alternative and renewable fuels need to consider the technical and cost impacts of such programs. It will be important to work with industry on such matters, particularly the use of alternate fuels in existing engines and vehicles to assure that any alternate or renewable fuels do not adversely impact reliability, durability, and energy efficiency.

- **Direct the EPA to study the issue of state or boutique fuels and their impact on the environment and fuel distribution, price, and availability.**

To assure an economically viable manufacturing and transportation infrastructure, it is important to develop and maintain nationally applicable fuel standards. This is critically important for mobile sources that operate on a national or international basis and routinely cross state boundaries in everyday commerce. National fuels and emissions standards allow refineries and engine and vehicle manufacturers to economically produce products acceptable for use throughout the country. The proliferation of state or regional differences in fuels or emissions standards jeopardizes the ability of manufacturers to produce suitable products and raises the cost to consumers and the nation.

It is appropriate to review the impacts of state-based fuel standards as well as boutique fuels mandated by federal regulation. Such regional or local fuel specifications have a significant impact on manufacturing costs, distribution, and availability. Geographically or temporally restricted fuels also affect manufacturers and users because of concerns regarding misfueling. EPA needs to consider such consequences in its reviews and consistently strive to discourage requirements for regional or boutique fuels. Yet, it is important to preserve and embrace the air quality benefits available from low emission fuel formulations and to provide these benefits to all American citizens by the widespread availability of such fuels.

ENGINE POWER...MEETING OUR NATION'S ENERGY AND TRANSPORTATION NEEDS

Extended Use of Back-Up Generators to Meet Short-term Power Needs: A Review of Key Issues

June 2001

Prepared By:

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The Engine Manufacturers Association (EMA) is an international membership organization representing the interests of manufacturers of internal combustion engines. EMA's members make the engines that power the world's transportation, portable equipment, and distributed generation infrastructure including construction and farm equipment, locomotives, marine, trucks and buses, lawn and garden equipment, and electrical generators. Working with government, customers, and the public, EMA is committed to reducing emissions and improving energy efficiency through application of enhanced technology.

Extended Use of Back-up Generators to Meet Short-term Power Needs

Back-up and emergency generators are in place throughout the country to meet the needs of communities, industry and the public. Back-up generators are designed to maintain electrical power for critical functions and services such as police and fire departments, hospitals, plant safety systems, and emergency/disaster relief equipment to ensure that these life-saving functions continue when electrical power is unavailable. Back-up generators also protect against economic loss by providing needed power to maintain business or manufacturing operations and are critical to protect large economic losses and hardship in a number of industries including oil, chemical and manufacturing sectors, and computer/e-commerce operations.

Back-up generators are not simply a convenience but are often a regulatory requirement. State and local health, building, and safety laws require the installation of back-up generators and define required performance specifications that include start-up time, reliability, and independence from fuel sources that may be disrupted (e.g., natural gas lines or storage tanks).

When power outages occur, whether from natural disasters, equipment failure, or a lack of generation capacity, government, industry, and the public rely on back-up generators to supply their power needs, save lives and avoid economic losses. Although back-up generators can be powered by spark-ignited engines fueled by gasoline or natural gas, diesel-fueled compression ignition engines are the predominant choice to fulfill the back-up and emergency power needs of the public due to inherent advantages in meeting the required reliability, durability, and instant response capabilities.

The prospect of planned power outages has raised the question of whether these back-up generators can and should play a greater role during an energy emergency such as currently being experienced in California and possibly in other states. A current issue is whether to use the existing generation capacity from back-up generators to take up a portion of the electrical load during Stage 3 emergencies and prevent a blackout from occurring. If organizations and business operations that have back-up generators were permitted to activate those generators during a Stage 3 emergency, the potential power saved might be sufficient to shed enough demand from the grid to avoid a forced outage. This would have a tremendous positive outcome for the public in terms of safety, convenience, and economics. Any time outages can be avoided, substantial benefits will be realized.

Given the positive impact that back-up generators have on health, safety, and the economy, the only opposition to implementing such a program stems from a concern that increased usage of back-up generators will increase emissions and potentially impact air quality. Although this concern is not trivial, the simple fact is that the benefits of using back-up generation to avoid blackout situations far outweigh any potential short-term incremental increases in emissions from the use of these generators.

The benefits of using back-up generation capacity to prevent planned blackouts include:

- Maintaining essential safety systems and services
- Avoiding immediate life-threatening situations
- Avoiding deaths/hospitalizations due to loss of air conditioning
- Reducing potential crime during blackouts
- Avoiding traffic congestion and gridlock
- Avoiding inconvenience to millions of citizens
- Avoiding loss of business activity and income
- Preventing production of scrap and ruined goods
- Preventing losses associated with operating disruption and recovery
- Minimizing capital expenditures for new short-term prime generation.

On the other side of the equation, the only potentially negative impacts of using back-up generators to maintain grid integrity are short-term increased generator fuel costs to those asked or required to run their generators and minor increases in emissions. Such costs will have less economic impact than costs associated with the blackouts that will be prevented. For that reason, businesses are likely to embrace the opportunity to maintain normal operations compared to planned or unplanned shutdowns caused by a lack of power.

Environmental groups and some state air regulators have argued that allowing the use of back-up generators will have a negative impact on air quality and cause public health problems, particularly from diesel-fueled generators. They contend that emissions from these generators are uncontrolled and that serious air quality problems will result. A review of the facts, however, demonstrates that these allegations are unfounded.

In developing policy regarding the use of backup generators, decision-makers should consider the following:

- Emissions from back-up generators are controlled and must meet US EPA emissions requirements for non-road engines.

Emissions standards for diesel-fueled non-road engines have been in effect since 1996 to control NOx, CO, and PM emissions. Accordingly, a substantial percentage of existing generators meet or exceed the Tier 1 NOx standards of 21.4 lbs/MW-Hr and newer engines meeting Tier 2 standards (in effect for some engines this year) must meet a 14.9 lbs/MW-Hr level. Emissions certification test results demonstrate that NOx emissions are on the order of 16-20 lbs/MW-Hr and PM emissions are 0.12 to 1.2 lbs/MW-Hr. Rather than being uncontrolled, back-up generators are meeting increasingly stringent federal and state emissions standards.

- The operation of the back-up generators will not significantly increase air pollution in a state.

In its Diesel Risk Reduction Plan, the California Air Resources Board (ARB) estimated emissions from diesel back-up generators throughout the state. Based on an estimated annual average operating duration of 50 hours per year, the total statewide emissions from all generators were 2757 tons/year of NOx and 138 tons/year of particulates. (Diesel Risk Reduction Plan, Appendix II, Table 2, Page II-13). The 2001-Almanac of Emissions and Air Quality (Table 3-1), published by the ARB indicates that total NOx emissions from all sources in CA were 1,303,050 tons/yr and PM10 emissions total 844,245 tons per year in 2000. Current emissions from back-up diesel generators represent about 0.2% of annual NOx emissions and 0.02% of PM10 emissions in the state. These totals do not even consider tradeoffs and impacts of potential increases in NOx and PM emissions if the generators are not used. For example, power outages will affect traffic signals and cause traffic jams and congestion that will increase emissions from idling and slowly moving cars and trucks.

Accordingly, even if total emissions from all back-up generators were to triple when run during emergencies, they would still make up an insignificant portion (less than 0.6% NOx and 0.05% PM) of total emissions for the state. Operating back-up generators to avert blackouts will simply not cause any material change in statewide NOx or PM ambient concentrations or ozone levels.

- The health effects of increased PM emissions would be negligible.

In California, the ARB approved Diesel Risk Reduction Plan indicates that diesel PM concentrations are on average 1.8ug/m^3 statewide, significantly below California's established reference level of 5ug/m^3 – a level at which no health effects are expected, even to sensitive subpopulations. The minor additions of diesel PM from back-up generators will not significantly affect ambient concentrations. Thus, no health effects can be expected from the minor increase in PM emissions.

Some opponents have also indicated that increased diesel PM emissions will increase cancer risk. Some have apparently claimed that cancer risk would increase by 50%. First, the relationship used to associate levels of diesel PM concentrations with increased cancer incidence, the so-called unit risk factor, used by California and other states to make projections of cancer risk is invalid. The US EPA, the Clean Air Scientific Advisory Committee, and national experts including the author of the definitive study on diesel emissions, Dr. Eric Garshick, have agreed that current epidemiology evidence is insufficient to identify any quantitative relationship between diesel PM and increased lung cancer incidence. Second, even if one uses the invalid unit risk factor, any increase in diesel PM from operation of back-up generators will be minimal. The ARB risk calculations are based on a continuous exposure to diesel emissions for 70 years, 365 days per year. The short-term duration and low concentration of diesel PM emissions from back-up generators during Stage 3 type situations would not have any effect on risk levels even if they were based on otherwise valid assumptions.

In sum, the overall impact on air quality of running back-up generators during Stage 3 alerts will be negligible. Indeed, when viewed in relation to the significant positive impacts that result from avoiding blackouts, the advantages of allowing extended use of back-up generators are overwhelming. The resulting minor increases in NOx and PM emissions will have no noticeable impact on ambient air quality or human health in a state and will be more than offset and compensated for by the substantial health and welfare benefits resulting from avoiding power disruptions and blackouts.

OFFICE OF ENERGY EFFICIENCY
AND RENEWABLE ENERGY

Facsimile Cover Sheet

To: ANDREW LUNDQUIST From: CAROLYN WALLACE

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Phone Number: _____ Phone: (202) 586-9220

Number of pages (including cover): 2

Comments: Please let us know your response so that we can close this out of our Executive Secretariat also. Thank you.

7/2 5:00pm
Meagan called to say Lundquist has spoken to Congressman Combest to let him know he could not meet

Courtesy Translation

Berlin, July 6, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.

Washington, D.C. 20585

Dear Mr. Abraham:

Thank you for your letter of May 17, 2001 with the enclosed *National Energy Policy* Report.

You and I have already had the opportunity of meeting for initial discussions in Washington and Paris. We agreed on a continuation of this exchange of views, also among our experts. Germany's own Energy Report, to be published in September, will provide additional stimulus for this exchange, and I will notify you as soon as the report is available.

I am very pleased to see that you attach particular importance to international cooperation. The meeting of G-8 Energy Ministers, which you are kind enough to arrange, will give such collaboration added impulse.

We are in agreement on the basic goals of energy policy, such as supply security and reasonably priced energy supplies. Just as the United States, Germany is also emphasizing more competition and liberalized markets, diversification of supply sources, and dialogue with producer countries.

But we are putting particularly strong accents on energy conservation, the rational use of energy, and the employment of renewable forms of energy. I would therefore welcome a German-American information exchange especially on energy conservation and renewables, also keeping in mind the environmental challenges we face.

I look forward to continued intensification of our energy policy dialogue and thank you again for the speedy notification of your energy policy plans.

Sincerely,

(signed:) W. Müller

BUNDESMINISTERIUM FÜR WIRTSCHAFT UND TECHNOLOGIE
DER BUNDESMINISTER

Berlin, 06. Juli 2001

The Honorable
Mr. Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, SW

Washington, DC 20585

Sehr geehrter Herr Abraham,

für Ihr Scheiben vom 17. Mai 2001 und die Übersendung des Berichts über die "Nationale Energiepolitik" der USA danke ich Ihnen herzlich.

Wir hatten in Washington und Paris bereits Gelegenheit zu einer ersten Diskussion. Eine Fortsetzung dieses Meinungsaustausches auch zwischen unseren Fachleuten haben wir verabredet. Zusätzliche Anregungen für diesen Meinungsaustausch werden sich aus unserem eigenen Energiebericht ergeben, der im September erscheinen wird und von dem ich Sie dann auch unverzüglich in Kenntnis setzen werde.

Ich begrüße es sehr, dass Sie der internationalen Zusammenarbeit einen besonderen Stellenwert zumessen. Das Treffen der G-8-Energieminister, das Sie freundlicherweise arrangieren wollen, wird dieser Zusammenarbeit einen zusätzlichen Impuls geben.

In grundlegenden energiepolitischen Zielsetzungen wie z. B. der Versorgungssicherheit und Wirtschaftlichkeit der Energieversorgung stimmen wir überein. Auch Deutschland setzt auf mehr Wettbewerb und liberalisierte Märkte, auf Diversifizierung der Bezugsquellen und Dialog mit den Lieferländern.

11019 Berlin

Telefon: (030) 20 14 - 76 00
Telefax: (030) 20 14 - 70 30

Einen besonders starken Akzent legen wir allerdings auf Energieeinsparung, rationelle Energieverwendung und die Nutzung erneuerbarer Energien. Einen deutsch-amerikanischen Informationsaustausch speziell zur Energieeinsparung und erneuerbaren Energien würde ich deshalb sehr begrüßen, auch im Hinblick auf die umweltpolitischen Herausforderungen, vor denen wir heute stehen.

Ich freue mich auf eine weitere Vertiefung unseres energiepolitischen Dialogs und bedanke mich nochmals für die rasche Unterrichtung über Ihre energiepolitischen Absichten.

Mit freundlichen Grüßen

Department of Energy
Washington, DC 20585

July 6, 2001

Mr. Red Cavaney
President and Chief Executive Officer
American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005-4070

Dear Mr. Cavaney:

Thank you for your letter of May 23, 2001, to Secretary Abraham in which you express your concern over the present energy issues confronting the United States, and for informing the Department of your constructive efforts in raising these issues with your membership.

As you know, President Bush's National Energy Policy (NEP), presents the Administration's pathway to address many of the issues discussed in your letter. The goals of the NEP as they relate to your member industries are to: maintain or improve the environmental benefits of State and local clean fuel programs while increasing the flexibility of the fuels distributions infrastructure, improve fungibility, and provide added market liquidity; provide regulatory certainty, and streamline the permitting process; and consider the cumulative impacts and benefits of rules to ensure that America has adequate refining capacity.

The Department is participating in efforts to achieve the goals of the NEP and is currently working with the relevant agencies in evaluating the New Source Review program, "boutique fuels," the Mobile Source Air Toxics rule, energy system impacts of an MTBE ban, and reevaluating the implementation strategy of the on-road diesel rule. For your further information, I am attaching recent testimony of Mr. Robert Card, Undersecretary of Energy, to the Senate Energy and Natural Resources Committee, on these and related topics.

We appreciate your input on these important issues affecting energy markets and look forward to any additional input your members may have in the future.

Sincerely,

Margot Anderson
Acting Director
Office of Policy

Attachment

Harding, Todd

:	Dandy, Majida
Sent:	Friday, July 06, 2001 1:50 PM
To:	Harding, Todd
Subject:	FW: NEPD Meeting Change

Subject: Meeting Change

The NEPD Group Principals Meeting has been moved to Friday, July 13th from
2:00 - 3:00 in the Vice President's Ceremonial Office.

Again, one staff member can accompany their principal to this meeting. Please send the name of your representative, in a reply email, prior to July 13th so they can be granted access to the building.

Thank you,

Andrew Lundquist

2001-016412

July 9, 2001

The Honorable Spencer Abraham
Secretary of Energy
US Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Secretary:

My purpose in writing is to make a recommendation concerning the administration's National Energy Policy. I speak as-a citizen and as someone with expertise in the policy area.

During President Bush's recent visit to the DOE I had the good fortune to introduce myself. For the last three months I have been building the EIA new international energy model (MARKAL) that forecasts emission rates for greenhouse gases and also analyzes the current policies of developing Asian economies, most notably China's.

President Bush's visit of June 28, 2001 to the DOE was uplifting for all of us on staff. The way you frame the challenges at hand and engage the public provides us with a model of leadership that is, to my mind, of critical importance. According to Professor Ron Heifetz of Harvard, leadership does not call for a technical fix, but rather the courage to give the problem back to the community.

So here we are. You have in the Energy Information Agency an outstanding independent endeavor that analyses energy better than anyone. Since it works like a consulting firm, its success depends on secure financial support. In short, a more generous funding package will work for the benefit of the country, as well as for EIA. It means that we at EIA need never resort to compromising the quality of our work.

With respect Mr. Secretary, the Administration policies ensure that our country is well prepared in facing the energy challenges of the day. I cordially wish you and your team every success.

I recommend a substantial increase to EIA's budget, and look forward to your response.

Sincerely yours,

Aloulou M. Fawzi
Economist
US Department of Energy/EIA
Office of Integrated Analysis and Forecasting, EI-81

Cc: Randa Fahmy Hudome, Senior Policy Advisor, International Affairs, Office of the Secretary
Mary Jean Hutzler, Acting Administrator, Energy Information Administration

28503

STATE OF ARKANSAS
OFFICE OF THE GOVERNOR

2001-017132 7/17/01 3:15pm

Mike Huckabee
Governor

July 10, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Abraham:

I too am concerned with the energy issues addressed in your letter of May 8, 2001. Future energy supplies, sources and demands must have top priority in our planning. Although natural gas will continue to play a major and increasing role in our energy needs, our energy policy should include a multifaceted approach to providing for our future energy needs – an approach the President has included in his proposals. Such an approach must include improving conservation, supporting research and development of energy technologies, developing renewable resources, expanding energy infrastructure, encouraging environmental protection, streamlining regulatory considerations and increasing energy awareness education.

Arkansas' oil and gas regulatory agency, the Arkansas Oil and Gas Commission, works closely with the Interstate Oil and Gas Compact Commission (IOGCC) to accumulate and report oil and gas production statistics. Our process, though laborious, is being improved with the implementation of a new data management system. Different states use different systems and methods to archive this same data; due to the shear volume of data, accurate and complete figures are typically six months in arrears. Arkansas would certainly support efforts to speed up this process, as we agree that up-to-date and accurate data is desperately needed to project current energy availability as well as future reserves.

The Energy Information Administration does a tremendous job of making this data available once it is collected from the states. The Department of Energy, the IOGCC and the Energy Information Administration can with the cooperation of state oil and gas regulatory agencies compile timely and accurate oil and gas production information. The State of Arkansas will gladly assist to address this need.

As the recently appointed Chairman-elect of the IOGCC, I look forward to working with all stakeholders in our energy needs now and in the future. The coming years will most certainly be

State Capitol Building, Suite 250 * Little Rock, AR 72201 * mike.huckabee@state.ar.us
501-682-2345 * Fax 501-682-1382 * TDD 501-682-7515

28504

challenging, and I share your interest in maintaining our economic growth and planning now for the role ample and affordable energy will play in our nation's future.

Sincerely yours,

Mike Huckabee

Mike Huckabee

MH:gb:mw:al

cc: Ms. Christine Hansen, Executive Director
Interstate Oil and Gas Compact Commission

Mr. Grant Black, Director
Arkansas Oil and Gas Commission

SUNOPTICS

SKYLIGHTS

THE NATURAL LIGHT FIXTURE

July 10, 2001

Spencer Abraham
The Secretary of Energy
Member, National Energy Policy Development Group
1000 Independence Ave. S.W.
Washington, D.C. 20585

RE: RDD&D Program Daylighting Funding Comments
National Energy Policy Long-term Strategy

Dear Mr. Abraham:

I recently sent written comments to the Office of Energy Efficiency and Renewable Energy addressing the RDD&D Program Daylighting Funding. The comments were in response to the recently-released National Energy Policy Report submitted to the President by the National Energy Policy Development Group.

As a member of the National Energy Policy Development Group, here's a copy for your information. Please share these comments with your colleagues.

Thank you for your consideration.

Sincerely,

Jerome Blomberg

Jerome Blomberg

Enclosure

6350 27th Street
Sacramento, CA 95822
916/395-4700
800/289-4700
FAX 916/395-9204
www.sunoptics.com

RDD&D DAYLIGHTING FUNDING

The following written comments by Jerome Blomberg are to be included with the public comments gathered at the seven regional meetings in the month of June by DOE Office of Energy Efficiency and Renewable Energy.

Energy is abundantly available everywhere from coal, oil, natural gas, tide, wind, bio-mass, geo-thermal, and solar etc. The central issues to implementing these resources are: what are the capital requirements and what is the environmental impact? Capital and time are the real shortages.

Daylighting with skylights should have separate funding in the RDD&D program. Daylighting with skylights admittedly fits into the Building Equipment and Materials program, the Commercial Buildings Integration program, the Community Energy Program, the Energy Star Program, the Residential Buildings Integration program, State Energy Programs, and the Solar Technologies Program. For daylighting to find its rightful place in all those programs it should be separated out, with its own funding.

The following discussion will make my case on the significance of daylighting buildings with skylights to replace electric lighting.

Daylight is less than half as hot as efficient electric lighting.

Daylighting buildings can replace electric lighting 70% of the daylight hours.

Daylighting with skylights is a low cost, proven technology that can be broadly implemented today.

Daylighting buildings with skylights can often return the extra cost of installing the skylights in less than two years.

Daylighting is the most efficient use of the sun's energy as it uses it directly. There are only minimum losses getting the light into the building and spread evenly.

Daylighting existing single story buildings in the State of California could reduce peak demand by approximately 1200 megawatts.

Daylighting buildings creates no greenhouse gases, and pollutes no air or water.

RDD&D DAYLIGHTING FUNDING

Daylighting improves human performance.

WAL*MART Stores should be the poster child for Corporate America's energy efficiency programs. About 5 years ago WAL*MART started daylighting their SuperCenters. They liked the results and today every new WAL*MART store is daylighted. The SuperCenters require about 220 5'x6' double glazed skylights. The stores are designed to optimize the skylight benefits at minimum installed cost. To assure the energy benefits, a dimmable florescent lighting system with switching is included in the design. Depending on the store's location each skylight can save from 2,500 to 3,000 kWh per year.

WAL*MART's annual energy savings from their daylighted stores is in excess of 250,000,000 kWh. With continuing construction of new stores these savings will grow every year. WAL*MART's energy efficiency program not only benefits it's stockholders but benefits all of society by reducing its electricity requirements during the utilities peak demand by 100 megawatts. Acrylic skylights continue to function well, after 40 years of service with no maintenance, so it is very conservative to estimate the cost of replacing a kWh of electricity over 25 years. When you do the math, the cost of a kWh replaced over 25 years is just over $0.005. We would all like to own a power plant that requires no fuel, needs no maintenance, does not pollute the air or water, creates no greenhouse gases and replaces a kWh of electricity for $0.005. WAL*MART has a 100 megawatt plant like that scattered over its many daylighted stores.

Using WAL*MART as an example, it costs about $350 to replace one kW of electric lighting energy. Using the same sun as the skylight, a photo-voltaic array large enough to generate one kW of electricity would cost between $6,000 and $10,000. This is 17 to 28 times more expensive to do almost as much as the skylight. After the photo-voltaic array generates the electricity, there are transmission losses and lamp and ballast losses. The light produced has a limited spectrum and is twice as hot as the daylighting system. To get a clearer picture of the significance of how we find solutions for our energy requirements, daylighting is like $25 a barrel oil and generating electricity with photo-voltaics is like $400 to $700 a barrel oil. On a recent television program, S. David Freeman (Governor Davis's chief energy advisor) stated that California will buy down the cost

of photo-voltaic installations at the rate of $4,000 per peak kW. At that rate WAL*MART, which saves more than 100,000 kW using the same sun as a photo-voltaic system, should receive a **$40,000,000** incentive. That is approximately ten times WAL*MART'S cost of installing the daylighting.

There are many who advocate photo-voltaics as a way to achieve a sustainable energy future, or to reduce pollution and greenhouse gases but they stand mute when they could support daylighting buildings in our energy efficiency codes or in research to extend the use of this great renewable resource. With the use of new automated control strategies, skylights can be used to substantially reduce or eliminate the need for combustion or electric heating in high mass residential buildings, in many areas of the United States. More research and analysis needs to be done in this area.

How society uses it's capital to achieve an efficient energy economy is important. The use of electricity is far greater on a summer afternoon than at 2:00 a. m. Research funding and energy efficiency incentives should be targeted to products and strategies that flatten peak demand. Daylighting buildings with skylights does exactly that. California's Governor Gray Davis, in a recent CNN interview, stated that California had an energy efficiency incentive program that will pay half the cost of a new energy efficient replacement refrigerator to any Californian who was willing to help California solve its energy shortfall. These energy efficient refrigerators will save about 50 watts per peak hour, that's about 450 kWh spread out over 8760 hours per year. This is a terrible use of taxpayer funded incentive money, (if it was ever made available) because it ignores the importance of shaving peak demand. Compare it to a WAL*MART skylight that saves 2500 kWh annually and takes 800 to 1000 watts per hour off peak demand, for 70% to 80% of the peak demand hours.

I truly believe that separate RDD&D funding would give the most return for the investment. By funding daylighting separately the research and recommendations can be distributed through the seven other programs in which daylighting should be included. It is very important that policy makers understand the great opportunity daylighting has in any renewable energy or energy efficiency programs that are developed, for there are collateral benefits with daylighting of greater economic value than the energy saved.

RDD&D DAYLIGHTING FUNDING

There are two very detailed studies that investigate the relationship between daylighting and human performance. These studies were submitted by the Heschong Mahone Group to George Loisos of Pacific Gas and Electric Company on behalf of the CALIFORNIA BOARD FOR ENERGY EFFICIENCY THIRD PARTY PROGRAM. The studies were for two types of buildings that had sufficient comparable daylighted and electrically lighted buildings to give a statistical accuracy to a 99% certainty.

The study, "DAYLIGHTING in SCHOOLS" was done in several school districts that had both electrically lighted and daylighted classrooms with comparable curriculum and grading methods. The study indicated that students progressed 26% faster in reading and 20% faster in math, in other words students learned 26% and 20% more in a semester. That is like adding nearly two months to the school year without having to heat or cool the classroom, pay the janitor or the teacher.

The study titled "SKYLIGHTS and RETAIL SALES" was done in a small retail chain with a little over 100 stores. All the stores were approximately the same size, carrying the same merchandise, with all policies, pricing and advertising coming from a central office. Two thirds of the stores were daylighted with skylights during the day and one third were lighted with electric light only. The study, was reviewed many times to be sure that all the variables were included in their analysis. The results astounded everyone, the statistical analysts could find no other reason than daylighting for the 40% more sales in the daylighted stores than in the stores that were electrically lighted only .

Both studies are available at the Heschong Mahone Group web site, www.h-m-g.com.

The Sacramento Municipal Utility District daylighted their new headquarters building to practice what they preached: Reduce electric peak and save energy. They found that the daylighting improved employee attendance with a value of $250,000 annually, far larger than the $56,000 savings in reduced energy use.

With a limited budget for RDD&D, put the money where it will do the most good, in the shortest time. This is a success story ready to happen. It is time for the Department of Energy to get on board and get the credit. Daylighting buildings should be standard practice for most single story buildings. Separate RDD&D skylight funding can make it happen.

Congress of the United States

Washington, DC 20515

491474

July 11, 2001

The President
The White House
Washington, D.C. 20500

Dear President Bush:

We are writing to express our concern regarding the National Energy Policy Development Group (NEPD) recommendation to support the Baku-Ceyhan pipeline and its assumed commercial viability.

Despite its proclaimed multiple pipeline policy, the Clinton Administration exclusively promoted the Baku-Ceyhan pipeline, the viability of which many experts question. In Cato's recent Foreign Policy Briefing *The Great Game, Round 2: Washington's Misguided Support for the Baku-Ceyhan Oil Pipeline*, Stanley Kober notes that the pipeline "far from promoting U.S. interests in the region, undermines them." Another report by the *Carnegie Endowment for International Peace* reinforces Cato's conclusion that the Baku-Ceyhan pipeline is not commercially viable and notes that pursuit of this pipeline only "exacerbated tensions between the United States and Russia and did little to advance U.S. interests. Given this analysis, we believe that the United States should take a more balanced approach to energy resources in the Caucasus.

As you may know, the proposed Baku-Ceyhan pipeline route originating in the Azerbaijani capital of Baku and terminating at the Turkish port of Ceyhan via Georgia, explicitly bypasses Armenia at the insistence of Azerbaijan. The demands by Azerbaijan to bypass Armenia come despite the knowledge that a trans-Armenia route is the most reliable, direct and cost-effective route, and certainly one of the most tangible actions in support of regional integration and cooperation. It has been estimated that a pipeline from Baku to Ceyhan that traverses Armenia would save approximately $600 million over the current proposed route.

Exclusion of one country in regional projects only fosters instability. The United States should make it clear that Armenia must be included in regional and trans-regional economic plans and projects. Without east-west transportation and commercial corridors, Armenia is forced to orient its strategic and trade policies on a north-south basis for its survival and continues to be isolated from the economies of the west. The United States must not acquiesce to Azerbaijan's demands to exclude Armenia from all east-west commercial corridors and energy routes. If the Caucasus region is to move forward, we must ensure that all countries move forward together at the same time. Choosing winners and losers in the Caucasus will not promote regional stability, economic integration and peace.

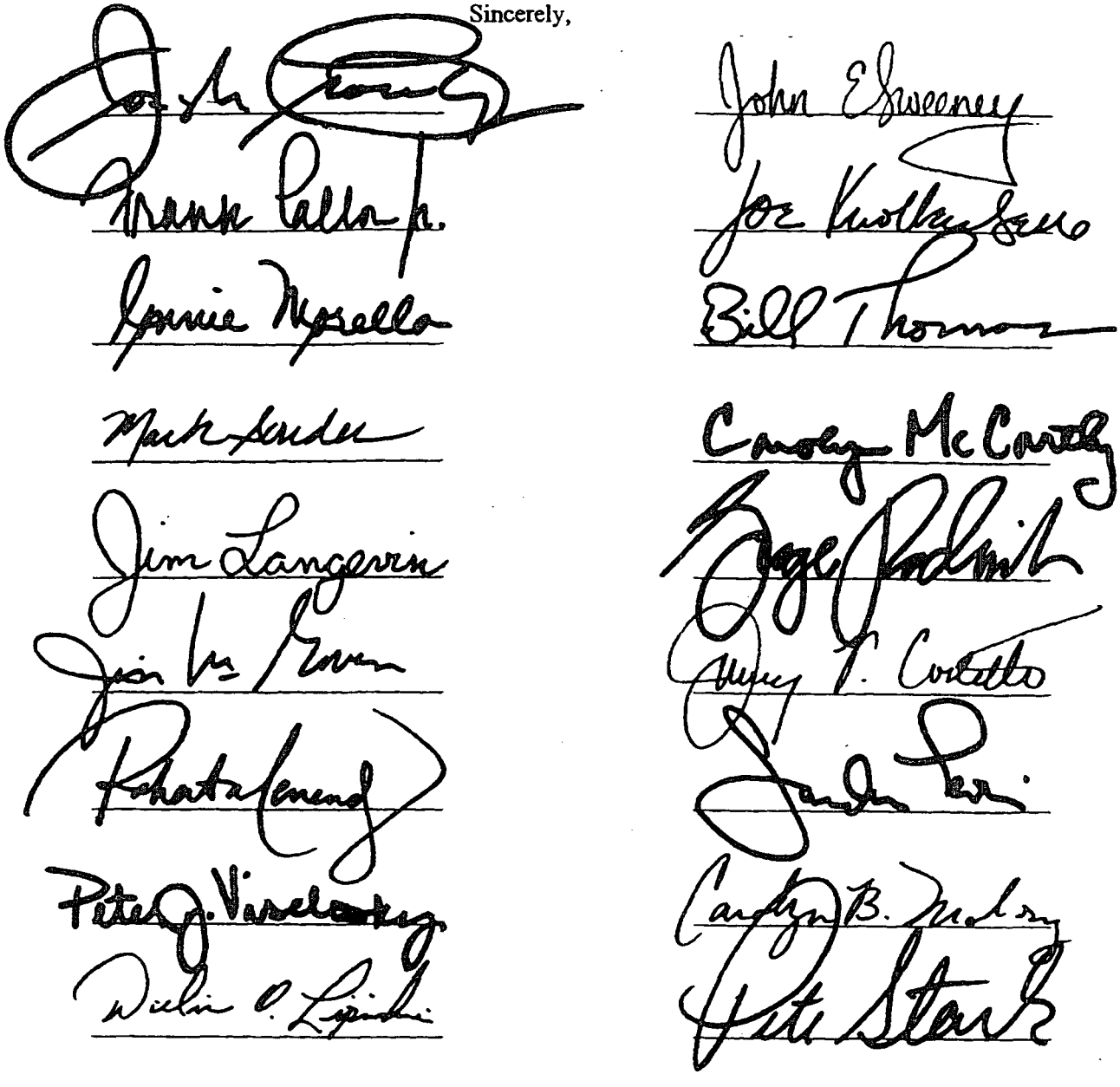
Secretary of State Colin Powell has stated that Armenia's integration into international institutions remains a priority for the United States. However, continuing the prior Administration's policy of unilateral acceptance of Azerbaijan's demands that the pipeline bypass Armenia runs counter to U.S. policy objectives for the region and only serves to further isolate Armenia. Armenia's exclusion from regional economic and commercial undertakings in

28511

the South Caucasus hinders U.S. policy goals of promoting regional stability based upon the development of strong political, economic and security ties among all countries of the Caucasus and the United States. Therefore, we believe that Armenia, which represents the most reliable, direct and cost-effective East-West oil and gas pipeline route, must not be excluded.

We strongly urge you to reexamine the NEPD Group's recommendations regarding the Caucasus and review all current and future oil and gas pipeline routes, as well as other east-west commercial corridors and regional development projects, to ensure that all countries of the South Caucasus are included.

Sincerely,



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2001-011775

The Secretary of Energy
Washington, DC 20585
July 11, 2001

The Honorable Ralph Goodale
Minister of Natural Resources Canada
Ottawa, Canada K1A 0E4

Dear Minister Goodale:

Thank you for your letter of May 1, 2001, regarding our two recent meetings and the overall importance of United States-Canada energy relations. I appreciate your perspective on the energy issues facing our two countries and agree that, in many areas, we face similar challenges. I look forward to our continued and enhanced collaboration on bilateral activities and on our newly formed North American Energy Working Group with Mexico, as well as in the global arena.

The Administration, as outlined in our National Energy Policy, supports a practical, market-based approach that encourages the adoption of more efficient technologies including natural gas, clean coal, nuclear, and renewable energy technologies.

Encouraging greater diversity of energy production and, as appropriate, transport facilities is a worthwhile goal with obvious benefits to all. Our goal is to provide a secure and stable energy supply not only for the United States but for the region as well. The Report of the National Energy Policy Development Group also underscores the high priority we place on our energy partnership with Canada. The Report recognizes the important shared environmental and economic benefits of Atlantic Canada natural gas, endorses the importance, to both our countries, of Northern Gas development, and views the continued development of Canadian heavy oil as a pillar of North American energy security.

I agree with your recommendation for expanding and deepening our cooperation, including through our Memorandum of Understanding (MOU) on vehicle fuel efficiency and alternative transportation fuels. I understand that preparations are underway for meetings in Canada this October to discuss new areas of cooperation. In preparation for the October meeting under the MOU, my Office of International Affairs will begin to identify possible areas of cooperation. We recently signed an implementing arrangement in fossil fuels, which we should now actively pursue.

Our departments are working toward a joint conference, tentatively scheduled for September 2001, on transportation fuels research and development. The National Energy Policy is an important step for the United States, and we look forward to working with Natural Resources Canada on issues of mutual concern.

Jeffrey K. Skilling
President & Chief Executive Officer

Enron Corp.
1400 Smith Street
Houston, TX 77002-7361

P. O. Box 1188
Houston, TX 77251-1188
713-853-6894
Fax 713-646-8381
jeff.skilling@enron.com

July 12, 2001

The Honorable Spencer Abraham
Secretary of Energy
U.S. Department of Energy
Forrestal Building
1000 Independence Ave. SW
Washington, DC 20585-1000

Dear Mr. Secretary,

It's clear to me that the time for a rational discussion on this country's energy policy is long overdue. That's why I'm writing to invite you to participate as a guest commentator at an energy scenarios forum this fall. This event will only yield solutions if we have true representation of the diverse range of opinions on this complex subject. It's time we come together to create a dialogue around the future of the U.S. energy environment and the recent events in California – no matter how much our opinions differ. I think you'll agree that we don't need any more empty rhetoric. We need solutions.

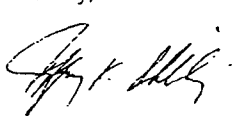
The forum, **"U.S. Energy Policy at a Crossroads: Alternative Futures for the Current Energy Crisis,"** will be held at The Ritz-Carlton just outside of **Washington, DC** on **October 3-4, 2001.** We want to bring together some of the country's leading thinkers and stakeholders to actively explore the real scenarios that affect us all. While certain members of the press are invited, the discussions on October 4 will be entirely off the record.

Don't expect a traditional meeting. Enron has engaged a third party global information solutions firm—Intellibridge Corporation—which uses simulation techniques at conferences all over the world. We will use them to explore the impact of energy supply, markets and regulatory policies.

That's where you come in. Given your high profile in advocating the new Bush energy plan as well your well-known ability to assimilate a range of perspectives, I would be honored if you would add your point of view as a featured commentator for the Differing Visions of America's Energy Future, from 7:00 - 9:00 p.m. on Wednesday, October 3. These are moderated discussions in which guest commentators are called upon to speak multiple times and invited to participate throughout the entire program. Please note that the preliminary program agenda is attached and includes names of a number of commentators who have not yet confirmed.

I very much hope you'll join us for this important event. Please call (202) 298-7946 if you have any questions. We'll be in touch with your office in the next few days to discuss your participation.

Sincerely,



U.S. ENERGY POLICY AT A CROSSROAD: ALTERNATIVE FUTURES FOR THE CURRENT "ENERGY CRISIS"

PRESENTED BY ENRON IN PARTNERSHIP WITH INTELLIBRIDGE CORPORATION

October 3-4, 2001
The Ritz-Carlton Hotel, Pentagon City, Arlington, VA

WEDNESDAY, OCTOBER 3

5:30-7:00 p.m. — **Cocktail Reception and Registration for Delegates**

7:00-9:00 p.m. — **"Differing Visions of America's Energy Future"**
A keynote address followed by a dinner conversation with a panel of leading policy makers:

- Richard B. Cheney, Vice President of the United States
- Spencer Abraham, Secretary, Department of Energy
- Jeffrey K. Skilling, President & CEO, Enron Corp.
- Bill Richardson, Former Secretary, Department of Energy
- Gray Davis, Governor, California
- Dianne Feinstein, California, Committee on Energy and Natural Resources

THURSDAY, OCTOBER 4

7:30-8:30 a.m. — **Continental Breakfast and Registration for Delegates**

PLEASE NOTE: OPENING AND CONCLUDING PLENARY SESSIONS WILL BE OPEN TO THE GENERAL PRESS. IN THE INTEREST OF CANDOR, ALL OTHER SESSIONS WILL BE OFF THE RECORD WITH PRESS PARTICIPATION BY INVITATION ONLY.

8:30-9:30 a.m. — **Opening Plenary Session:** "Markets vs. Regulation: Finding the Proper Mix"

Featured Remarks: Pat Wood, Commissioner, FERC

9:45-11:45 a.m. — **Scenario Session I**
Scenario A - The Crisis is Contained. Anticipating the Next Challenge: Under this first scenario, natural gas and electricity prices continue to subside. Public concern fades as energy prices gradually decline. The crisis remains contained to California. Hydro conditions improve during Winter 2001, and other western states are able to manage any emerging supply problems. Potential trouble states in other regions, like New York, manage to install enough capacity and alleviate

transmission constraints, both in gas and electricity. Efforts to mitigate the energy crisis overachieve in some regions. The nation's energy supply mix shifts slightly in response to policy changes.

Scenario B - Crisis Worsens, Spreads to Other States: Efforts to mitigate California's electricity crisis prove insufficient, or even exacerbate the problem. Shortages worsen in the Pacific Northwest, and Desert Southwest, pinching import-dependent California even further. Neighboring states refuse to export to California. Other resource supply shortages emerge as well: Natural gas prices surge, sharing of water resources between California and the Pacific Northwest become a serious point of contention. California quickly burns through the money raised by its bond issue, and the state finds itself in severe financial trouble. Federal and state authorities respond to perceived infrastructure shortages by relaxing right-of-way and environmental regulations. States in other regions also suffer supply shortages during the summers. Trends toward deregulation are halted in various states, reversed in others.

Featured Commentators

- Paul J. Joskow, Director, Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology
- Robert Hahn, Director, AEI-Brookings Joint Center for Regulatory Studies
- Linda Breathitt, Commissioner, FERC
- Jeff Bingaman, New Mexico, Chairman, Committee on Energy and Natural Resources
- Brian Malnak, Staff Director, Senate Committee on Energy and Natural Resources

12:00-2:00 p.m. **Luncheon Roundtable "Virtual Energy Markets: A Look Ahead"**

This luncheon discussion will focus on the challenge ahead for the energy industry itself. To what extent will "virtual" energy contracts overcome physical imbalances? Is there a trend toward "financialization" of the energy industry? What mitigating role might risk management instruments have played in California's energy crisis? Could they help avert possible future crises elsewhere?

Opening Remarks: Jeffrey K. Skilling, President & CEO, Enron Corp.

Featured Commentators

- James Newsome, Acting Chairman, Commodities Futures Trading Commission
- Lawrence Eagles, Director of Research, GNI, Ltd.
- Kit Konolige, Managing Director, Morgan Stanley Dean Witter, New York
- Vito Stagliano, Policy Advisor, Electric Sector Restructuring and Regional Transmission Organizations (RTOs) in association with Arthur Andersen LLP
- Vijay Vaitheeswaran, Energy and Environment Reporter, *The Economist*

2:15-4:15 p.m. **Scenario Session II**
"Political Aftershocks and Regulatory Responses"

Scenario A – More government, less markets: Under this first scenario, regulators react to the energy crisis by taking a more active role in state electricity markets. As other states experience their own, or inherit California's, electricity shortages, public opinion calls for price caps, not just mitigation, and at least some regulators respond. Congress drafts comprehensive energy legislation extending powers of a number of federal agencies to facilitate the building of infrastructure.

Scenario B – More markets, less government: Price mitigation measures are removed after a time in California, and other states (like New York) considering such measures drop their plans. Customers either benefit from lower prices, or at last come to grips with realities of a deregulated power sector, finding other ways (fixed price contracts, load curtailment programs, installing their own energy sources) of protecting themselves from price spikes. Comprehensive energy legislation fails to emerge or serves to ease restrictions on infrastructure development.

Featured Commentators

- Lawrence Makovich, Senior Director, Cambridge Energy Research Associates (CERA)
- John Tuck, Former Deputy Energy Secretary, Of Counsel, Baker Donelson
- Fiona Woolf, Director Utilities Practice, CMS Cameron McKenna
- Glenn Lovin, Director, Power Marketing Association
- Keith Stuart Richman, State Assemblyman, 38th District, California
- John D. Dingell, Michigan, Ranking Member, Committee on Energy and Commerce

4:30-6:00 p.m. **Cocktail Reception and Concluding Plenary Session**
"Lessons from Elsewhere and Arriving at Consensus"

How have other states (or other countries) dealt with, or how do they plan to deal with impending energy shortages? Which represents the best path forward for U.S. state and federal energy policy?"

Opening Remarks: John Hanger, Former Pennsylvania PUC Commissioner

Featured Commentators

- Dennis E. Eyre, Executive Director, Western Systems Coordinating Council
- Larry Ruff, Independent Consultant and Former Senior Vice President, National Economic Research Associates (NERA)
- Robert Littlechild, Director, London Economics Consulting Group, Former UK Director General of Electricity Supply
- Peter Behr, Columnist, *The Washington Post*
- Peter Overby, Correspondent, National Public Radio
- Andrew Cassell, Columnist, *The Philadelphia Inquirer*
- Kathryn Kranhold, Reporter, *The Wall Street Journal*

Includes proposed names of some commentators who have not yet confirmed as of 7/11/01.

2001-017215 Jul 18 p 3:09

TEXAS CONSERVATIVE FORUM

Congressman Joe Barton
President

State Representative Ray Allen
Executive Director

Administrative Office
2101 Meadow Lane
Grand Prairie, TX 75050
(972) 642-6000

Austin Office
P.O. Box 26171
Capitol Station
Austin, Texas
78755-0171
(512) 322-9069

July 13, 2001

The Honorable Spencer Abraham
U.S. Department of Energy
1000 Independence Ave. SW
Washington, D.C. 20585

Dear Secretary Abraham:

We would like to invite you to speak at the Texas Conservative Forum's summer 2001 conference on **Texas' Role in the National Energy Policy**, which will be held on Thursday, August 30, 2001, at 10:00 a.m. in the Thompson Conference Center at University of Texas in Austin.

We would like to hear from you regarding the recent National Energy Policy Development Group report and the President's new energy policy. The conference will target the role Texas will play in the new national energy strategy. In recent months, California's power shortages and rising fuel and energy costs nationwide have kept Americans guessing at the future of our country's energy policy. As the Bush Administration works to formulate a new energy strategy for America, what impact should Texans expect? What are some positive contributions Texas can make, and what, if any, are the challenges Texans face in developing a new national policy? This conference intends to address these and other questions.

Other invited speakers include Vice President Dick Cheney and the members of the National Energy Policy Development Group, Andrew Lundquist, Executive Director of the National Energy Policy Development Group, Texas Railroad Commissioners Tony Garza, Michael Williams, and Charles Matthews, Congressman Ralph Hall, Texas State Representative Ron Lewis, Chairman of the House Committee on Energy Resources, Texas State Representative Warren Chisum, Chairman of the House Committee on Environmental Regulation, and various industry leaders from around the state.

This will be our eleventh conference in a series which began in 1994. Texas Conservative Forum conferences explore major public policy questions, airing a broad spectrum of ideas with the intent of strengthening relationships among active conservatives while helping to build a broad-based conservative consensus about issues.

Please contact us at your earliest convenience as to your intentions and any special accommodations you may require. Thank you for your time and consideration. If you have any questions please contact us or TCF's staff at (512) 322-9069 or (512) 914-4000.

Sincerely,

Joe Barton

Congressman Joe Barton

State Representative Ray Allen

28520

INSTITUTE OF THE AMERICAS

La Jolla, California, July 13, 2001

To: Spencer Abraham

The Institute of the Americas is proud to invite you to participate in the forum "US Energy Policy and its effects on Latin American Economies," scheduled to take place on September 5, 2001 at the St. Regis Hotel in Washington, D.C.

The Institute is convening this high-level forum to analyze the Bush Administration National Energy Policy and its linkages with Latin American energy strategies and their economies.

We anticipate participation of a very selected group of representatives from the US Secretaries of Energy, Commerce, and State; Latin American Energy Ministries, particularly Bolivia, Brazil, Mexico and Venezuela; and international private sector representatives of the financing and energy industries interested in Latin American investment. Included among the key topics to be covered are: the benefits and challenges of hemispheric energy globalization; cross-boundary energy trade; the prospect of South American gas trade for US Markets, lessons learned, similarities and correlation of electric power crises; and multilateral and bilateral trade agreements advancing competition and investment.

The US Energy Policy Roundtable will take place at The St. Regis Hotel, 923 16th & K Streets,NW., Washington, D.C., 20006 USA, Tel. +(202) 879-6903, Fax +(202) 347-4758. For an updated agenda, please access our calendar of events at http://www.iamericas.org/events/

We have attached a registration form, which can be returned to us via fax at: + (858) 453-2165. Advanced registration is necessary. For additional information regarding the roundtable registration, please contact Susana Crews at +(858) 453-5560, extension 103 or via email at susana@iamericas.org. For information regarding sponsorship of the program, please contact Erica Roberts +(858) 453-5560, ext. 123, or erica@iamericas.org.

Respectfully,

Patricia Bennett
Director of Energy Programs
Institute of the Americas
10111 North Torrey Pines
La Jolla, California, 92037 USA
+(858) 453-5560 ext. 120
fax +(858) 453-2165
pbennett@iamericas.org

Institute of the Americas

US Energy Policy and its implication on Latin American Economies

St. Regis Hotel, Washington D.C.

September 5, 2001

ADVANCE REGISTRATION REQUIRED

Please complete this form and fax it back by to +(858) 453-2165. If you have any questions about the roundtable please contact Susana Crews, tel. +(858) 453-5560 ext 103 or via e-mail to susana@iamericas.org

Pricing in US$ dollars

• General Public	US$450.00
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E-mail	E-mail
Assistant	**Assistant**
Telephone	**Telephone**
e-mail	**e-mail**
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28522

2001-012807

Department of Energy
Washington, DC 20585

July 16, 2001

Mr. David A. Bradley
Executive Director
National Community Action Foundation
Suite 530
810 First Street, NE
Washington, DC 20002

Dear Mr. Bradley:

This is in response to your letter of May 22, 2001, to Secretary Abraham, expressing support for the National Energy Policy and the Weatherization Assistance Program. The National Community Action Foundation's long-standing representation of and advocacy for both the Department of Energy's Weatherization Assistance Program and the Department of Health and Human Services' Low-Income Energy Assistance Program (LIHEAP) are very much appreciated.

We are interested in hearing your recommendations on policy initiatives for both moderate- and low-income consumers. Ms. Gail McKinley, Director of our Office of Building Technical Assistance, is responsible for managing the Department's Weatherization Assistance Program. I have asked her to contact you to explore those ideas.

If you have additional questions on these matters, please feel free to contact me or Ms. McKinley at (202) 586-4074.

Sincerely,

David K. Garman
Assistant Secretary
Energy Efficiency and Renewable Energy

SORRY WE MISSED GETTING TOGETHER THE OTHER DAY --

28523

CONEG
COALITION OF NORTHEASTERN GOVERNORS

Governor George E. Pataki, Chair
Governor Howard Dean, M.D., Vice Chair
Anne D. Stubbs, Executive Director

July 16, 2001

The Honorable Spencer Abraham
Secretary
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Mr. Secretary:

As the Administration and Congress takes up legislation addressing the nation's energy strategy, we are pleased to share with you this policy statement which represents the perspective of the Coalition of Northeastern Governors (CONEG) on the important principles and federal actions necessary to an effective national energy policy.

The CONEG Governors believe that a comprehensive, balanced national energy policy should include a mix of public policy and market signals that will promote effective and competitive markets for reliable and reasonably priced energy for the nation's economy. Domestic energy production from diverse sources and an effective energy delivery infrastructure are essential for a reliable energy supply, and conservation and energy efficiency are critical to a productive economy and environmental quality. The ongoing transformation in the nation's energy markets also requires a regulatory framework that encourages and fosters workable competition and interstate cooperation. Finally, national energy policy should strengthen state-federal energy partnerships, as well as the federal commitment to assist the nation's most vulnerable citizens to meet their essential energy needs.

The nation's energy strategy must also address the needs of the distinct regional energy markets with their differing patterns of energy resource availability, fuel use and delivery infrastructure. The Northeast is uniquely dependent upon imported energy, particularly heating oil, gasoline and natural gas. Even as the region depends upon the continued availability of diverse fuel supplies from both domestic and international sources, the Northeast is strongly committed to energy efficiency and renewable energy such as biomass, reliable energy delivery systems, and effective, competitive wholesale and retail markets. Regional solutions to energy infrastructure are important, but they must also respect state siting authority and take into account the needs of individual states.

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E-mail coneg@sso.org • www.coneg.org

We appreciate this opportunity to share our views. We stand ready to work with you in the coming weeks and months to provide additional information on these matters as the discussion about a national energy policy continues.

Sincerely,

George E. Pataki
Chair

Howard Dean, M.D.
Vice Chair

Jeanne Shaheen
Lead Governor for Energy

Enclosure

CONEG

COALITION OF NORTHEASTERN GOVERNORS

A Northeast Perspective on National Energy Policy
Principles for Action

- Domestic energy production, undertaken in an environmentally sound manner, is needed from diverse sources — natural gas, oil, nuclear, hydroelectric, clean coal and, increasingly, renewable forms of energy such as wind, solar, biomass and fuel cells.

- Conservation, energy efficiency and demand management are viable and cost-effective strategies for meeting energy needs, and are necessary components of a balanced national energy strategy.

- Energy and environmental policy are linked and must be addressed in an integrated manner. Federal action that addresses power plant emissions of nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon dioxide (CO_2), and mercury on a national basis is necessary to ensure that the health and other effects that result from the accumulation of these pollutants in the environment are appropriately addressed, and to maintain fairness between the various regions of the nation. Federal standards on emissions from the transportation sector should be further developed.

- Adequate and reliable energy delivery infrastructure is critical to a growing economy and to continued expansion of competitive markets, and the federal government must do all it can to provide incentives for cost-effective investments in delivery infrastructure, while promoting regional solutions that take into account the needs of individual states.

- Existing state authority governing energy facility siting must be strengthened by greater responsiveness from federal agencies and elimination of duplicative or unnecessary federal reviews.

- Effective, competitive energy markets benefit from rules set by federal and state governments that ensure equity, fairness and access to markets; provide vigilant market monitoring; account for regional differences in energy markets; and encourage interstate cooperation as these markets emerge.

- State-federal partnerships for energy programs must be continued and strengthened through increased funding and close program collaboration among federal agencies and between federal and state programs.

- Adequate assistance to help the nation's most vulnerable citizens meet their essential energy needs remains a federal responsibility which must be implemented in coordination with the states.

July 2001

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CONEG

COALITION OF NORTHEASTERN GOVERNORS

Policy Statement:
A Northeast Perspective on National Energy Policy

Energy is a vital element of the economy of the nation and the Northeast. The Coalition of Northeastern Governors (CONEG) believes that a balanced, comprehensive national energy policy — backed by a commitment of financial and program resources necessary to achieve the policy goals — is essential for reliable, reasonably priced energy which strengthens the nation's economy and protects the environment.

The Nation's Energy Industry Is in Transition. The United States, with its energy-intensive economy and growing need for energy, is experiencing the supply shortages and volatile prices of today's energy markets. These challenges are not unexpected for an industry which has begun and is still undergoing significant transformation. The energy industry continues to adjust to the restructured markets, technological advances and increasing globalization which characterize the past decade. In response to these changes, energy markets have become increasingly complex, interdependent, international in scope and competitive. Energy resources and facilities, particularly production and delivery infrastructure designed for a different market system, are straining to meet the fast-growing demands of consumers. In this time of transition, a comprehensive national energy policy is an opportunity to identify and implement the mix of public policy and market signals that will promote effective and competitive markets which can deliver reliable and reasonably priced energy for the nation's economy.

A Balanced, Comprehensive National Energy Policy Is Essential. The challenges which the nation currently confronts in meeting its energy needs require a balanced, comprehensive national energy policy. A balanced energy strategy addresses near and longer-term energy needs. It encourages sound production of diverse fuel supplies from both domestic and international sources. It improves productivity and mitigates the risks of energy shortages and price volatility. It brings together environmentally sound strategies for energy planning, exploration and production; improved delivery infrastructure; and efficiency and demand management practices and technologies. A balanced, comprehensive national energy policy recognizes that truly competitive energy markets are still emerging, and that appropriate market mechanisms and rules must be developed. It also ensures that the essential energy needs of the nation's most vulnerable citizens are met.

Regional Energy Markets Differ. A balanced energy strategy must also address the needs of distinct regional energy markets with their differing patterns of energy resource availability, fuel use and delivery infrastructure. The Northeast is uniquely dependent upon imported energy, particularly heating oil, gasoline and natural gas, both from domestic and international markets. As a result, the region is strongly committed to energy efficiency and renewable energy, reliable energy delivery systems, and the emergence of effective, competitive wholesale and retail energy

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markets. At the same time, the region depends upon the continued availability of diverse fuel supplies from both domestic and international sources.

Conservation and Energy Efficiency Contribute to a Productive Economy and a Quality Environment. Efficient use of energy, through technologies, conservation or demand management practices, offers households, business, industry and governments a tool for managing immediate energy supply problems while also providing the foundation for longer term energy solutions. Conservation and energy efficiency contribute to improved productivity throughout the economy by reducing the amount of energy needed to manufacture products, transport goods to market, or provide commercial services; while also providing cost-effective strategies to reduce pollutants generated by these economic activities. Domestic and export markets for energy efficiency services, technology, and manufacturing create jobs. However, successful implementation of conservation, energy efficiency and demand management, as well as deployment of existing but under-utilized technologies, require adequate and sustained actions by the public and private sector to address market barriers and provide investment and other financing incentives.

Delivery Infrastructure Needs To Be Strengthened. Increased energy production alone will not address the nation's energy needs. The infrastructure which delivers energy — the transmission grids and pipelines, petroleum terminals, and the barge, rail and trucking fleets — is as vital to the nation's economy as the transportation infrastructure which supports the movement of people and goods across the nation and to global markets. Coordinated planning and monitoring among industry and federal and state governments, adequate investment, and the use of capacity-boosting technologies can strengthen the energy delivery infrastructure.

Government Must Encourage and Foster Competition. Robust retail markets cannot function without robust wholesale markets. Therefore, as the energy industry continues to restructure, federal and state governments must support a regulatory framework that encourages and fosters workable competition. Competitive energy markets require appropriate government oversight and monitoring to ensure equity, access to markets and services, and protection of the public health and safety. Competitive markets also require government support to guard against exclusivity or market power, and to develop and maintain an adequate infrastructure to meet the public needs for energy services.

National Energy Policy Principles

The CONEG Governors urge the Administration and the Congress to develop, commit the necessary program and financial resources to, and implement a balanced and comprehensive national energy policy which incorporates the following principles.

1. Domestic energy production, undertaken in an environmentally sound manner, is needed from diverse sources — natural gas, oil, nuclear, hydroelectric, clean coal and, increasingly, renewable forms of energy such as wind, solar, biomass and fuel cells.

2. Conservation, energy efficiency and demand management are viable and cost-effective strategies for meeting energy needs, and are necessary components of a balanced national energy strategy.

3. Energy and environmental policy are linked and must be addressed in an integrated manner. Federal action that addresses power plant emissions of nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon dioxide (CO_2), and mercury on a national basis is necessary to ensure that the health and other effects that result from the accumulation of these pollutants in the environment are appropriately addressed, and to maintain fairness between the various regions of the nation. Federal standards on emissions from the transportation sector should be further developed.

4. Adequate and reliable energy delivery infrastructure is critical to a growing economy and to continued expansion of competitive markets, and the federal government must do all it can to provide incentives for cost-effective investments in delivery infrastructure, while promoting regional solutions that take into account the needs of individual states.

5. Existing state authority governing energy facility siting must be strengthened by greater responsiveness from federal agencies and elimination of duplicative or unnecessary federal reviews.

6. Effective, competitive energy markets benefit from rules set by federal and state governments that ensure equity, fairness and access to markets; provide vigilant market monitoring; account for regional differences in energy markets; and encourage interstate cooperation as these markets emerge.

7. State-federal partnerships for energy programs must be continued and strengthened through increased funding and close program collaboration among federal agencies and between federal and state programs.

8. Adequate assistance to help the nation's most vulnerable citizens meet their essential energy needs remains a federal responsibility which must be implemented in coordination with the states.

Specific actions to implement these national energy policy principles are outlined in the accompanying CONEG Blueprint for Federal Actions. The CONEG Governors urge their serious consideration by the Congress and the Administration.

A Northeast Perspective on National Energy Policy
A CONEG Blueprint for Federal Actions

1. **Encourage environmentally-sound domestic energy production from diverse sources.**

   - Adequate and sustained federal support is essential to ensure a reliable and diverse mix of environmentally-sound supply options, as well as to achieve the full potential offered by renewable and alternative energy. Such federal support might be provided through targeted tax policy, direct investments, expedited licensing, hydropower licensing reform procedures, and coordinated research and deployment initiatives.

   - Federal investments in research, development, demonstration and deployment (RDD&D) activities in energy supply should be coordinated with state programs, and should give priority to near-term opportunities and promising supply technologies that are not currently eligible for tax policy incentives.

   - High priority should be given to greater development and integration of the North American energy markets as a means to further encourage supply reliability and market efficiency.

2. **Support and implement conservation, energy efficiency and demand management for the production and use of energy.**

   - The federal government's programs to reduce energy use in federal facilities should be strengthened.

   - Federal programs and tax policy should provide appropriate, targeted incentives for investments in conservation, energy efficiency and demand management solutions.

   - Federal programs, in coordination with state and industry initiatives, should support consumer education initiatives which provide credible information on the importance of and techniques for energy conservation, efficiency and demand management.

   - Direct federal research investment, coordinated with state activities, should be committed to advance the development and deployment of conservation and energy efficiency technologies that are not currently eligible for tax policy incentives.

   - Federal policies, programs and investments should encourage more efficient use of energy in the nation's transportation system through such means as continued federal support for transit and intercity passenger rail systems, intelligent transportation systems, intermodal programs for passenger and freight movements, and development of clean-fueled transportation systems.

3. **Integrate and coordinate energy and environmental policy, maintain federal health-based environmental standards, and ensure environmental emissions standards are equitably applied.**

   - Federal and state policies, programs and regulations should encourage concurrent consideration of environmental, energy and transportation policies and objectives.

   - Federal health-based environmental standards and rules which govern air, water and natural resources quality protection programs should be maintained and implemented. Current environmental quality permitting programs are adequate, without modification, to permit new energy supply.

   - Federal policy should encourage inclusion of emissions reduction credits for energy efficiency and relevant energy resources in State Implementation Plans and any greenhouse gas reduction programs.

4. **Support an adequate and reliable energy delivery infrastructure.**

   - Federal actions should encourage and support effective multi-state coordination in the planning and management of energy delivery infrastructure, particularly for electricity generation markets and transmission systems.

   - Federal policies and programs can support greater use of demand management practices to reduce peak demand and reduce stress on existing transmission systems.

   - Targeted federal support can encourage emerging technologies that enhance the capacity of existing transmission and pipeline systems and also foster environmentally-sound development of new delivery infrastructure.

   - Federal policies and programs should, in cooperation with states and industry, encourage public and private sector initiatives which help ensure that national and regional inventories of winter fuels are adequate to minimize supply disruptions and volatile prices.

   - Federal programs which affect the safe and efficient operations of the waterborne energy delivery infrastructure should be adequately supported and implemented in a timely manner.

5. **Uphold and strengthen existing state authority governing energy facility siting.**

   - Federal actions to develop energy delivery infrastructure must respect states' authority in the siting and permitting of these facilities.

- Closer coordination among federal agencies with environmental permitting authority can contribute to more timely decisions on the siting of energy facilities.

6. **Establish the rules which support workable competitive markets.**

   - FERC, working cooperatively with the states, must ensure that regional electricity market operators have compatible market rules.

   - Federal policy should encourage states to work collaboratively with each other and the federal government to develop regional electricity transmission solutions and options tailored to their unique energy needs. The federal government should support market-based solutions to energy infrastructure and streamline federal review and approval processes to remove barriers inhibiting the development of workable competitive energy markets.

   - FERC should support state and regional efforts to integrate peak demand reduction programs with energy markets and foster the development of risk management products.

   - FERC should support state and regional programs to monitor electricity markets and correct prices where market design flaws or market power are found to exist.

   - The federal government should not limit states' access to and use of energy data, consistent with states' established confidentiality policies, procedures and practices.

7. **Strengthen state-federal energy partnerships with sustained, adequate federal funding support and close program coordination.**

   - Federal support for the State Energy Program (SEP) should be strengthened through increased funding and closer state-federal program coordination.

   - National and regional partnerships to advance research, development, demonstration and deployment of conservation, energy efficiency and renewable energy technologies should be strengthened through sustained and increased federal funding and closer state-federal and interagency program coordination.

   - The federal government must maintain a strong energy emergency preparedness capability, with continuous monitoring and reporting on energy markets and strong state involvement in developing and coordinating government's response to energy emergencies.

8. **Provide sufficient federal funding to enable the nation's most vulnerable citizens to meet their essential energy needs.**

   - The LIHEAP authorization must be increased and the program fully funded.

   - Federal support for the Weatherization Assistance Program must be strengthened, with increased funding and continued eligibility for a variety of energy efficiency measures.

Department of Energy
Washington, DC 20585

July 17, 2001

The Honorable Jeff Bingaman
Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Enclosed is the edited transcript of the May 24, 2001, testimony given by Spencer Abraham, Secretary of Energy, regarding the Administration's National Energy Policy Report.

If we can be of further assistance, please have your staff contact our Congressional Hearing Coordinator, Barbara Barnes at (202) 586-6341.

Sincerely,

MDWhatley

Michael Whatley
Director, Office of Congressional
Intergovernmental Affairs

Enclosure

CONTENTS

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I N D E X

HEARING TO RECEIVE TESTIMONY ON THE ADMINISTRATION'S NATIONAL ENERGY POLICY REPORT, AND TO RECEIVE TESTIMONY ON THE PRICE-ANDERSON ACT PROVISIONS OF PENDING ENERGY LEGISLATION, INCLUDING S.388, THE NATIONAL ENERGY SECURITY ACT OF 2001; S.472, NUCLEAR ENERGY ELECTRICITY SUPPLY ASSURANCE ACT OF 2001; AND S.597, THE COMPREHENSIVE AND BALANCED ENERGY POLICY ACT OF 2001

THURSDAY, MAY 24, 2001

U.S. Senate
Senate Committee on Energy and Natural Resources
Washington, D.C.

The committee met, pursuant to notice, at 9:30 a.m. in Room 106, Dirksen Senate Office Building, Hon. Frank H. Murkowski, chairman, presiding.

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OPENING STATEMENT OF HON. FRANK MURKOWSKI, U.S. SENATOR FROM ALASKA

The Chairman: Good morning ladies and gentlemen. Are the microphones on? Well, that is nice to know. Must be part of the energy crisis. I want to welcome the Honorable Secretary of Energy Spencer Abraham. I think what we will do today in view of the fact that both the Democrats and Republicans have conferences -- and then there is a conference on a tax bill where I am a conferee on that -- is do the best we can. Senator Bingaman and I will make opening statements and then we will hear from the Secretary.

Today I am pleased to tell you that we begin the process of ensuring America's energy security. This is the first in a series of hearings Senator Bingaman and I and our staffs have jointly put together. It will consist of briefings later, and hopefully mark-ups, to set us on a course for legislation on the Senate floor, hopefully by July 4th.

We begin today with a review of the Administration's recently released National Energy Policy, and again I want to welcome the Secretary. We will also hear from a second panel on the need to renew the Price-Anderson Act. Now I am not sure if we will be able to get to that panel, so I want to alert you ahead of time.

First let me applaud the President and his task force members for their leadership because a few days ago we did not

have a plan, and now we have an energy plan, something in black and white that we can debate, review and analyze. I think we have a blunt admission that we face an energy crisis in this country. The reality is that supplies are not keeping up with demand and I think it is fair to say that their work product is the first national energy strategy in some ten years. It is comprehensive. It is balanced. It is long-term.

Now, some have said, well, it is not balanced. But let us look at it in some detail. As evidence there are 42 recommendations to improve energy efficiency and conservation and to protect consumers from price spikes. There are 35 specific recommendations on increasing the energy supply. 25 recommendations to enhance our national security.

Now it is kind of interesting because I have been on this committee for about 21 years and looking over our shoulder ten years ago, this committee passed a comprehensive energy bill. It was called the Energy Policy Act of 1992. A lot of people have forgotten that. The bill had 16 titles when it left this committee. It increased CAFE, fuel economy standards. It opened ANWAR, the coastal plain, to oil and gas development. And the bill also had provisions on alternative fuels, on mass transit, renewables, energy efficiency and research and development.

But after Congress finished with it, ANWAR was out. CAFE

was out. What we have remaining is the low-flush toilets. That is not much to be said for supply-side. We do not want to make that same mistake again. We left the tough decisions for another day. That day is now. Ten years later today we face an energy crisis. We are importing more foreign oil than ever, 56 percent. Our energy infrastructure is falling apart. We find that we do not have refining capacity. We open up SPRO and find that we do not have the capability to refine it. We simply offset what we import. We find our national gas prices have gone from 2.16 to 5,6,7,8. Supply is insufficient to meet the demand. No new nuclear plants. No new coal plants since 1995.

I can go on and on, but it is said by many that those who do not learn from the past are doomed to repeat it. Well we had good intentions ten years ago, ladies and gentlemen. But our inability to make the tough choices really helped us get to where we are today. I do not think the American people will accept failure again.

Now there is no short-term fix to this. Some have suggested that instead of comprehensive policy we should seek a quick fix for higher gasoline prices and California blackouts. We have looked at several options and none of them are very good. You take away the gas tax. You repeal the reformulated gasoline restrictions. You back up generators of on the barges and nuclear ships. They all have a down side.

So let us make it clear. There is no magic bullet. There is no quick fix that will make this energy crisis go away.

It took us several years of neglect to get us here. It will take a long-term approach to get us out. In my view, the best thing we can do for consumers is act quickly and decisively now to enact comprehensive energy legislation to increase the supply of conventional renewable fuels, to improve energy efficiency and encourage conservation, to invest in necessary infrastructure to move energy from where it is produced to where it is needed the most. America is waiting for us to provide relief.

I think the President's National Energy Policy contains 102 specific proposals. It is a plan of action and not words. It uses America's technology and ingenuity to meet our energy needs without damaging our environment. It reduces our dangerous dependence on foreign oil. It ensures clean, affordable, renewable energy supplies, a requirement for continued American prosperity.

My commitment is to work with Senator Bingaman and the Administration to assist the President in implementing those suggestions that may require legislation. It is time for leadership, vision and bold action, not quick fixes, posturing or short-term political gains. The President has acted decisively so let us follow his lead and make the tough choices that we avoided ten years ago. Thank you.

Senator Bingaman.

[The prepared statement of Senator Murkowski follows:]

[COMMITTEE INSERT]

STATEMENT OF JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator Bingaman: Well, thank you very much, Mr. Chairman. Welcome Secretary Abraham. The National Energy Policy Group's report, I believe, does make a useful contribution to the debate that needs to take place here in Washington and here in the Congress. I'd point out a couple of obvious conclusions from looking at the report. First, the majority -- the substantial majority of the recommendations in the report are recommendations by the National Energy Policy Development Group to the President. They are not recommendations to Congress.

There are some significant recommendations to the Congress. I think 23 of the 105 recommendations do involve action by Congress. As we read them, we are anxious to get down to some specific questions that will obviously have to be answered as we put forward and move ahead with legislation in these regards. There is not a focus, as Senator Murkowski said, in this energy report. There is not a focus on the short-term. And I firmly believe there are actions Congress can take and should take in the short-term to deal with energy issues, as well as many of the actions that are recommended that need to be taken in the long-term.

So I hope we'll get a chance to discuss those as well. I'd also, of course, want to focus to some extent in this hearing if we can, and in future hearings, on the issue of

overlap. Senator Murkowski has a fairly comprehensive bill, setting out a variety of proposals to deal with some of these energy issues. I have introduced a similar bill that also is comprehensive in that it tries to deal with a great many issues. Of course the Administration's report does the same. There are many areas of common agreement between those three. We need to identify what those are and determine whether it makes sense to go ahead with the areas we agree upon in the short-term. And I'll be interested in getting the Secretary's views on that. But again, thank you for coming.

[The prepared statement of Senator Bingaman follows:]

[COMMITTEE INSERT]

The Chairman: Thank you.

Mr. Secretary, please proceed.

STATEMENT OF HON. SPENCER ABRAHAM, SECRETARY OF ENERGY

Secretary Abraham: Mr. Chairman, Senator Bingaman, Senator Burns, Senator Wyden. Good to be with you again. I appreciate the chance to come by today to discuss at this hearing the President's National Energy Policy which is, as you know, was developed by our National Energy Policy Development Group, which was under the direction of the Vice President.

The analysis which we engaged in, in developing this report, began first with an attempt to project America's energy demands. Where they are ~~were~~ today. How they are ~~were~~ being met. And then where we anticipated the future would take us.

Let me just begin with a brief comment on that. Today America consumes 98 quadrillion BTUs, or quads as they are called, a year in terms of all energy forms. Our domestic energy production is 72 quads. The imbalance between energy demand and domestic energy production is made up with imports. Between now and the year 2020, our energy demand is projected to rise significantly. In fact, if the energy intensity of the United States -- that is the amount of energy needed to generate a dollar of GDP, remains constant, our energy demand in the year 2020 would go from 98 to 175 quads.

However, the current policies which we have in place, the policies which we recommend in this plan, and things that happen without government playing a direct role, that is structural changes in the economy and so on, will in our

judgment improve energy efficiency to the point that demand in 2020 will not hit the 175 quad level, but rather we would project, at least according to the Energy Information Administration at the Department, ~~that~~, that demand level would be about 127 quads, which means that improved energy efficiency can help close a great deal of the gap between projected energy demand and domestic energy production.

However, it cannot do the whole job and for that reason we believe the United States needs to embark upon a very comprehensive long-term plan, to both make sure we gain the energy efficiency objectives outlined a moment ago, and increase supply -- domestic supply in particular -- so that we do not end up in a deficit position. The question is where do we get the increased supply when over the past decade domestic supply production has remained relatively flat.

To address these challenges our National Energy Plan has adopted an approach which is, in my judgment, balanced and comprehensive. As the President said, we are looking for a new harmony among our priorities.

So let me just briefly outline the philosophy of balance that is incorporated in the plan. First, our policy balances the need for increased supplies of energy with the need to modernize our conservation efforts by employing cutting-edge technology. So, for example, as we call for recommendations to enhance oil and gas recovery from existing and new sources

through new technology, we also call for recommendations for changes in corporate average fuel economy standards.

Second, our plan calls for a balance in terms of our supply sources. With electricity demand forecasted to rise 45 percent by the year 2020, we estimate the need for an additional 1300 to 1900 new power plants in the country. Current policy anticipates that over 90 percent of those new plants will be fired by natural gas. We believe energy security dictates a more balanced approach to new power generation. In addition to natural gas, the National Energy Plan looks to such sources as clean coal generation, nuclear power and hydropower, among others to give us a broad mix of energy to meet our future needs.

Third, our plan seeks to balance our need for traditional sources of energy such as oil and natural gas with the need for renewable and alternative sources such as biomass, solar, wind, hydrogen and others. Consequently our plan recommends more focused research on new sources such as hydrogen infusion and proposes tax incentives for the use of certain renewables. The plan also seeks to increase exploration of domestic sources of oil and gas.

Fourth, our plan attempts to harmonize growth in domestic energy production with environmental protection. Our commitment to conservation and environmental protection is not an afterthought. It is a commitment that is woven throughout our

energy plan. Energy production ~~was~~ is without regard to the environment, ~~was~~ is simply not an option. For example, in addition to recommendations seeking to streamline the permitting process for plant siting, as well as building new infrastructure, the National Energy Policy ~~proposed in the plan~~ also proposes mandatory reduction targets for emissions of three major pollutants: sulfur dioxide, nitrogen oxides, and mercury.

We believe this balanced approach makes sense. And it yields recommendations that fall basically into six categories. First, we need to encourage industry to repair and update the nation's antiquated energy infrastructure. From our ability to turn raw materials into useful energy to the pipelines that carry natural gas and oil to our electricity grid, America's ability to deliver energy to those who need it is definitely ready for the year 1960. It is not, however, up to the demands of our 21st century economy.

Second, the plan contains a variety of recommendations on how we might better employ modern technology to achieve gains in ~~conversation~~ conservation as well as in domestic supply. A good example of this is the plan's emphasis on innovative technologies such as fuel cell vehicles for which we propose ~~fuel cell usage rather for which we propose~~ certain tax credits, ~~as in the area of fuel cell vehicles~~.

Third, streamlining the regulatory process is a key

priority. We have found areas where the permitting process for energy projects in infrastructure improvement moves too slowly. One recent hydropower relicensing case took 23 years. We must improve these processes without sacrificing our commitment to the health, the safety and the environment the people of this country deserve and demand.

Fourth, the report contains recommendations recognizing the global nature of today's energy markets. As we pay attention to the need to enhance our domestic supply, we also need to diversify and increase our sources of energy around the world. For example, our plan highlights opportunities for supply in the resource rich Caspian Sea area.

Fifth, the plan addresses the critical problems ~~of~~ faced by low-income families as they confront rising energy costs. It calls for, among other things, a significant increase in the Weatherization Assistance Program, which was already reflected in our budget this year. Finally, our plan recognizes the impact energy price spikes can have on working families and we are committed to taking action to lightening that burden.

Lastly, our National Energy Plan seeks to enhance competition across the board. Helping to create a level playing field where a free market in energy can flourish will be one of the best ways to secure our energy future with an affordable and reliable access to a diverse supply of

resources.

In terms of how we proceeded, Mr. Chairman, where possible the President moved immediately to implement key parts of the plan. Hence, last Friday he issued two executive orders directing federal agencies to expedite approval of energy-related projects, and directing federal agencies to consider the effects of proposed regulations on energy supply distribution or use. Moreover, where appropriate, the President is directing federal agencies, including ours, to take a variety of actions to improve the way they use energy and to carry forward critical aspects of the policy -- and I will be keeping the committee apprised of the actions which we take at the Department of Energy in accordance with recommendations in the plan.

But as Senator Bingaman noted, key portions of the energy policy demand legislation. I am looking forward to working with this committee and with other House and Senate committees to move such legislation through the process. In my opinion we start from a wide base of agreement. We all recognize energy as a critical challenge. As noted, both the Chairman and the Ranking Member of this committee have sponsored robust energy bills, and I am struck by how much common ground there is between those bills and our proposals.

In fact, I have asked my staff to do a quick comparison of the energy bills that have been introduced by Chairman

Murkowski and Senator Bingaman with our National Energy Plan, and was pleased to discover that there is considerable agreement. In fact, over 30 of the recommendations included in the National Energy Plan are also included in the comprehensive energy bills that have been introduced by the Chairman and Ranking Member. They include ~~support, and~~ increasing support for the LIHEAP Program; increasing funding for Weatherization Assistance; promoting greater energy efficiency programs; conserving energy in federal facilities; promoting the use of technological advances to better protect our environment; exploring opportunities for royalty reductions as economic incentives for environmentally sound off-shore oil and gas development; repealing the Public Utility Holding Company Act; reforming the ~~PURPA~~ Public Utility Regulatory ~~Policy~~ Policies Act; continuing to develop advanced clean coal technology;, extending the Price-Anderson Act; and a variety of others.

Naturally, there will not be complete agreement and the President is strongly committed to the adoption of his recommendations. But I truly believe that we have the basis for working together to meet America's energy crisis and the Administration looks forward to working with the committee. I particularly look forward to working with all of you to advance the legislative components of this agenda, and to work together on a broader basis to address our energy challenges.

Mr. Chairman, thank you for the opportunity to make these remarks. I look forward to any questions.

[The prepared statement of Secretary Abraham follows:]

Statement of the Honorable Spencer Abraham

Secretary of Energy

before the

Senate Committee on Energy and Natural Resources

on National Energy Policy

May 24, 2001

Introduction

Thank you Mr. Chairman.

I appreciate the opportunity to discuss the President's National Energy Policy, which was developed by the National Energy Policy Development Group under the direction of Vice President Cheney.

If I might, I would like to make a brief opening statement.

America's Energy Challenge 2001-2020

Today, America consumes 98 quadrillion British thermal units (or quads) a year in all forms of energy. Our domestic energy production is 72 quads. The imbalance between energy demand and domestic energy production is made up with imports.

Between now and 2020, our energy demand is projected to rise significantly. If the energy intensity of the U.S. economy – the amount of energy needed to generate a dollar of Gross Domestic Product – remained constant, our energy demand in 2020 would be 175 quads. However, our Plan and current policies will improve energy efficiency to the point that energy demand in 2020 can be lowered from 175 quads to 127 quads.

That means improved energy efficiency can help close much of the gap between projected energy demand and projected domestic energy production.

However, improved energy efficiency cannot do the whole job. For that reason, the United States will need more energy supply. The question is: where do we get that increased supply when over the past decade domestic supply production has remained relatively flat?

Our Balanced Approach

To address these challenges, the national energy plan is shaped by the need for a balanced and comprehensive approach. As the President said, we are looking for a new harmony among our priorities.

Let me briefly outline this approach for the Committee.

First, our policy balances the need for increased supplies of energy with the need to modernize our conservation efforts by employing cutting edge technology. And so, for example, as we call for recommendations to enhance oil and gas recovery from existing and new sources through new technology, we also call for recommendations for changes in Corporate Average Fuel Economy standards.

Second, our Plan calls for a balance in terms of our supply sources.

With electricity demand forecast to rise 45 percent by 2020, we estimate the need for an additional 1,300 to 1,900 new power plants in the country. Current policy anticipates that over 90 percent of those new plants will be fired by natural gas. We believe energy security dictates a more balanced approach to new power generation. In addition to natural gas, the National Energy Plan looks to such sources as clean coal generation, nuclear power, and hydropower to give us a broad mix of energy to meet our future needs.

Third, our plan balances our need for traditional sources of energy, such as oil and natural gas, with the need for renewable and alternative sources such as geothermal, solar, wind, and hydrogen. Consequently, our Plan recommends more focused research on new sources such as hydrogen, and fusion, and proposes tax incentives for the use of

certain renewables. The Plan also seeks to increase exploration of domestic sources of oil and natural gas.

Fourth, our energy plan harmonizes growth in domestic energy production with environmental protection. Our commitment to conservation and environmental protection is not an afterthought; it is a commitment woven throughout our energy policy. Energy production without regard to the environment is simply not an option. For example, in addition to recommendations seeking to streamline the permitting process for plant sitings as well as building new infrastructure, the National Energy Policy also proposes mandatory reduction targets for emission of three major pollutants – sulfur dioxide, nitrogen oxides, and mercury.

Our Overarching Priorities

This balanced approach yields recommendations that fall for the most part into six basic categories.

First, we need to encourage industry to repair and update the nation's antiquated energy infrastructure. From our ability to turn raw materials into useful energy, to the pipelines that carry natural gas and oil, to our electricity grid, America's ability to deliver energy to those who need it is definitely ready for the year 1960; it is not, however, up to the demands of our 21st Century economy.

Second, the plan contains a host of recommendations on how we might better employ modern technology to achieve gains in conservation as well as domestic supply. A good example of this is the Plan's emphasis on innovative technology, such as fuel cell vehicles, for which we propose certain tax credits.

Third, streamlining the regulatory process is a key priority. We have found areas where the permitting process for energy projects and infrastructure improvement moves too slowly. One recent hydropower relicensing case took 23 years. We must improve this process.

Fourth, the report contains recommendations recognizing the global nature of today's energy market. As we pay attention to the need to enhance our domestic supply, we also need to diversify and increase our sources of energy around the world. For example, our National Energy Plan highlights opportunities for supply in the resource rich Caspian Sea area.

Fifth, our energy Plan addresses the critical problem faced by low-income families as they confront rising energy costs. We therefore support a strong Low Income Home Energy Assistance Program, and propose increases in our weatherization assistance program funding in the amount of $1.2 billion over the next ten years. Our Plan recognizes the impact energy price spikes can have on working families and we are committed to taking actions to lighten the burden.

And finally, our National Energy Plan seeks to enhance competition across the board. Helping to create a level playing field where a free market in energy can flourish will be one of the best ways to secure our energy future with a affordable and reliable access to a diverse supply of resources.

Conclusion: A Cooperative Approach.

Where possible, the President moved immediately to implement key parts of his plan. Hence, last Friday he issued two executive orders directing Federal agencies to

expedite approval of energy-related projects and directing Federal agencies to consider the effects of proposed regulations on energy supply, distribution, or use. These are important actions.

What's more, where appropriate, the President is directing Federal agencies, including my own, to take a variety of actions to improve they way they use energy and to carry forward critical aspects of his policy.

But, key portions of the energy policy will demand legislation. I am looking forward to working with this Committee and with other House and Senate committees to move this legislation though the process.

In my opinion, we start from wide base of agreement. We all recognize energy as a critical challenge. Both the Chairman and Ranking Member of this Committee have sponsored robust energy bills and I am struck by how much common ground there is between these bills and our proposals.

In fact, I asked my staff to compare the comprehensive energy bills that have been introduced by Chairman Murkowski and Senator Bingaman, with our National Energy Plan and was pleased to discover that there is considerable agreement. Indeed, over 30 of the recommendations included in the National Energy Policy are also included in the comprehensive energy bills that have been introduced by the Chairman and Ranking Member. Just a few examples include, supporting the LIHEAP program; increasing funding for the Weatherization Assistance Program; promoting greater energy efficiency programs; conserving energy on federal facilities; promoting the use of technological advances to better protect our environment; exploring opportunities for royalty reductions as an economic incentive for environmentally sound offshore oil and gas development;

repealing the Public Utility Holding Company Act; reforming the Public Utility Regulatory Policies Act; continuing to develop advanced clean coal technology; extending the Price-Anderson Act; improving the hydropower licensing process; increasing support for research and development of renewable energy resources and improving the reliability of the interstate transmission system.

Naturally, there will not be complete agreement and the President is strongly committed to the adoption of his recommendations. But I truly believe we have the basis for working together to meet America's serious energy crisis.

Thank you, Mr. Chairman.

The Chairman: Thank you very much, Mr. Secretary. You are to be complemented for, I think, getting a running start when you are kind of all by yourself. Senator Bingaman and I are actively engaged in the process in trying to clear some of your nominees.

Secretary Abraham: We would be grateful.

The Chairman: You are doing pretty well writing your own material. Let me just focus for a moment on, I think, a prevailing attitude among many Americans and many members of Congress that somehow there ought to be an immediate relief, a short-term fix to get us over this hump. And we generalize a good deal and say we want to work toward a short-term solution so we can get the relief we need until we can resolve a long-term fix. But we have not seen an awful lot of identification outside of generalizations on just how to achieve a short-term fix.

We talked about suspending the federal gasoline tax of 18.4 cents a gallon. Of course the down side to that are the consequences to the Federal Highway Trust Fund. Then what does that do for conversation? If there is no squeak, why, there is no incentive to conserve.

We talked about increasing refined products from Canada, Mexico, Venezuela without reformulated gasoline requirements. There is a trade-off there on air quality. We talked about reducing EPA boutique fuels. I think we've got 15 different

kinds of reformulated gasoline, but some of that would require legislation. There is a question of what the ethanol mix might be and the significant change; waving oxygenates; increasing per mile deduction for gasoline for businesses and charitable purposes. We talked even about toll road waivers during concentrated driving times. Somebody did some figuring here and estimated that conservation could be aided by about 6.7 billion gallons of gasoline wasted annually while idling in congestion.

So what we have seen here, at least to my attention, is an effort to identify some short-term fixes, but not really coming up with anything significantly achievable. The last point is that there is an allegation out there that big oil is gouging -- or big utilities, or whatever and yet the FTC had just completed a three-year study of gasoline prices on the West Coast and the result is no evidence of price fixing or collusion. I mean, they say no evidence. Instead they determined the boutique fuels and the inadequacy of refineries were part of the example.

A similar study was done last summer in the Midwest as prices sky-rocketed. The study found again that infrastructure, refineries and pipelines were to blame. So it is a lot easier to kick big oil and blame them then going down to the root of the problem. I would like to hear your comments on those two areas. Is there a quick fix in the

sense of relief? And what about this price gouging issue?

Secretary Abraham: Well, Mr. Chairman, the experience we are going through right now on gasoline prices is, of course, very similar to what we encountered last summer. I remember as a member of the Senate offering an amendment to some legislation -- I can't remember the bill now -- to try to suspend the federal gas tax. I didn't fare very well in the votes. But the kind of repetitious nature of these problems suggests that there is an underlying cause that goes beyond simply accusations of inappropriate conduct.

And to that end, I just want to make it clear, the President has made it very apparent to all of us in the Administration that he expects the FTC and other relevant agencies to maintain a strong vigilance against any inappropriate behavior, and we will.

I have, in fact, asked the Energy Department to look into some of the rumors which we encountered a couple of weeks ago where suddenly we were being told there was going to be three dollar gasoline. At least we were being told that in the newspapers. The local dealers were being told that by their suppliers. We immediately set in motion a process to track down the rumors. Sometimes these rumors can become self-fulfilling prophecies when people say they have now an excuse to begin increasing charges. We have tried to track that down.

And I have noticed that, in fact the USA Today has this week the very same publication that had said we would have three dollar gas now says gas price may level off until next summer. So these things tend to change.

Certainly we have not seen any evidence in the inventory analysis done by the Department that the three-dollar a gallon gas is coming. But nonetheless we are trying to monitor that. At the same time, what we have tried to do in this plan is address some of the underlying issues that we feel are going to cause these problems to repeat on a consistent basis. I mean, if we do not have adequate refining capacity, if every time there is sort of a peak period, whether it's this we move into the winter time and there is a need to transition to heating fuel or as we move into the summer driving season and there is a need to transition into more gasoline production, especially on the gasoline side because of the variety of different fuel types, the inadequacy of refining capacity immediately causes supply problems.

The Chairman: I do not want to let you off without short-term because my light is on here. Any short-term solutions?

Secretary Abraham: Well, there are some and on problems that we regarded as immediate problems I reported to this committee actions we have taken in respect to California on the electricity issue. We did not wait until the plan came