

08 event transcripts



**CITIES RESPOND
TO CLIMATE CHANGE**
The Challenge of
Energy Efficiency

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The Challenge of Energy Efficiency is the inaugural program in the Con Edison Speaker Series, *Cities Respond to Climate Change*.

Con Edison has generously underwritten both this program and a new scholarship fund to train the next generation of leaders in sustainable urban development at Milano The New School for Management and Urban Policy.

**MILANO THE NEW SCHOOL
FOR MANAGEMENT AND URBAN POLICY**

CITIES RESPOND TO CLIMATE CHANGE

The Challenge of Energy Efficiency

THE IDEA OF LAUNCHING the Cities Respond to Climate Change conference series at Milano The New School for Management and Urban Policy arose through a series of conversations I had over the course of some months with Frances Resheske, Senior Vice President of Public Affairs at Con Edison. The moment seemed ripe: when Frances and I started thinking about this series, Mayor Michael Bloomberg had recently announced PlaNYC, whose highlights included rigorous and ambitious goals for energy conservation and New York City's environment. And the participation of hundreds of US cities—and the federal government's non-participation—in the Kyoto Protocol further indicated that it is America's urban centers that are providing the initiative on environmental issues.

What lessons can New York City learn from other urban centers that are successfully tackling environmental challenges, we wondered; and what can those cities learn from us? Our idea was to bring urban officials from New York and around the country together with environmental activists and opinion leaders to spark a dialogue and forge solutions to the environmental challenges we all face. This was the genesis of the Con Edison Speaker Series at Milano.

Milano is the ideal place to for this conversation to take place. Our students are committed to leading positive change and solving the challenges that urban communities face. And more and more, the most important challenges are environmental ones. So I was particularly pleased that Con Edison, a neighbor located just a few blocks away from The New School, underwrote not only the speaker series but also a new scholarship fund to train the next generation of leaders in sustainable development at Milano.

On the evening of Thursday, June 26, 2008, Paul Travis, a class of 1977 Milano alumnus and a member of our Board of Governors, welcomed 400 guests to the John L. Tishman Auditorium at The New School for the inaugural Con Edison Speaker Series, "Cities Respond to Climate Change: The Challenge of Energy Efficiency." Kevin Burke, chairman and CEO of Con Edison, added his own welcome and introduced two Con Edison Scholars in attendance, Edward Leach and Nicole Smith. Julien Studley, then chairman-elect (now chairman) of the board of trustees of The New School, introduced the keynote speaker, John Podesta of the Center for American Progress.

John Podesta described the energy and environmental challenges that we face as dire, and exacerbated by years of inaction on the federal level. In John's view, the "cap and trade" proposal for reducing carbon emissions is the cornerstone of a pro-growth economic agenda for the United States. And in describing America's transition to a clean environment and an energy-efficient economy not as bitter medicine but as the cornerstone of an economically vibrant future, he presented extensive and persuasive data to reinforce his argument.

John's keynote was followed by a lively and wide-ranging discussion moderated by Andrew Revkin, a top science reporter at the *New York Times*, and featuring public officials, activists, and other leaders from around the country who provided a truly unique cross-fertilization of ideas and approaches across urban centers. Three local government officials—Susan Anderson from Portland, OR; Kenny Esser from New Jersey; and James Gallagher from New York City—described their own approaches to conservation. But the very premise of the discussion—the environmental benefits of energy efficiency—was directly challenged by Max Schultz of the Manhattan Institute, who provocatively argued that greater energy efficiency leads to greater energy use. To which Kevin Burke riposted, "when I go home and turn on a compact fluorescent bulb, I don't think 'oh, gee, I'm saving energy; let me turn on four more bulbs!'"

"The Challenge of Energy Efficiency" was a worthy beginning to the Con Edison Speaker Series at Milano, Cities Respond to Climate Change. If this record whets your appetite, I hope you'll join Milano for the next program in the series in Spring 2009. In the meantime, I dedicate this record to Kevin Burke, Frances Resheske, and Con Edison, in recognition of their generous and adventuresome support in establishing the Con Edison Speaker Series and Scholarship Fund at Milano.

Sincerely yours,



Fred P. Hochberg
Dean 2004–2008

P.S. The program is available online at http://fora.tv/2008/06/26/John_Podesta_Cities_Respond_to_Climate_Change



Left to Right: Kenny Esser, Susan Anderson, James Gallagher, Ashok Gupta, and Max Schulz

WHO'S WHO

Welcome

PAUL TRAVIS

Founder and Managing Partner, Washington Square Partners;
Member, Milano Board of Governors

Introductions

KEVIN BURKE

Chairman and CEO, Con Edison

JULIEN STUDLEY

Chairman Elect, Board of Trustees, The New School; Principal,
Studley New Vista Associates

Keynote Address

JOHN PODESTA

President, Center for American Progress

Panelists

SUSAN ANDERSON

Director, Office of Sustainable Development

KENNY ESSER

Energy Policy Advisor, New Jersey Governor's Office

JAMES GALLAGHER

Senior Vice President for Energy Policy, New York City
Economic Development Corporation

ASHOK GUPTA

Air and Energy Program Director, Natural Resources
Defense Council

ANDREW REVKIN

Journalist, *The New York Times*

MAX SCHULZ

Senior Fellow, Manhattan Institute's Center for Energy Policy
and the Environment

PAUL TRAVIS Welcome. I'm Paul Travis. I'm a member of the Board of Governors at Milano and I'm also an alum from the class of 1977. There is no better place for this talk to take place than at Milano The New School for Management and Urban Policy. Milano is a place that prepares professionals for careers in community and economic development and urban policy. Our students are grappling with the very issues that we will tackle here tonight as we all look for healthy ways to nurture and sustain our cities, allowing them to grow and thrive.

Just adding a little bit of a note about this school, in 1978 when I graduated from Milano, I went to work for a man named Robert Hertzog who was then at Chase Bank. He was hired in 1979 to be director of the Mayor's Office of Energy. So even in those days, in the late '70s, New York City was really a leader in the idea of energy conservation. An idea that's taken many years to come back to.

While we've been experiencing that leadership vacuum on the federal level, America's cities, however, including New York City, have been providing tremendous initiative. When the Bush administration backed away from the Kyoto protocols, hundreds of American cities stepped in to fill the leadership void. They agreed to abide by the protocols and showed the kind of leadership that has helped to focus public attention to the environmental and energy challenges we face.

Here in New York, Mayor Bloomberg's PlaNYC has set forth a roadmap for building a greener, more sustainable city decades into the future. But often, America's mayors find their hands tied. They face obstacles that frequently result from state and federal policy. When Mayor Shirley Franklin of Atlanta spoke here at Milano last year, she told us about how the Georgia State Legislature had prevented



Paul Travis

the construction of better mass transit for commuters who live in the suburbs but work in Atlanta. This state policy has caused tremendous traffic congestion in the metro Atlanta area, resulting in high energy consumption, lost productivity for businesses, and poor air quality for urban residents. Here in our own city, we've seen what happens when suburban and upstate legislators are allowed to decide whether New York can change its traffic and energy policy.

Tonight, we're going to learn about the solutions that New York and other cities are pursuing and what is feasible for cities to do and what is not feasible. This is the first program in what's going to be a new annual series, Cities Responding to Climate Change, and I'm thrilled that we're kicking it off tonight. Con Edison is providing very generous funding for this series and also for a new scholarship fund at Milano to train the next generation of leaders in sustainable urban development. Kevin Burke and Francis Resheske of Con Edison are both here. Would you join me in recognizing them and giving them a round of applause?

[APPLAUSE]

Our first speaker tonight is Kevin Burke, who is the chairman and CEO of Con Edison and an old friend of mine. Kevin was an unsung hero in the turnaround of downtown Brooklyn in the '80s and '90s into a dynamic business district, and is now a steady hand guiding Con Ed through challenging times. His biography is in your program, and he's provided tremendous leadership on energy conservation and sustainability. Please join me in welcoming him to the podium.

[APPLAUSE]

KEVIN BURKE Thank you, Paul, and thanks to everyone for being here today. Tonight's discussion of how cities respond to climate change and the challenge of energy efficiency is very timely. Addressing environmental issues must be a priority for everyone. Con Edison believes that energy efficiency and conservation play and will continue to play important roles in reducing emissions and offsetting the growth of energy demands.

The New York City region is a leader in both reducing CO₂ emissions and in energy efficiency. New York does consume a lot of energy, but compared with many other parts of the country, New York is really a model for energy efficiency. The city's population density makes it more energy efficient than most other areas of the United States where the offices, the homes, the stores are spread out over very large areas. The average residential consumption in New York City is substantially below the national average. And New York's use of mass transit is unparalleled throughout the rest of



Kevin Burke

the country, and helps provide, again, another important element of the energy conservation in this city.

In spite of these many positives, energy use in the New York area has reached unprecedented levels. We expect peak demand for electricity to grow by over a percent a year for the next five years. It's going to continue to grow. During the next couple decades, New York City's population will continue to grow as more and more people come to New York City for the quality of life here. This population growth will increase the need to use energy efficiently.

Con Edison and many companies and many organizations in the city are committed to working with all sectors of the economy: public, private, and the nonprofit sectors. That's why tonight's conversation is so important, and that's why we're pleased to sponsor it. We think there's no better place for this conversation to take place than at Milano because Milano is a place that trains tomorrow's leaders for careers in building vibrant, healthy urban communities. American cities need Milano's alums, and that's why Con Edison is also establishing a scholarship fund to support tomorrow's leaders in sustainable urban development.

Two of the past scholars that we supported are with us here tonight, Nicole Leach and Edward Smith, thank you.

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—Kevin Burke

In tonight's program, as Paul said, it's going to be an annual program, so next year when we reconvene, we look forward to introducing you to the next Con Edison scholars. So in closing, climate change, it's an important topic that's facing our city, our nation, people across the world. And again, I want to thank you for being here, and I especially want to thank the speakers for bringing their perspectives to this critical discussion. And now I'm going to turn it back you Paul, okay? Thank you very much. Thanks for coming.

PT Thank you, Kevin. Kevin has provided real generosity and vision in underwriting this program, and we want to thank him once again. For those of you who don't know him, Julien Studley, our next speaker, is currently the chairman and CEO of Studley New Vista Associates, but he's also a veteran of the New York City real estate world, and with over 50 years of experience, both through good times and bad, I should say, as we face what we face these days, he's become somewhat of a legend in my world.

He's a generous philanthropist whose charitable work and service on numerous boards have made him a model business leader in this city. He, for us, has served on the board of trustees of the New School since 1987, and formerly also served on the board of governors at Milano. But today, I am pleased to welcome him as the new chairman elect of the New School. To introduce tonight's keynote speaker, please welcome to the podium Julien Studley.

JULIEN STUDLEY Thank you very much, and welcome everybody here. It's a pleasure for me to introduce John Podesta. That's my job today. John's work at the Center for American Progress is only the most recent chapter in his long and distinguished career in public service and

advancing progressive ideas and putting them into action. His bio is in your program.

Under John's leadership, energy and the environment has risen to the top of his organization's, CAP's, issue agenda. John has advocated strongly that the next presidential administration make climate and energy issues a top priority. Today, CAP is making the case that not only is reducing carbon emissions good energy policy, but the conversion to low-carbon economy is necessary for the country's economic wellbeing.

John's visit today is especially timely because the New School is currently launching a new environmental studies program that will be the first in the nation to explore the environmental challenges facing our cities through the lens of sustainable design. This new undergraduate degree program brings together the strength of the New School in urban policy, the social sciences and design education. It will compliment the graduate programs in urban management that Paul Travis spoke about a moment ago.

The environmental studies program was spearheaded by Joe Westphal in his capacity as director of the Tishman Environmental and Design Center, who's here with us this evening. Joe, would you raise your hand so people can recognize you?

I just want to mention two personal things in my relationship with our guest speaker. One is that in a strange way, if it wasn't for the Podesta family, probably Bob Kerrey wouldn't be president of the school, and it's kind of an indirect story. I'll tell you very quickly. John and Tony used to have a public policy firm in Washington, and I became friendly with John's brother, before that firm was formed. When Tony was a lawyer in New York, we made a real estate deal together, became friends, and he became very involved in the campaign—in the Clinton campaign. So was I.

And after Clinton got elected, I said I'd like to do something in Washington, and Tony Podesta put me on a committee on education technology. One of the presentations we made was a presentation to the senate. Senators kind of kept trickling in and trickling out of the meeting. They were each on different committees, so we kind of had to arrange it, and very late, Bob Kerrey came in. He came in alone. Everybody had left, and he started asking very difficult questions to the committee.

Ultimately, the committee decided it didn't want to deal with the questions that Bob was asking, and it did what is politely called in Washington, dismiss the senate by saying, we don't want to take anymore of your time, Senator, and

they left. And I was mad because I thought he had asked legitimate questions to a committee that should've been able to answer them, and I didn't know what to do about being so irritated. So I called up Tony. I said, Tony, they just dismissed the senator, who was completely a bright guy, asking the right questions, and I'd like to meet him at some point.

I forgot about it, and six months later, I got a call. This is Bob Kerrey. I'm at the airport. I hear you want to meet me. You got any time? I said, sure, come on over. I gave him the address. He sat down and said to me, I have an hour. You talk 20 minutes—for the first 20 minutes. I'll talk 20 minutes, and then we'll see what we can do together.

So we each did our talk. We just decided what we could do together, and we hugged each other, and we became friends. And then—when the school needed a new leader, I came and asked him for advice, and I didn't realize what that meant, but this is what it meant. That Bob is here now, and I guess in some small relationship to my job, which is beginning in a few days because I'm not the chairman at this point, but I'll be the chairman on July 1st.

The other thing about John, which is a very important part of his life, he's a great cook, particularly of Italian food, and I've been to fundraisers at his and his brother's house, and boy, if you want to have really the best of John, it's Italian cooking. So here, as the coming chair of the school, I'm really delighted that John is lending his voice and his perspective to this conversation. It really enriches the educational experience of students across the school who are focused on the environment and urban issues. And now let us give you John Podesta.

JOHN PODESTA Well, let me start by thanking Paul Travis and Kevin Burke for their opening comments. I definitely want to thank my good friend Julien for the kind introduction. At least he's noted that I have one talent in life, and I appreciate that because it's the only thing I think I really do well. I've worked with Julien on many progressive causes over the years, and I know that The New School is his true love; and his long service on the board and his accepting the position as the chair of the board of trustees demonstrates that commitment to education and to scholarship and to public service.

I also want to acknowledge a couple of the alumni of the Clinton administration, who I had the pleasure of serving with. Your provost, Joe Westphal, who we did—I guess battle is probably the wrong word. We tried to make things happen at the Corps of Engineers. And of course Fred Hochberg, who's about to leave as dean of Milano, who was

The refusal to accept the overwhelming science behind global warming has meant critical time lost in taking action, so the challenge is even greater. We're seeing the dire consequences on almost a daily basis.

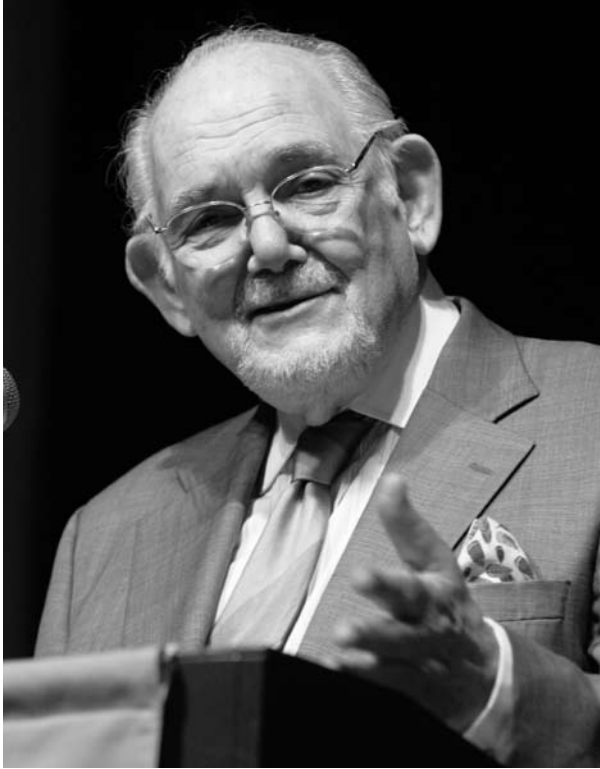
—John Podesta

a great administrator of the small business administration. He invited me here tonight.

I also want to acknowledge my friend, Bob Kerrey. I think that was a very interesting story that you told, Julien. I had the pleasure of serving as Bill Clinton's chief of staff when Bob was actually in the senate and was the vice chairman of the Senate Intelligence Committee, and generally, when he asked me to come up and see him, I didn't get the first 20 minutes, and I definitely didn't get the hug at the end of the meeting. But he's done amazing things here, and I think the environmental studies program adds to the record of exciting innovation that Bob has brought to the school.

For those of you who know little or nothing about the Center for American Progress, it is a think tank in Washington. It doesn't have the kind of rich history that The New School does, but we do have something in common. Our institutions were both founded on the same principal of bringing about positive progressive change to the world. And of course, we do what I think—if you know anything about think tanks, what you might imagine a think tank does, which is engage in research and education regarding domestic national security and economic policy.

In our work, we try to strike a balance between engaging in the rough and tumble, the day-to-day of what goes on in Washington, engaging with congress in the give and take now in the presidential campaign, but also to try to formulate a long-term progressive vision for the country. We've been around for five years. I started it in 2003, and I think we've done things a little bit differently for the



Julien Studley

staid world of Washington D.C.-based think tanks. We're shaking it up a little bit.

We're committed to policies that promote fairness and opportunity and the common good, and that is why I think the current state of our nation is a cause for concern for us at CAP and as well as progressives everywhere, particularly on the issue that's being discussed here tonight, energy and climate change.

I'm going to give you something of a broader overview, and then I think the panel's going to get more in-depth into what cities can—and particularly urban planning can do to make a difference there. But I think we begin in a hole. The Bush administration has had the opportunity to lead on the issue. The president, actually, when he was governor of Texas and running in 2000, actually pledged to try to reduce CO₂ pollution from power plants in the campaign. That pledge was discarded once he got into office.

I think that it's fair to say that we've wasted seven and a half years doing virtually nothing on the problem of climate change, and of course we've even put up roadblocks both to domestic action and to international efforts to take on the challenge. The refusal to accept the overwhelming science behind global warming has meant critical time lost in

taking action, so the challenge is even greater. We're seeing the dire consequences on almost a daily basis.

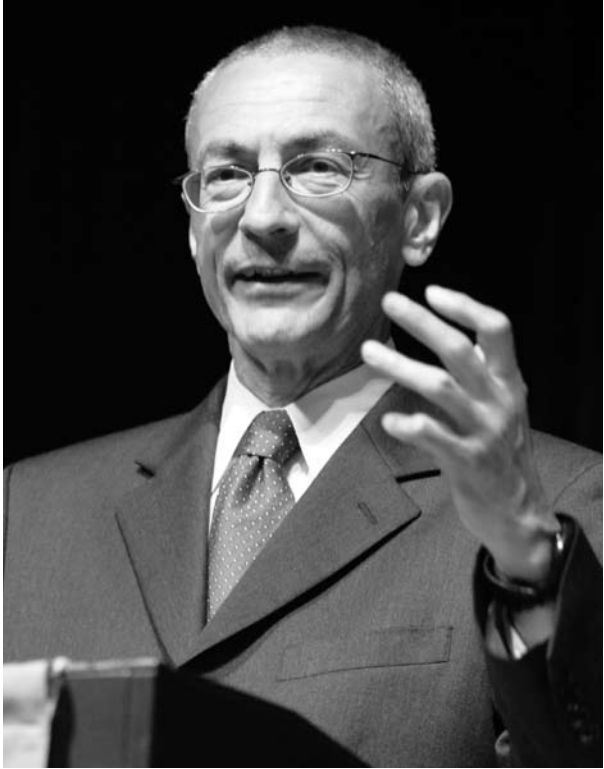
Earlier this year, we learned that the Western Antarctic Ice Sheet is melting faster than anticipated. We're looking at the Greenland Ice Sheet, and that looks like it's melting faster than anticipated because of the actions that were unanticipated in the earlier models on climate change. We could be looking at a sea level rise on the order of not two feet, but perhaps as much as two meters by the end of the century. Such an increase would certainly severely damage cities, trading centers, agricultural production and coastal ecosystems worldwide.

Just recently, we've been watching the gripping images of the floods in Iowa and along the Mississippi river. We know we can't pin individual severe weather disasters on global warming, but we do know that as global warming increases, so will the instances of extreme weather events, such as we saw in the Midwest this year. Our dismal energy policy, I think, has left Americans burdened also by record-high oil and gasoline prices and rising electricity bills.

We have gas prices now that have topped \$4 a gallon. When you think about that in comparison to a minimum wage worker who makes \$5.85 per hour, families are constantly having to choose between day-to-day necessities and filling up their tanks to get to work. A low-wage worker spends as much as 13% of their income on energy costs.

The high price we're paying for that addiction to oil, both the pain that we feel at the pump and the national security price we pay by being both tied to unstable and hostile regimes. I think that's kind of well-known. I think that the security challenge of our oil addiction, particularly with respect to what it does to our Middle East policy and other unstable or hostile regimes is pretty well known. But I think what is less well-known is that we're going to pay an even higher price in the years ahead if we stay addicted to fossil fuels. Not just oil, but fossil fuels.

Within the next two decades, we'll feel the real economic and national security consequences of global warming, including crop losses, wildfires, climate-induced human migration, increased food shortages, water scarcity, and the spread of disease. Just yesterday, the National Intelligence Council reported to Congress on the security problems. They're particularly acute in Africa, both east and west and southern Africa. On the issue of global warming, the conclusion we come to time and again is that if it's not reversed or at least slowed, it will devastate our economy, consume our natural resources, and endanger the well-being of future generations.



John Podesta

Let me stress to you that this is no longer simply an environmental problem. It's a matter that cuts to the core of our economic well-being, as Julien said in his introduction. The challenge we're faced with today is one of transforming our economy from one fuel by high-carbon energy, which is putting both our economy and our planet at risk, to one based on low-carbon, sustainable sources of energy, which can create new industries, new jobs, and a healthier environment. And these efforts must begin immediately.

The scale of this energy transformation is immense, but its potential is also enormous. That's why we at CAP view energy transformation as central to a new pro-growth national economic strategy. Central to that transformation is accounting for the heavy burden that global warming pollution, particularly CO₂, is putting on our planet and our economy.

We favor, at my center, a carbon cap and trade system to limit greenhouse gas emissions. There's a debate between whether it's better to use a carbon tax or a carbon cap and trade system. We favor the cap and trade. That mechanism would establish a declining cap on the amount of global warming pollution that can be emitted into the atmosphere, and can allow a flexible marketplace to set a price for carbon

permits. Proceeds from those permit sales would be used to both cushion consumers during the transition while also investing boldly in deploying efficiency, new technology and clean, renewable energy to move swiftly to a new, green prosperity.

In the long run, a cap and trade system makes sense because it sets specific declining limits on emissions, which effectively establishes a price for carbon that we dump for free today into our limited atmosphere. This provides an important incentive, I think, for people to save money by saving energy and investing in low-carbon energy alternatives.

Recently, as probably most of the people in the audience already know, the Senate debated a cap and trade bill that was sponsored—I'm not sure what the proper expression is now, maybe a tri-partisan way—by Barbara Boxer, Joe Lieberman and John Warner. For the first time, a majority of senators went on record in support of this approach. It did not receive the super majority, which it takes now to pass virtually anything in the senate needed to end a filibuster, and so the bill died because the forces of the status quo filibustered the bill. They didn't get 60 votes, and they moved onto other issues.

But clearly, I think this question is teed up for action in the next congress, particularly with leadership from a new president. In stark contrast to the current administration, at least both presidential candidates have stated their support for legislation to limit global warming pollution. It's really essential to, again, build out the activity that's going on in the private sector, in the cities and in the states around the country.

Barack Obama, for example, has a plan to address global warming centered around a cap and trade system that would support an 80% reduction in emissions below 1990 levels by 2050. Senator McCain has been a strong advocate for action on climate change, sponsored an earlier bill that Senator Lieberman has introduced, and includes a cap and trade system. I am enough of a democrat that I don't want to suggest there are no differences between Senator Obama and Senator McCain on this issue. They have somewhat different targets. Maybe more importantly, they take a somewhat different approach to the complimentary policies that go along with an overall economy-wide cap and trade.

Senator McCain, just recently in the last week or so, has emphasized support for more drilling, particularly for offshore oil on the continental shelf, and support for putting incentives into building out more nuclear power. Senator Obama, in contrast, has—if you go to his website and look

at what he said recently, there's more emphasis on clean, renewable energy, particularly emphasis on green buildings and efficiency. But I think even as these differences are hashed out and hopefully covered—hopefully newspapers around the country actually pay attention to some of the details that are being debated in this campaign, as we await the election to see which person will take office. I think we can take action, and we need to take action for the future of our environment today, and I want to talk a little bit about the low-hanging fruit of greenhouse gas reductions, and that's energy efficiency, which Kevin raised.

To meet the overall goal of reducing emissions under cap and trade systems, you need these complimentary policies that will hasten the move to a green, low-carbon economy, and energy efficiency, I think, should be the first item on the list. Energy efficiency may not seem to be a very cutting edge approach to tackle global warming, but it's the cheapest, fastest and cleanest way to reduce our carbon emissions and save money. It's to avoid the need to burn fuels to begin with. We can raise our standard of living even as we cut our energy bills and slash pollution.

The United States currently uses nearly twice as much energy per dollar of gross national product as other industrialized countries. There's much we can do to reduce inefficiencies, our energy generation, transmission, and consumption. The McKenzie Global Institution recently did a report. They found that improving energy efficiency in the buildings and appliance sector could offset some 85% of the projected demand for electricity in 2030, largely eliminating the need for incremental coal fire power plants, and many of these savings will actually pay for themselves. That is, they produce actual net economic benefit.

Energy efficiency could help meet the growing demand for energy, while at the same time, helping our economy grow, creating jobs and saving consumers money. California really, I think, provides a good example of what's possible when you focus on efficiency. Following the oil shocks of the 1970s, but particularly the clean air battles in the early-1970s across California, the state implemented an aggressive building code, encouraged the use of insulation, better lighting, a provision that the California Energy Commission estimates are now saving Californians \$5 billion a year every year in energy costs.

Moreover, while per capita electricity consumption in the rest of the United States grew by 50% in the last 30 years, in California, it remained flat, despite the growing number of personal appliances and electronics and other energy-using devices. As a per capita to GDP ration, energy use in California has remained relatively stable over that

When you think about that in comparison to a minimum wage worker who makes \$5.85 per hour, families are constantly having to choose between day-to-day necessities and filling up their tanks to get to work.

—John Podesta

period of time. That's while the economy continued to grow dramatically.

It's true that Californians pay a higher cost per kilowatt hour of electricity than the national standard or the national average, but since they use dramatically less electricity per capita than the rest of the country, the average Californian energy bill is comparable to the nationwide average. That, after all, is what matters, the energy bill that the consumer's paying, not necessarily the price of the kilowatt hour—you pay per kilowatt hour. So keeping that example in mind today, I want to talk about three specific areas where we can focus on energy efficiency: electric appliances, building and transportation, and energy generation and distribution.

We can begin to curb our energy consumption by reinvigorating the process of setting efficiency standards for appliances. This is, again, a place where I think the current administration has fallen down on the job. They've issued two energy efficiency standards, despite the impressive record that appliance efficiency improvements—which also, by the way, began in California in the 1970s, but then were taken up at the national level—really produce dramatic results. Even though the current administration hasn't taken advantage of that, standards enacted to date by past administrations are having a significant impact on US energy use, saving consumers and businesses billions of dollars. In 2000, new appliance standards reduced peak generating needs by approximately 21,000 megawatts, the equivalent of displacing 7,300 megawatt power plants. Over the 1990 to 2000 period, standards reduced consumers' energy bills by about \$50 billion.

Environmental Protection Agency estimates that Energy Star, the labeling program on computers and other consumer electronics, identified energy efficiency savings of \$14 billion per year as of 2006. So going to the second item on my list, in addition to appliance efficiency, we've got to boost efficiency in the building sector, which accounts for 48% of US carbon emissions. A combination of energy efficient technologies and smart building design could cut energy consumption by 50% in newly-constructed office buildings, and renovations can cut energy use by up to 30%.

We can start by retrofitting existing buildings to lower their carbon footprint and establish guidelines for all new construction. Inciting this change means using a combination of building codes and tax incentives. Maybe some of you have heard of the so-called LEEDs program, the Leadership in Energy and Environmental Design Green Building Certification Program. It's expanding across the country, and cities and states are currently pioneering programs that promote green design. Illinois for example, has a green business building pilot program that provides grants to the private sector construction to meet minimum LEED level of gold and achieve energy performance of at least 20% above the minimum energy code.

Last year, your mayor, Mike Blumenthal of New York unveiled—Mike Bloomberg—excuse me—his plan for a more green New York City called PlaNYC, A Greener, Greater New York. Part of this plan is to amend the city's building code to curb energy use. In fact, new buildings under this plan will be required to be 20% more efficient than current standards, and city government will reduce its energy use by 30% in the next ten years.

I commend the mayor, and I'll get his name right, and the New Yorkers on this important initiative, and I hope that more cities follow suit with similar action. We also need to focus on our energy consumption in transportation. 70% of the oil that we consume goes to fuel transportation needs, and motor vehicles are responsible for nearly a quarter of annual US emissions of CO₂. We must re-envision our transportation sector and continue to press for increase in fuel vehicle efficiency.

Recently Congress raised the fuel efficiency for a fleet of cars and trucks and SUVs in legislation that was passed last December with the leadership of Speaker Pelosi and the Congress. That piece of legislation was, I think, a landmark achievement, in part because it mandated the first increase in so-called café-standards to 35 miles per gallon by 2020. It was the first increase in 30 years, but as big of a political achievement as that was, it's clear that we can do more, and

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—John Podesta

\$4 a gallon gasoline might just convince US automakers that it is in their own interest to do more.

A new president can use existing authority to authorize California and 15 other states to implement their tailpipe emissions standards that are on the books but need a waiver from the United States Environmental Protection Agency to go into effect. That will begin saving million of barrels of oil earlier than even the bill that I mentioned that passed the Congress last December. And we should aim at a vehicle standard of 55 miles per gallon by 2030, which is readily achievable through the swift development of existing fuel efficient technologies and through dedicated research and development to deploy new technologies such as plug-in hybrid electric vehicles. That's another place where perhaps both parties can agree on something, a rarity today in Washington.

Plug-in electric hybrids rely on rechargeable batteries for up to 40 miles before using a drop of gasoline and even running on today's conventional coal-fire power plants, they would cut emissions by 27 to 37%, and essentially run on—if you compare that to the price of electricity—run on about 75 cents a gallon, comparative to gasoline.

General Motors plans to introduce a plug-in electric hybrid vehicle, the Volt, in 2010, and I think that obviously the

Japanese manufacturers are already big into conventional hybrids. They're moving in that direction as well.

The last item I'd like to talk about, and perhaps the most ambitious undertaking, is the need to increase the efficiency in how we produce and distribute energy today. The outdated technology of our grid encourages large central power plants fueled by dirty fuels, mostly coal in our country. To meet our energy challenge, we need a new, smarter grid that is more efficient, it's more reliable, it's better able to draw on renewable resources. It should become a national grid like our national highway system so any renewable or nonrenewable electricity generated in any part of the country can be transmitted to market.

We also need to improve our distribution in fueling infrastructure so that Americans across the country can make choices at the pump about the fuels they want to purchase. The American Society of Civil Engineers estimates that we've got a \$1.6 trillion unmet infrastructure need to rebuild our cities, and if we do that, and do it in smart ways and use clean energy, we can restore the backbone of our economy and create strong communities and good jobs in the process. That's why I think this new program is so important, because how we design and build our cities and communities is also critical to reducing our nation's carbon footprint.

A recent study found that two thirds of the build space in the US in 2050—homes, offices and commercial buildings—will be built between now and then. So two thirds of what will be in existence in 2050 will be built between now and then. If 60% of that new growth were built using new, compact, pedestrian-friendly land development and using new green building standards, the effects would be profound, including reducing the need to drive by 30%. So the students, I think, in this new environmental design program will have plenty to work on.

We also need a new national renewable electricity standard. I would propose that we have 25% of energy produced in the United States come from renewable resources by 2025, increasing distributed renewable energy generation and facilitating investment in renewable energy by improving the structure of production tax credits, which are set to expire at the end of the year. They're essential to creating a market for clean energy and the new American industries that could be built in the process. The Department of Energy just recently released a report that highlighted that wind power could supply 20% of the nation's energy by the year 2030. That would displace the amount of carbon produced by 20 million vehicles. It would reduce water

consumption by 4 trillion gallons and reduce natural gas use by 11%.

Maybe, perhaps most importantly, it would add roughly 500,000 jobs in the United States, 150,000 of those directly employed by the wind industry. Another energy source that we don't fully capitalize is solar power. Both photovoltaic and solar thermal. That industry is expected to grow from \$19 billion in 2006 to \$70 billion in 2010. The United States was the leader in solar energy manufacturing. In 1995, we had about 44% of that industry. Now it's down to about 9%, having been overtaken by the Japanese, German and other European manufacturers.

I think they've implemented policy that have driven in that increase in production and an increase in new industry in those countries. Wind in Denmark, solar in Germany, wind again in Spain. You see the same effect in Japan. In our country, we've relied, as I mentioned, on this so-called production tax credit, but it's been kind of a yo-yo. It's on for a couple years, and then it triggers off. When it lapses, you see a tremendous slow-down in the realization of new renewable projects.

It's currently hung up on the partisan battles on Capitol Hill. I expect it will make its way through an extension of that, but we need to put that on a reliable basis if we're going to see the big increase in renewable power that we need.

Finally, last December's Energy Independence and Security Act, the December bill I mentioned, mandated a production of 36 billion gallons of biofuels by 2022, but clearly, I think, we can't do that in a sustainable way using the current base ethanol program that we have. We need to push for a new national low-carbon fuel standard that boosts commercialization of cellulosic ethanol and bioenergy that's produced from wastes. The fuel of the next generation of biofuels can be made from crops that require significantly less energy to produce such as switch grass, wood chips, agricultural and municipal waste, and move away from the use of corn for ethanol. We need to decouple food production, I think, from the price of motor fuels, for oil and other fuels as well.

All these changes are admittedly a tall order, and thankfully, we're not building a clean energy economy from scratch. In that absence of the National Federal Policy to Combat Climate Change, states and city have stepped up to the challenge and developed clean energy action plans. We've seen that 25 states in the District of Columbia that now have renewable electricity standards. New York's

been a leader in this area as well as states really across the spectrum, across the country, and on a bipartisan basis.

So the last point I'd like to make tonight is that placing energy at the center of our economic strategy and making smart public investments will also build new workforces, a world-class clean energy workforce, as well as science and engineering professionals, providing good jobs and pathways out of poverty for Americans, including those who were left out of the high-carbon economy. According to the DOE, again, Department of Energy, reducing energy waste by 10 to 20% in U.S. industry would add nearly \$2 trillion to GDP cumulatively over the next 15 years, but it'll also create 2 million jobs. It's important to note that these are not new, exotic professions, but rather familiar work that's accessible to our current workforce. It will create jobs for electricians, for carpenters, for pipe fitters, for metal fabricators as well as for engineers, for production managers, for scientists and maybe even for a few out-of-work bankers that may need some work in the years ahead in communities all across the country.

Investing in a cleaner economy can, therefore, I think really help kick start our economy, and its impact can be felt right away. You'll hear people over and over again saying it costs too much, it's too hard to do, we can't do it. That's not the American spirit. We can't continue to wait on jump starting this energy transformation. Waiting in the face of mounting climate crisis and rising energy costs will only reduce productivity, growth and continue to jeopardize our nation's economy and environment. We're looking at an enormous undertaking, but it's also a challenge that presents us, as I said earlier, with an enormous opportunity, since investing in energy efficiency can help curb our energy consumption, help tackle the global warming challenge, and help grow our economy and create jobs.

We can do that. We can create the virtuous circle that powers our economy forward in a cleaner and greener way. With that, let me stop, and I think I have a couple minutes to take time for questions.

PT As John said, he's going to be taking questions from the audience, so if you have a question, please come up to either microphone up front, and John will answer them.

MALE VOICE Yes, my question is in regard to the new book put out by the Earth Policy Institute—I read a lot of their stuff and also a lot of worldwide stuff—by Lester Brown, and he argues forcefully, I think correctly, against cap and trade. And I think we need to kind of move also from the free market basis for things. We have to have the market tell the environmental truth and right away. We can't wait for

the declining caps to make the market fix it. We have to set the market first, directly, with taxes, and we have to redo the whole tax system. What would you say to that, and I just want your opinion on that. Thanks.

JP Well, I think a couple of things. I don't think that, for example, cap and trade can do the whole job. It doesn't bring enough near-term action. I'll give you a specific example in the analysis that we've done. You don't move toward the so-called carbon capture and sequestration system for producing electricity from coal fire. Power plants will not direct regulation, and a requirement that new plants be built capture and sequestration capable and then triggering in, in the very near term, the requirement that new plants have to, in fact, sequester the carbon their producing. So I think that no reasonable price for carbon, whether that's through a tax or a cap and trade, will, in essence, produce that result. So I think there has to be complimentary policies to the economic - - .

On the other hand, I think that a well-designed cap and trade can be done in a way that does, in fact, incentivize and create market incentives to move towards a cleaner, greener technology and that the capacity to innovate off the back of a price signal can be very strong and can produce the kind of change that we need and want through private sector investment that will reduce, essentially, the cost of transformation and increase the benefit of transformation. We saw that in the example that is often cited, the first time a cap and trade was attempted was to regulate sulfur dioxide under the Clean Air Act in the 1990s, as a matter of fact. And the cost estimates of what that would cost to do were much higher than what the market actually produced when you began to limit it and reduce the cost.

It's not a perfect analogy, but I think it's one that sending that strong market signal to the investment community about where the regulatory scheme's going, and setting a clear—I mean, the reason I favor it over the tax is—and people will argue over this, but setting a clear standard about what limits you want to place on the pollution that an economy's producing is, I think, a powerful signal, not just to the economy, but I think to the American public about the track we need to get on, that path we need to take.

FEMALE VOICE This may be overly simplistic and naïve, but if you divide two—

JP Not for me.

FEMALE VOICE Okay. If you divide \$1.7 trillion to fix the grid by 250 million, it amounts to either \$0.64 or \$64 a person. I don't know whether I got my zeros right. The point is, it's really not a problem. What the problem is, is the lock

In the long run, a cap and trade system makes sense because it sets specific declining limits on emissions, which effectively establishes a price for carbon that we dump for free today into our limited atmosphere.

—John Podesta

box, to quote Al Gore, and I think everybody—if we could just pass the hat right now, we could solve it tomorrow, but the problem is that when the government or the private industry takes your money, it doesn't necessarily end up where it's supposed to. So let's assume the \$0.64 were available. How would you get it to the actual job that needs to be done? Is there a way to make that happen?

JP I'm actually going to defer to the panel coming up to get maybe more specific and in-depth, but I think that policy levers and economic levers are important in making that happen. I think the one thing you put your finger on, though, is the way energy policy has been made in the country, over many, many years. It's not just a function of this administration. It's gone back many, many years. It's a function of the status quo creating a lock on the current rents and gains that they have imbedded in the system.

It's not one that I think in the end of the day, values innovation. Again, to draw an analogy, if you think about the information technology, and particularly the growth of the internet, that was also powered by policy, but the policy took the form of breaking up the stranglehold that, in that case, one carrier had on the system, treating information services, advanced services under FCC rules, and it opened up the opportunity for people to invest in new products, create new technology. I think the same thing could actually happen in technology, if you open up the system to more innovation. That largely takes place today through state regulation. I think the federal level can incentivize that in order to make that happen.

And I think that the one thing I think I specifically mentioned in my comments was if you decouple what electric utilities' profits that they come from saving energy rather than just generating electricity, I think that would have a major incentive and a major boost into getting the kinds of investment incentives that we need to go with. But we got problems with sighting that have—where there is a federal role in terms of everything from new production facilities, but particularly our transmission facilities that will require work, I think, and a partnership between state regulators and what's going on at the federal government.

MALE VOICE Some of the benefits of good policies is they're simple and easy to understand. Former Vice President Al Gore has proposed quite seriously to just substitute a carbon tax for the payroll tax. Would you comment on that as a policy?

JP I think that there's an argument that putting a tax on the things that you don't want and reducing taxes on things that you do want seems like a sensible tradeoff. I think that the—I'm cautious about it for—I guess to some extent, for political reasons as much as for pure economic reasons. I think that the payroll tax is the one—you know, I think we've seen this played out over and over again. The payroll tax supports social security. The public strongly believes that that system is the one thing that—maybe young people don't believe that, but the majority of Americans still have a kind of fealty to using the payroll tax to support social security, and unwinding that commitment to use the payroll tax in support of the social security system is a very steep climb, I think, with the American public. I think that will be attacked - - demagogue from that perspective goes back to the lock-box comment.

If you de-link payroll tax from social security revenue, will the public buy the fact that carbon taxes will replace and support and create a kind of stable system for retirement? For Medicare as well, but particularly for social security. And so I think that's really—there's a political dilemma in trying to reverse—in trying to make that tradeoff.

Obviously the argument in favor of it is tax the things you don't want to have happen and lower the taxes on things that you do want to have happen, which is job growth and job creation. So it's respectable economically. I think it's a pretty tough sell politically.

MALE VOICE Where in this dialogue do changes to the perpetual growth model for both our economy and our population fit?

JP I think that there's—the sustainability of the path of—particularly of the global population, but also perhaps

Energy efficiency may not seem to be a very cutting edge approach to tackle global warming, but it's the cheapest, fastest and cleanest way to reduce our carbon emissions and save money.

—John Podesta

of the US population, is an important and undervalued factor in this whole debate, and more investment in family planning and trying to control the overall global growth of population and the growth of population in the United States. Most of the population growth in the United States, in the out years, is still coming from immigration, but I think it's an important factor.

I think that the economy can grow in a sustainable way, and that we ought to want to have it grow in a sustainable way. To have strong economic growth is the only way to create both the opportunity that a strong economy provides for people to get ahead, for more social equity to occur, for more investment in the common good as well as in private gain. So I think that a strong commitment to strong growth ought to be a sort of a precondition, but I think it can happen in a much more sustainable and environmentally friendly way. Take maybe one more. Last question.

MALE VOICE Hi, I'm very happy today to be here with New School's Environmental Studies Program. I come here for various forums, and I have heard Bob Kerrey, you know, talk about various policies, and especially conservation. I'm also delighted to hear from you some of the efficiencies approach you are talking about, which actually goes a bit contrary to America, which is about super sizing and so—

JP What that did for our health, the same thing will happen on the energy side.

MALE VOICE And my question is, say in view of Kyoto protocol, and we see that in Europe where some of the policies are mandatory, and say LEED in United States, which is voluntary, and I wonder what is the approach

here? So you know, some of the things which we want to do would actually—could be enforced.

JP Well, I think it really requires a mix, but it requires governmental policy to make the change happen, at the time scale that we need to make it happen. That has to happen globally as well. Obviously this is not just a challenge for the United States or the United States, Europe and Japan and the other already industrialized nations, but particularly for China, for India, for other growing nations. The commitment to clean technology and more efficiency has to be embedded into those economies, and that's its own huge challenge.

But overall, if we don't have mandatory inputs from the governmental side, this will not happen, I think. We've seen the results of voluntary program over the last seven or eight years. That is not going to work. There has to be policy input. That could be a mix of incentives, of both incentives on the tax side and on the investments side as well as mandatory regulation, but it's not going to—it's not going to occur simply by the economics of generating electricity from dirty sources without accounting for the economic cost that that's placing, and the environmental cost that's placing on the global environment. You still can burn coal and vent the CO₂ more cheaply than you're going to be able to bring online virtually any of these other energy sources.

So as long as we don't value the CO₂ that's being put in the atmosphere, I think the energy change that we are looking towards just is not going to occur. Certainly not on the timeframe that we're thinking about it.

PT After that terrific start to our program, I want to move on and introduce Andrew Revkin, and I should note that after our panel speech, you're going to have a chance again for some Q&A. Andrew, now with the New York Times and previously with Discover Magazine, has been covering the environment and climate change for nearly 25 years. He's the ideal person to moderate our discussion about the challenge of energy efficiency in an urban setting. I'd like to welcome to the podium Andrew, who will then introduce our panel.

ANDREW REVKIN So I hope we'll have a spirited little conversation here tonight. We're going to talk among us for 35, 40 minutes and then open it up for some questions from you. I want to sort of set the scene. Lately, when I've been conducting panels and things, and actually, when I'm confronted with something new, which I am every day as a reporter writing about this stuff, I step back at least for a few seconds and say, will the atmosphere notice this? It's really valuable.

Just once in a while, when you're reading the paper, reading about climate legislation, reading about something happening in China, reading about a new invention, just take that one extra beat in your intellectual process and say, will the atmosphere notice, because that's what really will count in the long run, at least in terms of climate.

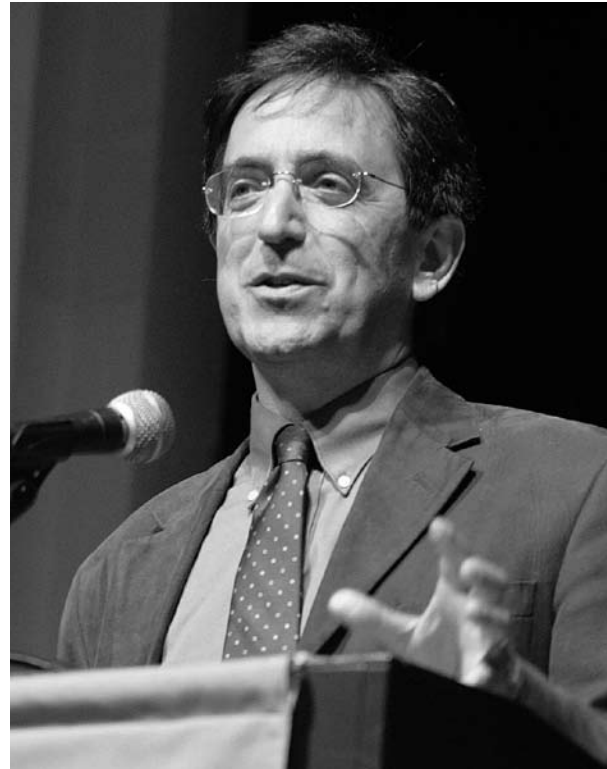
One of the things that's important to note, though, is that climate is not the only energy challenge we face. Con Ed knows that on a hot summer day, the peak issue is going to be a big issue for New York City, as you heard a little while ago. So there's many reasons to think about energy efficiency, energy conservation, and on a global scale, too. We need new energy options. We're heading—whether you like it or not, whether you distribute more condoms or not, the trajectories are pretty clear. We're heading toward at least another couple billion people on the planet by mid-century.

So somewhere approaching nine billion. That's what my Dot Earth blog at the *Times* says. Nine billion people, one planet. Question mark. So how do we do that? And essentially, when you talk to energy experts about that, that looks like at least a triple energy diet sometime by 2050. It depends on who you talk to.

But think about that. Three times as much energy will be required to have a prospering global culture in two generations. Compare to what we currently get derived from fossil fuels for the most part. So there's an energy challenge. Whatever you think about climate change, we face an extraordinary challenge and extraordinary opportunity in our time, in the lifetimes of most of the people in this room. What's interesting about the panel tonight is we're going to go through three different regional looks, concrete, actual places, states, cities, where you can see actual things happening, which is very different than Washington.

I was in Washington on Monday with Jim Hanson, who I actually—I ran a panel here three or four years ago, a *Times* Talk with Jim Hanson from NASA, right uptown, near Columbia, and Marty Hoffert, an NYU physicist, who's one of those people who knows we need triple the energy sometime soon. And Hanson was invited to give a briefing on the house select committee on energy independence and global warming. It wasn't a hearing because it was hard to arrange a hearing, so it was a briefing, meaning you don't have to be there.

This was 20 years ago, and the reason I was there was 20 years ago, I was writing about global warming when he gave this pivotal testimony in Washington on a hot day, June 23, 1988, 20 years ago this week, in which he said, we're



Andrew Revkin

warming the world. It's discernible now. Some scientists disagreed at that time. No one really disagrees now, and he said, we need to get busy.

And I wrote a story, a long, 6,000 word magazine story in 1988 saying—quoting all these experts saying, you know, you can choose to not get busy, but then you'll pay the consequences, and now the consequences are starting to unfold. So let's go down to the level of streets and buildings, and I'm going to introduce briefly, just a thumbnail sketch, each of the panelists, and then I'm going to ask each one of them to—sort of like *What's My Line*, that old TV show, you know? So what do you do day-to-day?

I'm going to start with Kenny Esser here. He's the Energy Policy Advisor to New Jersey Governor, Jon Corzine. He's working on that States Energy Master Plan, which I guess is this fall coming up? September?

KENNY ESSER September, yeah.

AR And that sounds like a useful enterprise. Susan Anderson is from the other coast. She's the Director of the Office of Sustainable Development in Portland, Oregon, and as long ago as 1993, Portland established an energy office with a focus on climate change. So maybe they were

listening—someone was listening to Jim Hanson in 1988. At least on the other coast.

Jim Gallagher, in the middle of the table there, chairs New York City's Energy Policy Task Force and is Senior Vice President for Energy Policy at the New York City Economic Development Corporation, and he works quite a bit, I think, Rohit Aggarwala, who I recently did a video interview with for my Dot Earth blog on that wonderful issue of congestion pricing, which sure didn't go anywhere in a hurry, even though there's so much logic to that kind of thing. So again, logic and politics don't always go together, as Mr. Podesta was saying earlier.

Ashok Gupta, who I don't think I've seen you in years, but he's another one who goes back to the '80s on these things. He's the Air and Energy Program Director at NRDC, the Natural Resources Defense Council, a nonprofit group with scientists, lawyers and environmental specialists whose focus and passion is to protect public health and the environment. He's worked for a long time on global warming policy, utility regulation, energy efficiency, renewable energy, you name it. He's one of my go-to people when I'm writing about this stuff.

And at the end of the table, Max Schulz is a Senior Fellow at the Manhattan Institute's Center for Energy Policy and the Environment where his work focuses on the practical application of free-market principles in energy debates, particularly the intersection of energy, the economy and the environment. Boy, that intersection is a very spirited place these days. There is a role for the libertarian point of view in all of this, believe me, and I pay a lot of attention to it. He also previously served as senior policy advisor and director of speech writing for the Secretaries of Energy, Sam Bodman and Spencer Abraham. That's what I'll do.

MAX SCHULZ That makes me kind of the villain here today, working with the administration.

AR I don't know. We'll see. Stay tuned. So we'll start here. Kenny, so what do you do?

KE Well, I guess probably it depends on the day, but I think you hit it on the head at the beginning that at least in New Jersey, and I'm sure other states are facing the same challenges—I know at least New York is—that it's no longer just about climate change. It's about making sure that we have an energy infrastructure that can meet our needs going forward, and that's needs environmentally, that's needs economically. Part of that economics is about the affordability or rather reasonable price of energy, which we can debate later, and then also reliability.



Susan Anderson

The lights go out. I don't need to tell anybody in the room that that costs businesses money, and that hurts our state's economy. So what we've done is we had an energy master plan done in 1991, and it was updated in 1995. It's supposed to be, I think, updated every three years, and 1995's the last time it was opened. After taking a look at it, I can't blame anybody for not taking—opening it.

So right now, one of Governor Corzine's initiatives was to reopen the energy master plan, draft a new energy master plan for the state to lay out a series of goals and action items to be implemented and to make sure that we have a comprehensive, coherent implementation strategy. That's actually—you comment that it sounds like a useful enterprise. Well, it's only useful so long as the implementation strategy is there and as long as the implementation strategy is effective.

That's really where the municipalities—I mean, they're really on the frontline on this issue. But back to the energy master plan, New Jersey, we've seen rises in energy demands, but of bigger importance to us currently is a dramatic rise in peak demand. Right now, we're averaging one and a half percent each year. That's concerning us because we need more and more infrastructure to come online. Much of it is

70% of the oil that we consume goes to fuel transportation needs, and motor vehicles are responsible for nearly a quarter of annual US emissions of CO₂. We must re-envision our transportation sector and continue to press for increase in fuel vehicle efficiency.

—John Podesta

not environmentally friendly between our peak generation and transmission lines coming in from out of state. I know New York has the same problems because a lot of times, they turn to our generation to help out their needs. But we have to be able to adapt in New Jersey.

That's what this energy master plan's all about. That's why every year, we're going to be measuring our progress on the energy master plan, and then every three years, we're going to be updating it. This is going to be a living document, hopefully, knock on wood. We'll see what happens with the next person who's sitting in my chair, but that's the idea right now.

So with that, I'm not sure how much more you want me to go into, but the primary—the number one goal in the energy master plan is energy efficiency. I think Mr. Podesta touched on it perfectly before. That is the most cost-effective way for us to meet our energy challenges today. Right now, I think our goal is 20% reduction of energy use by 2020. We're going to need the municipalities to help us achieve that. We have \$1.5 billion that we're going to be spending over the next four years on energy efficiency and renewable energies through our clean energy program. That may all be changing shortly as we're, again, looking at the implementation strategies and making sure that they make sense and that they're sustainable.

So with that, I'll let you go down the line.

AR Now, Susan, out in Portland, you had a big head start along with California on thinking about some of these things, it sounds like. What are some of the biggest challenges you face? You have a lot of hydro there, is that right? Does that give you any built-in advantages?

SUSAN ANDERSON It's one of those things that people think we have a lot of hydro, but most of that goes to public utilities, and Portland doesn't have a public utility, though we tried to buy Enron. For several years, Enron actually owned our—the only thing Enron owned of value at the end was Portland General Electric. Let's just say that I can't get a job there now after we failed.

So thank you for inviting me to New York City. It's been a great opportunity. How many of you have been to Portland? Very good.

AR Wow.

SA All right. So we're kind of a mid-sized city, 570,000, about 2.3 million in the metro area, and unlike New York, we're had to sort of, since the mid-'80s, try to artificially create the densities that you have here. For a long time, since the early-'80s, we've gotten, both at the political level and at the business level, the connections between land use and transportation and affordable housing and personal health and how those things are all kind of interconnected.

So as Andrew said, back in 1993 when I was an intern at the city, I thought global warming was real, and I went and listened to Jim Henson at the—and probably you and others and thought, this is real. We should do something about this. So we worked with city council, not just because global warming was real, but because even then we saw the issue of peak oil coming, and we also saw the issue that this was a huge drain on our economy. We don't have any refineries in Oregon. We import all of our petroleum. We import all our natural gas. 80% of our electricity, of our building energy use is actually from fossil fuels.

So you think we have hydro up there in the Northwest, but probably 50% of our electricity base is coal, just like a lot of other places. So what's happened is that we've actually, since 1993 when we first adopted our policy, we've actually cut per capita greenhouse gas emissions by 14%. That means we've also had a huge population growth, as all my friends from the Bay Area have moved up to Oregon and many of you. So we're actually back to 1990 levels, but at the same time, the rest of the US is up about 16%, so we're doing some things right.

Most of those things have to do with energy efficiency, with renewable resources, wind and solar, and with

transportation and land use and the connection between those two things. I can go into some of the things we've done right later, but the main point I guess I'd want to make is that we got to this without help from the federal government, and we got to this point because almost no one cared about global warming, and that's really important. People make change because they care about things that affect them personally. So they made changes in their behavior because it cut costs for their business, or it reduced their costs at home, it helped their personal health, it reduced traffic congestion. They wanted to live in a light-filled space that's a green building.

They didn't care about the energy efficiency part of it. They wanted this great, green building, or they wanted a lead standard on their building. So when we move through this, it ends up that—I think the key points that are going to make a change are rising prices, some quality technical help, the kind of help that Ashok and others can give. People want to do the right thing, but they don't know what to do. Really, third is to make it cool.

So the one example I'll give is bicycle riding. So we now have more than 5% of everybody going to work on bikes in Portland. Just four years ago, that number was about 2%. What's happened is it's now become cool to come to work with a bike helmet on and have helmet hair, and you can be charging \$400 an hour as a lawyer, and it's cool to do that. So everything shifts. It is the same reason.

So what we need is, Nike and Intel are two of our biggest employers, and we've gone to their marketing people and said, how do we get behavior change? How do we get people to buy stuff that they didn't buy before? So I think as we move forward, we need cap and trade. We need a lot of government policies at the higher level, but we need people right in the streets making change, and that's a marketing problem. So that's probably my two cents.

AR That's pretty neat. Later, I'll ask you about the sweat factor. Does everyone there have the discussion to go take a shower at work? Maybe they do. So Jim, I've been learning about Plan NYC—PlaNYC?

JAMES GALLAGHER Yeah, I've only been here since December, and it took me a while to get it straight. It's PlaNYC.

AR Okay. So tell me about—but if the cities are already implicit, you're already so far ahead of the game. You know, what more can you squeeze out of a city like New York? Tell us about this.

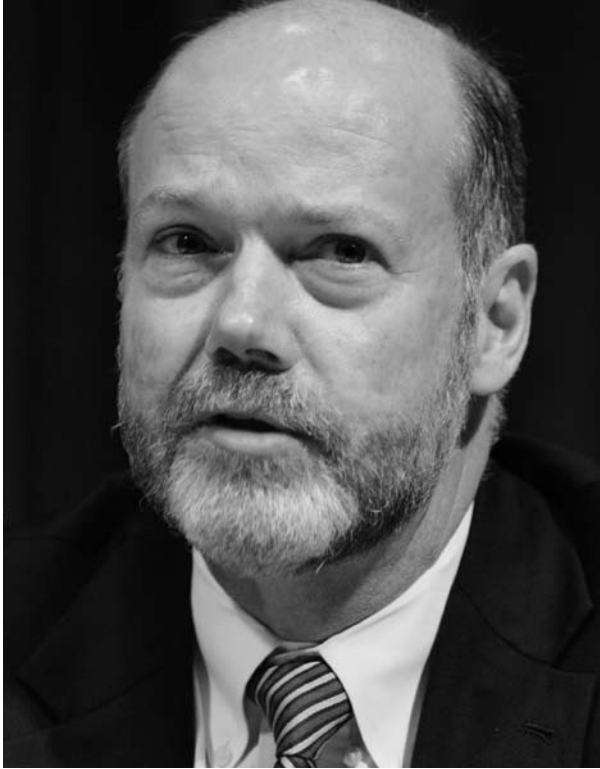
Obviously this is not just a challenge for the United States or the United States, Europe and Japan and the other already industrialized nations, but particularly for China, for India, for other growing nations.

—John Podesta

JG Let me tell you a little bit. I've been here since December. I came down from the Public Service Commission, where I was for about 21 years. Got my start in energy as manager of - - programs at TVA back in the late-'70s. To tell you how far we've come from those days, I was project manager of this effort to put 44 passive solar homes around the Tennessee Valley. We sold them on the open market, and the first home that we sold, a family moved in, and it was about three weeks later, the father died of a heart attack, and the next day, plastered all over the newspapers, Man Dies in Solar Home.

So we spent—we immediately went into overdrive trying to—we had to prove that the solar did not cause the man's death. In any case, fast forwarding—over the last 20 years, I've worked very closely with Ashok and at the state level, implementing energy efficiency programs and the state's renewable programs. That ultimately led to me coming down here with an opportunity to be the Mayor's energy policy advisor in December.

In this position, responsible with my staff, not just for providing the Mayor and his staff with energy policy advice, but also implementing the energy recommendations within the city's PlaNYC, which is a sweeping planning document, and actually, it's not just a document anymore. It's the mission of the city to implement these goals. I'll get into more detail later, but within my office, we focus on a number of things. Not only planning, but also bringing more energy efficiency into the market, bringing new, clean energy supply, looking at opportunities for improving—



James Gallagher

working with Con Edison and improving the city's infrastructure, the energy distribution infrastructure.

But most importantly, and I'll just say this, we attempt to lead by example, and there's a lot going on in New York right now. Coming down here, I've been incredibly impressed through the whole city, especially with the city government. The effort underway to lead other cities, not only in the United States but also in the world. Mayor Bloomberg has a—and I'll give you one major initiative. Last year, he issued an executive order that would set aside an amount equivalent to 10% of the city's energy bill to be spent on energy efficiency improvements in buildings.

The city uses a lot of energy. The energy bill for the city of New York, I'm talking about city government, is close to \$1 billion per year. So this past year, we had an initial allocation of \$80 million. We've spent that on projects, 135 projects, ranging from efficiency and improvements in police stations and fire houses all the way up to putting new LED lighting on the Brooklyn Bridge.

In five days, we're going to deliver a plan to the mayor for achieving the city's target—the city government target of 30% energy efficiency—energy reduction by the year 2017, which is just an incredibly aggressive goal. The state has a

goal of 15% reductions by the year 2015, but this plan and this effort to reduce consumption in the city buildings is really our effort to lead by example. I do—as we come back through, I do want to talk about a couple other initiatives and where we think we can all do more.

AR Great, thanks. Thank you. Now, Ashok, I guess because you have more of a—you have more of the cattle prod, whether it's litigation or just lobbying or outreach, you're trying to shape things to make the world better. Where have you had the least progress in an area where you see the most opportunity? In other words, what makes you tear your hair out, and tell us—you know, give us the quick sketch of what you do, but that would be scary because I know you do everything.

ASHOK GUPTA Yeah, first of all, I want to thank The New School and Con Ed for the opportunity today and also especially in terms of the New School, the connection we have because both Bob Kerrey's on our board at NRDC, and Dan Tishman now chairs our board, and here we are in Tishman Auditorium, so it really is a pleasure to be here.

NRDC's a great platform to be able to really push on policy, but it's also an opportunity to really work with business leaders and others to shape markets. So it's really for us, how you use policy to move markets aggressively and scale up is the key. So we've really tried to be leaders in smart policy development, and I'll keep it short.

The thing that really is frustrating is always governance. It's really how we make decisions and how slow decisions are made. I think we kind of know the right things to do, and there's a lot of agreement, and we still can't get out of our own way to kind of move forward sometimes. The frustration really comes at that level, but I think what makes me optimistic, really, is again, right now, seeing the leadership that we have at the local and state level because I get to work on the Mayor's plan, the New York state plan, the New Jersey plan.

NRDC's in 20 different states and working with a lot of different mayors and governors and business leaders, and it's just amazing how much activity is going on. So I'm optimistic at the end, but the frustration is really the fact that we still, knowing what we know, have been, at least ten years, if not 20 years behind in terms of what we could've been doing.

So the need to really scale up and be even more aggressive now, given that we are starting—you know, we've kind of lost a lot of time—is even a bigger challenge. How are we going to get together and make the decisions and move forward on both energy intensity and carbon intensity? I



Kenny Esser

mean, the solutions are really efficiency and clean energy sources, and again, John did a great job of laying out the whole set of solutions that we need to embrace. But how are we going to actually get it to happen?

AR Okay. So Max, tell us about your approach here and just your own experience with this—I don't know how long you've been looking at the climate-energy nexus.

MS Well, I want to thank John Podesta for making think tank life seem much more exciting than it actually is. I've been at the Manhattan Institute for about two and a half years now, and I came from the Bush administration, working in the energy department, working on the energy policies that have been denounced so roundly by Mr. Podesta.

But I've been at Manhattan Institute for two and a half years now, and that's a think tank based here in Manhattan, as the name suggests, although I live and work in Washington D.C. I've been very curious since I was asked to come up here for this because of the emphasis on energy efficiency as one of the solutions to our world's problems or energy problems. I think that's great. I think energy efficiency is a wonderful idea. I think it's wonderful in practice, but I'm going to be somewhat contrary here and

suggest that efficiency is not the solution to lowering our energy consumption, and that's been both the stated and the implicit idea here so far with members of the panel and then even with Mr. Podesta, that we really have to cut our energy consumption in the future, and the best way to do that, or one of the best ways to do that, is through efficiency measures.

As I said, efficiency is a wonderful thing, but I just would make the point that historically, increases in efficiency have actually led to increases in consumption of energy. The American economy over the last several decades has become extraordinarily more efficient in virtually every aspect of the economy, whether it's in generating energy, in how we use energy, our appliances, our automobiles. Everything is much more efficient today than it was decades ago.

Yet, we use vastly more energy resources today than we did in the 1970s. Let me just speak for a moment on automobile efficiency standards, CAFE standards, and Mr. Podesta brought up the bill that was passed back in December to raise café standards for the first time in a long time. I think that's great. I want my car to be more efficient than it is. I'm not so sure that that's going to do anything to decrease our oil consumption.

The reason for that, if you think about it, is that lowering the price of driving is really what you get when you get efficiency. You lower the price of driving, you're actually going to encourage people to drive more. Now, efficiency gains—you know, any particular instance may have their own effect in that particular instance, but the overall trend has been, in the American economy, that when we make things more efficient, we lower the cost of using them, we actually use those things more, and we use energy supplies more.

So I was very curious to come up to hear how all these efforts to increase efficiency in our buildings and our transportation, how they're going to solve our problems. I love efficiency, I encourage it. I want more of it. I'm not so sure it's going to lower our consumption.

AR I had this nightmarish conversation with Vaclav Smil, who's this fantastically brilliant thinker on energy and technology at the University of Manitoba and who I've talked to for 20-plus years, and he introduced me to Jevons Paradox. This is the guy in 1865 or so who came up with this idea that—he said, look, you know, you can look back in history and see that if it gets cheaper, you use more, and it all goes away.

MS I would actually submit that in the CAFE debate when people say, you know, we need cars that run at 35 miles per

gallon or 40 miles per gallon, that if you really wanted to make a dent in oil consumption, which was really the stated purpose both from folks like Nancy Pelosi and President Bush, if you really want to make a dent in oil consumption, mandate that our cars and trucks go five miles per gallon.

People will drive a whole lot less, and we'll use a whole lot less oil.

AR Would you say—maybe, could you elaborate a little bit on that free market idea? I mean, the free market notion gets oversimplified sometimes. I think most free market advocates that I talk to do say there's a common peril, and you put a tax on it. You value, you know, the atmosphere, if everyone agrees. So you can have a free market, but that's constrained by what we all see as appropriate. So would you also agree that a tax—if everyone agreed that global warming is the ultimate peril, the rising tax, is that the best thing—the best approach?

MS I would say that if you are very serious about curbing carbon dioxide emissions, a carbon tax, which is much more transparent than a cap and trade system, would be a more direct and better way than some sort of elaborate, intricate and frankly confusing cap and trade system. You know, we have—not just for pollutants from mercury and things like that—we have seen a carbon dioxide—a carbon emission cap and trade scheme implemented recently, and it's been implemented in Europe, and it frankly hasn't worked very well. I think it's one of the things that people really need to take a look at when they talk about whether we should do the same thing here in the United States.

A much more direct and a much better way, if you want to reduce carbon emissions, I think is just a tax.

AR Of course, the peril there, and John, I know, would agree with this, too. As many experts on this have told me, a carbon tax sufficient to solve a problem is politically impossible. So you get this weird disconnect, again, between the politics and what scientists would say would give you a livable climate. Now, everyone else on the table, is there anyone who wants to jump in on that efficiency question? Yeah, Kenny?

KE I think the reason why some of us initially focused on efficiency is because that is the low-hanging fruit, and that is also I guess the name of the panel. But the—but our energy master plan that we're putting out there right now, we're not naïve enough to think that energy efficiency's going to get us there, that it's somehow going to be the magic bullet that lowers our prices and increases reliability of our system. That's why there's five goals.

So the one example I'll give is bicycle riding. So we now have more than 5% of everybody going to work on bikes in Portland. Just four years ago, that number was about 2%. What's happened is it's now become cool to come to work with a bike helmet on and have helmet hair, and you can be charging \$400 an hour as a lawyer, and it's cool to do that. So everything shifts.

—Susan Anderson

The other ones are achieving 5,700 megawatts of demand response efforts, lowering our peak demand by 5,700 megawatts over the next five years. That would decrease the need for peak generation and be able to rely more on base generation. We envision energy efficiency. Our goal, it isn't to achieve a 20% energy efficiency by 2020. It's 20% less energy consumption by 2020.

So that's energy efficiency and energy conservation. We're getting there by new building codes, by appliance standards. We're going to use the utilities to get into all the homes to make sure we achieve these targets. The other thing is renewable energy. We have a 20% goal of renewable energy by 2020. There's going to be—I think in our plan of the five goals, we have about 20 different action items. There could easily probably be 200 different action items. This is only a start, and the actions a municipality can do can even go further as far as walkable communities and transit-oriented development and green building.

As I said, efficiency is a wonderful thing, but I just would make the point that historically, increases in efficiency have actually led to increases in consumption of energy.

—Max Schulz

These sorts of initiatives will all help together to get us where we need to go. However, I think all of this, the energy master plan that we're working on in New Jersey, that's not going to get us there. That's not going to get us to the end game that we're looking for. This is really a transitional document. Hopefully that silver bullet comes along. Energy stores could certainly help with that, whether there's a breakthrough in renewable energy technology, whether there's a breakthrough in nuclear storage for the waste.

There's many things that are out there. We don't have all the solutions on the table today, but we're counting on the next several years having some other solutions, and at least having New Jersey on the path to be able to take advantage of them.

AR Yeah, Jim, and then Susan.

JG Yeah, I think to respond to some of the things that Max said. I think that you do see some snapback effect when people will save energy. Sometimes they'll take it out in a little bit more comfort. Perhaps they had the thermostat down. They'll inch it up, but they're really—you know, there's a limit to that, and I think we have about 25 years of experience. I know in New York state, we have a lot of experience that energy efficiency works, and energy efficiency will reduce consumption and that you can count on it.

The independent system operator in New York state gives actually more credit for an energy efficiency KW reduction than it would for new generation. So I mean, it's real. The only other point I think I would make is we spend so little on energy efficiency right now relative to other expenditures. The example I want to use is the state - - utilities has a system benefits charge, and through

this charge—and I'm reminded of the woman's question regarding the \$0.64—through this charge, \$175 million per year is raised for energy efficiency in New York state.

However, we spend, in New York, about \$40 billion per year on energy. That \$175 million collected through rates, it's about a tenth of a cent—a little over a tenth of a cent. I know on my home energy bill, I pay about \$0.75, \$0.80 per month for the state's energy efficiency program. Today I went and bought an iced venti Americano with an extra shot, and I spent \$3.63.

I think a lot of people are willing to give up that \$3.63 once a month to quadruple the amount of spending that we are actually putting into energy efficiency in New York.

AR Susan and then Ashok.

SA I think our experience in Oregon is really similar to New York in terms of energy efficiency, but also that it's created an enormous amount of jobs. By being sort of one of the first cities that did this, we had this opportunity. Literally, friends of mine who were in architecture, engineer and design firms that had 30 people now have 200 people, and they're working in New York, and they're working in California, and they're working in China and Thailand and all over. So it's been also seen as really the cornerstone of our economic development program.

Also, I kind of differ with what Max said because over the past 15 years, household energy use has fallen 7%, and vehicle miles traveled have fallen 7%, and gasoline use has fallen 13%. So there is some staying power, and maybe it's just because it's Portland, but we do think it translates to at least some parts of the country.

AR Ashok.

AG Yeah, I mean, I think my general reaction to this discussion is really—again, there's no one answer, so prices clearly are part of the answer, and we need to get prices as correct as possible. Again, as John Podesta said, we're talking about a lot of complimentary policies that have to be there, and they're really about encouraging technical innovation and getting it out on the market. Again, these are technologies that have been out there but aren't being adopted for lots of reasons.

The question is really how to promote the use of those technologies and promote more innovation. You know, I studied economics, and we studied growth theory and economic modeling, and there was the technology factor. The question is, how do we use that factor so we can achieve many of our goals through improvement in technology?

Efficiency is really a question for me of can we get better technologies out there?

Yes, there will be some increase in energy consumption as people use energy more efficiently, but they also spend that money that they save on energy on some other things they'd rather have in terms of services and what you see empirically is people do spend money on lots of other things and don't necessarily want to drive—you know, if the car's twice as efficient, they're not going to just all of a sudden say, I'm going to go drive twice as much. They have a certain amount of services they want in terms of mobility and energy, and those services they want to get at the lowest cost possible.

Yes, there will be some effect in terms of increased energy use because they're going to either get more comfort or more service. And even if they actually do drive more, but they're getting something that they want to do, go on more vacations, they're getting something more for it, that's okay also. It's really a matter of letting people decide and use more energy consumption. That's not really what people wake up every day to see how can I consume as much energy as possible? So I do think that technology offers a solution to do other things with your money rather than use it for energy.

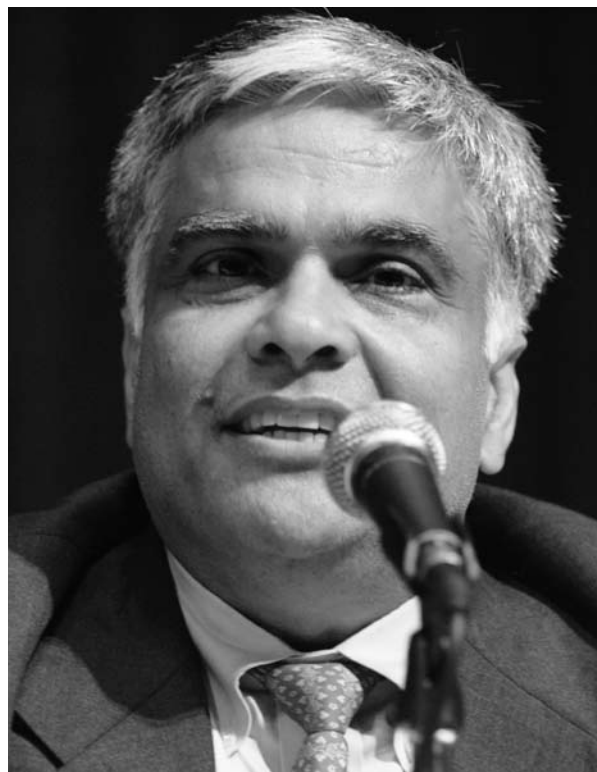
AR I have a question about this thing called ESCOs, these energy service companies. I cover the environment and science mostly, some of the economics increasingly and energy technology, but I haven't gotten into the nuts and bolts of how a big building cuts its energy budget. And then I learned last year when I was covering the Clinton Climate Initiative that there are these big billion dollar companies that just run around looking at your building and they say hey, you know what, I'll put in the new light bulbs, look at all of these opportunities here to save money. And every savings I get that's below your old energy budget, I get to keep as profit. I get to keep that money. And so there's a business model already for harvesting waste and making money. Is that a booming industry right now or not?

AG It's been around for a long time. It's been around—

AR [Interposing] Yeah, I know.

AG —about, you know, over 25 years. The question is really does that model work for every building type and every part of the economy and the answer is no. So we can scale it up and certainly - -

AR But I can't call someone and say come to my house and do it?



Ashok Gupta

AG Well, the transaction costs are too high for smaller customers. So for buildings—for government sector it works, for owner-occupied buildings it works. And we can scale up that model for sectors that it works in. But when you have multi-tenant buildings and commercial office buildings or small single-family or multifamily homes, because of all of the landlord/tenant issues and many other factors, the shared savings model of ESCOs is really not. So we need to use different solutions and different strategies for different parts of the market. So, very supportive of the ESCO model and scaling it up in those sectors where it really works and we should do that. And I think that's what the Clinton initiative is doing in terms of the governmental sector and other sectors where it can really be scaled up.

AR And now this is sort of for Max and Jim maybe, but everyone can jump in, too—we went through this thing called deregulation in the energy industry. Actually I wish Kevin were up here. Maybe you could go to that microphone in a minute.

When I was living in Brooklyn in the eighties, I swear I saw like bulletin boards saying, we'll give you light bulbs free or we'll take away your old refrigerator and give you a new one. Am I dreaming or not? I mean, and then it all went away.

KB No, you're not dreaming. We used to go out and give people light bulbs, compact fluorescent bulbs. We used to go and take their refrigerators away. And then as we went through the deregulation process, a lot of what was mentioned earlier, the systems benefit charge, the money that we collected and spent on energy efficiency then went up to Albany, and the State Authority started spending that money. So we wound up sort of getting out of that business. We've been getting back into the business I guess a couple of years ago in a smaller way. We've been trying to get back into it in a larger way. And Ashok and I were talking about this before, that one of the frustrations is we should've been in this business for years. And we'd be much farther down the road than we are today. Look, we'd like to get back into the business of helping people get used to compact fluorescent bulbs. They really do save a ton of energy. If you think about the old—the standard incandescent bulbs, when did you learn not to touch it when, you know, when it was on? Probably when you were about two when you climbed up on a lamp and touched it and hopefully you only had to touch it once or twice and you learned, right? Compact fluorescent bulbs, you can—I could stand here with my hand on it.

AR Yeah.

KB So I think on the energy efficiency issue, when I go home and I turn on a compact fluorescent bulb, I don't think oh, gee, I'm saving energy. Let me turn on four more bulbs. I, you know—

[Crosstalk]

MS In particular instances you can have efficiencies, and you may change your behavior a little bit, but in the aggregate, we've seen—and it's incontrovertible—we have seen great advances in efficiency in our economy over the last several decades. And at the same time, we've also seen huge jumps in consumption. You know, it's—and they do tend to go together.

KB Well, and a lot of wealth got created.

MS Yes. And—it's all tied in.

AR And this leads me to ask Max again, though, so it sounds like we're at or we're getting back to the point of circling back toward, you know, trying to push utilities to do different things in different ways. So I assume a free market approach would not go for that. That—did deregulation, it worked—

MS [Interposing] Well, I—

AR —did it work or not work?



Max Schulz

MS —I don't think that we've had deregulation. I mean, we've had restructuring efforts in a lot of states. We've had some efforts as aspects of deregulation and, you know, other areas continue to be heavily regulated. You know, John Podesta talked about the need to fix the grid in the 21st Century as an important policy objective and I agree wholeheartedly. One of the things that has led to the present problems with our grid has to do with the kind of ham-fisted way that we have gone about regulating energy and transmission. You know, we had some deregulation and restructuring efforts, particularly in the 1990s, from the federal level that helped unregulated electricity generation. It—if you generated electricity but shipped it to a different state you weren't really as regulated as if you kept it in the state. But at the same time, transmission lines were kept very strictly regulated at the state level. And so there were never any abilities for transmission owners to upgrade their investments because there was no way that they could get a return on their investments. You know, the problem that we have with the grid has a lot to do with how things have been regulated. I mean, from a very general standpoint, I favor less regulation than more. I'm not quite sure I got to exactly what the question you're asking is, though.

I know in New York state, we have a lot of experience that energy efficiency works, and energy efficiency will reduce consumption and that you can count on it.

—James Gallagher

AR Well, let's say you want a new—a super grid, a slippery grid so you can generate power with a solar thermal plant outside in Arizona and have it satisfy peak load in New Jersey. How would you see that happening in—

MS Well, I'm not so sure you'd see it happening with some great solar panels, but you might with—

AR [Interposing] Solar thermal, which is competitive.

MS Sure. But I think that there probably needs to be an even stronger federal presence in terms of how we site transmission lines. I think that the biggest challenge for the grid and for the expansion of renewable energy is how are you going to get your energy sources to the markets? Right now, it's extraordinarily difficult. It's difficult to build a coal plant, as we see in Kansas and places like that. But it's even harder really in many parts of the country to site transmission lines. And the grid has developed from it, used to be very localized and regional, but now the grid is really kind of this national asset and it facilitates interstate commerce. And for that reason, I think that the federal authorities have to have a much stronger place in how transmission and distribution facilities are sited.

AR But before I let some others jump in—and I'm sure Jim and Ashok are eager to—I'm not as familiar with the Manhattan Institute as I am with Cato and Competitive Enterprise down in Washington. And boy, you know, you're talking about big government saying do this, do that.

MS No, I'm talking about the—

AR [Interposing] And they wouldn't like that.

MS —about constitutional regard for interstate commerce. I'm a very small government kind of guy, but I understand the role of federal regulation—and federal intervention in certain instances. And I think that interstate electricity

transmission is exactly the sort of thing that the Founding Fathers, who could hardly have envisioned the national electricity grid, but that interstate electricity transmission is exactly the sort of thing that they were thinking about when they put a provision in the Constitution to guarantee that the federal government could regulate interstate commerce to make sure that states can't through very parochial interests stymie it.

AR Yeah. Someone recently told me if you like solar and wind, you'd better at least like transmission. And that gets at all those NIMBYs out there, so Ashok and Jim, maybe quickly if you can jump in a little bit.

AG I agree with Max mostly. I think the issue of transmission, because of those of us who support wind and central solar know that transmission is going to be a large part of the solution. And I've spent a lot of time in Kansas because my wife's from there. And there's a huge wind resource. The question is how do you get it to market? And I think we do need to figure out the transmission issue. And this is a case where transmission and distribution will always be a regulated monopoly. You're not going to get competition in transmission and distribution. You may get distributed generation as a competitor over a period of time. And there will be an issue of whether T&D will become stranded if distributed generation really takes off. But that's the competition that will take place between distributed resources and central resources.

But in the meantime, if we look at transmission and distribution systems, we have to have the right policies in place. And I would argue, just as markets can be imperfect, regulation is imperfect. And in this case, we need to figure out how to drive investment in new transmission and distribution. And that's going to require much better rules from FERC and state regulators in terms of pricing that infrastructure.

And we see it locally all the time in the New Jersey/New York corridor in terms of, why should New Jersey pay more for transmission to bring power to New York? And all those issues have to kind of be resolved in terms of distributing those costs properly.

JG Just a few things that I wanted to add. With respect to transmission, I also agree, we have a problem in New York in that New York City is essentially in a load pocket and it's difficult to get power from the outside into the city, which is why at least 80% of the city's consumption needs have to be met by in-city generation and very difficult to build that in-city generation. Most of the renewables that are going into New York State so far have been in the form of

wind projects way upstate. And it's difficult to get that wind energy down to New York City. New York City customers, however, are paying into that program and subsidizing the renewables. And I believe it is important that we look at other renewable opportunities within the city. One example I can give you is, yesterday I met with a consultant about the Hunts Point fish and meat markets. It just struck me as a tremendous opportunity to do something. It's—the city owns it. It's 3 million square feet of space. And they came back with and they recommended that we consider photovoltaics, you know, and they believe we could get over 25 megawatts just at that one site, which would be the largest photovoltaic installation on the East Coast. And I think we need to explore opportunities like that, not just from city buildings, but within the private sector as well.

AR Interesting. We're going to go to audience questions in a couple of minutes. Actually, by the way, —I think we might all agree, does everyone on the panel agree that improvements in transmission capacity around the country are a vital part of what a city or a state needs? Yes or no? Raise your hand. Okay, that's good enough.

Now—what can you guys not do? In other words, what is it that Washington is going to have to—whether you're in New Jersey or Portland, Oregon or Ohio or wherever, what is the thing? If you want to have a decent contribution at the city level, a decent sense of we're limiting climate risks in a growing world, what is it the federal government has to still do despite all these interesting initiatives that are underway? Maybe one, two, three, just go down the row.

KE Off the top of my head, I wrote down three things. I wrote down greenhouse gas emissions, nuclear energy—really what I'm talking about there is placement of new nuclear and disposal of nuclear waste—and research. Those are three things that, New Jersey's not going to come up with a way to dispose of its nuclear waste. We're not going to store it in our Meadowlands, we've got no place for it, although there's probably enough stored there. Greenhouse gas emissions, we joined RGGI, which we're going to take the proceeds from RGGI and we're going to invest 100% of that back into energy efficiency and renewable energy and co-generation to try to help offset some of the costs of RGGI. But we're part of PJM. And PJM consists of—it's late on a Thursday, so you'll have to excuse me. I think it's 10 or 11 states, going out to Illinois, going south down to North Carolina. So with—you can't control where electrons go. They really travel the path of least resistance. So when New Jersey needs new generation and we need new supply to meet our demand there's an option for a generator. They can come to New Jersey and participate in a cap-and-trade

So I think on the energy efficiency issue, when I go home and I turn on a compact fluorescent bulb, I don't think oh, gee, I'm saving energy. Let me turn on four more bulbs.

—Kevin Burke

program, which is going to add cost to their generation, or they can go just across the river and in many cases five miles and build it over in Pennsylvania. They don't have to worry about greenhouse gas emissions. And at present time, we're not even sure how to—because of interstate commerce laws, how to be able to ensure that that generation that's coming over to New Jersey is consistent with our environmental principles. And so that's another issue that we could obviously use some leadership from the federal government.

And the last one is research. And that goes without saying. I mean, we have a \$30 billion budget in New Jersey. Everybody knows we are facing mounting debt in New Jersey that we're trying to deal with. We'd love to be able to undergo a massive research effort with the great universities in the state. But the fact of the matter is we're not going to come up with energy storage by ourselves. This is something that should really be a national issue, just like new—renewable energy generation. It needs to be a national research initiative if we're going to get that silver bullet we need.

AR Okay. Susan?

SA I'd say national cap and trade, and if that doesn't work, then California and Oregon will just do their own and we'll move on. And we're in a lot of agreement and I think we could do that pretty quickly. Same with a national renewal portfolio standard—we already have one in Oregon, so it's one of those things, again, where to bring the rest of the country along. CAFE standards, we can't do much about vehicles in Oregon. We don't build much. So—but I guess my point is that there is so much. You know, half of it can be done at the local level and we still need CAFE standards, appliance standards, some of these other kinds of things to move predominately the technology into the marketplace.

AR Jim?

JG I think you hear some similar recommendations, improved energy standards, the greenhouse gas cap and trade program, applied research, new, clean energy supplies, as well as storage. But I think most importantly, and this is a position that the city has been taking, the mayor has been taking, and also the state has been taking, is we can't wait for the federal government to move. We need to lead by example, not just within the city, but government. That's what led to the Regional Greenhouse Gas Initiative that the Northeastern states have put together. We really need to take the bull by the horns and make something happen without waiting any further.

AR Great. Ashok?

AG I agree with Susan and Jim. I think on the buildings and power side, there's a lot that the states can do and have been doing and will keep doing. I think on the infrastructure issues, we need a lot more federal leadership on both the transportation side and the power side. So I do think there are clarity issues in terms of policy and funding that the federal government has to lead on. But the states and localities aren't going to wait. They've been working very hard. You know, over 25, 30 states now are doing climate policy, renewables policy, building, so even appliance standards are happening at the state level and eventually get adopted at the federal level. I think that's kind of become the norm at this point. It's unfortunate these things don't happen as fast, as it would be good to get federal leadership, and hopefully we will have some in the next couple of years.

AR Okay. Max?

MS I would just say that for all of the talk about efficiency and increasing renewables and things like this and building codes and what not, far more important than any of those things would be to ramp up nuclear energy's share in our electricity mix in this country. The Energy Information Administration says that we're going to need, their prediction is we're going to need I think 30% more electricity in the next—by 2030. You know, our electricity by and large comes from three sources, from coal, from natural gas, and from nuclear power. That gives us 90% of our electricity. And if we're going to need 30% more electricity than we consume today, things like renewables aren't going to get us there. They're going to be very marginal contributors to our energy mix. And that's fine. There's a place for them. But if we're going to dramatically increase our energy use, which I think we're going to, and those projections take into account conservation and efficiency gains, and if you want to do that in a way which

limits emissions, we have to go with nuclear. And the federal government has a role there. They've already taken some steps in the last couple of years. But the Nuclear Regulatory Commission needs to process the applications that are coming in for new nuclear plants. Plants that are nearing their retirement dates probably need to be extended. There's no way to meet any of the goals that everyone on this panel wants to be met and people in the audience want to be met without nuclear power.

AR I'll just weigh in a little bit on that. Even looking globally, even with the pace of nuclear development in China, which is faster than we're on track here, the energy economists, there's been a bunch of studies that show that even the nuclear wedge if you want to call it a wedge of the power pie, is going to be still very small through the next 30 years. And if you're worried about climate, again, it's inconsequential essentially because it doesn't supplant coal. It might sort of bite away—it's much larger than solar, which is a 0.01% of—

MS [Interposing] Right. No, I don't—and I'm not saying that it's going to solve the problem.

AR But it's not—

MS It's not going to solve the problem. But there's—it is much likelier to help than solar, than wind, and other renewables.

AR Okay. And one quick thing, too, I do encourage you all to read, we have an ongoing series in the *Times* called "The Energy Challenge" at nytimes.com/energychallenge, one word. Started three years ago, it was supposed to be one of these sort of quick, one-year series like everything is in journalism. But then the editors realized this is the new normal. We have an energy challenge we face. And by the way, on the research frontier that Kenny was talking about, we have completely disinvested in, and actually, Max, I'm sure you know from your time at the Energy Department, our energy research and development budget, federal money in this country, is about \$1 billion a year. And it was \$5 billion in constant dollars in the seventies, the last time we really cared about energy. And so when you hear someone say oh, we've just doubled the solar research budget, it's from this incredible ribbon, this minute little line on the graphs. And if there isn't a big initiative to increase the kind of federal—the kind of advances that can only come at the federal level—that created the Internet before it became a commercial enterprise—many experts, including Marty Hoffer, who stood on this stage three years ago and said that we're essentially toast, again, if you—if the climate question is something you care about.

So now let's go to questions. Over here, tell us who you are and keep it a brief question.

MALE VOICE Hi. Good evening. Annie Wilson and I work with the Sierra Club. And I want to cross over between the issues of the subsidies and how that relates to the nuclear industry and the fossil fuel industry. And I wanted to cross into the greenhouse footprint and the Regional Greenhouse Gas Initiative, for which New York State, there is an insufficient cap. The actuality is that the reductions for the utilities will not begin until 2014 at 1% a year for five years. So in reference to the transmission lines, should it be nationalized? And back to the nuclear issue, sir, the carbon footprint of a nuclear facility from the extraction of the uranium to the processing and the transportation is already the footprint of a gas-fueled facility and we have not included the 200,000 years or so of waste storage.

AR Okay.

MALE VOICE So I think you should consider that. Thank you.

AR Any quick nibbles on that from the various - -

MS [Interposing] I don't know where to start. There's so many different ways. Nuclear power is—and I'm not here as some, you know, paid advocate of the nuclear industry. But nuclear power is capable of generating gargantuan amounts of electricity relative to wood or to wind or solar with virtually no emissions. Yes, it's there, it's an entailed process in terms of mining uranium and processing it. But, by and large, you could make the argument that the footprint to manufacture a solar panel is large and requires using dangerous materials and toxic materials. And that's true. That isn't an argument necessarily against solar power, but it's to point out that electricity generation is an involved process. At the end of the day, you get so much bang for your buck in terms of what a nuclear power plant can produce in—at the end of the day a relatively small footprint that it's probably worth—and the safety risks are mitigated in this country. We've handled the nuclear electricity generation very safely, that it's worthwhile to proceed on that front.

AR And by the way, just quickly, I have seen at least one pretty thorough study that shows that the full lifecycle footprint of nuclear is similar to that of hydro, so it's not—it's building a dam, pouring all of that concrete, et cetera. So it's not like, well, Ashok.

AG Well—

AR [Interposing] And we're running out of time.

AG I know. Just quickly on that last point, I mean, again, my view of it has been if you look at what the market's been doing and what it's been willing to invest in and why nuclear hasn't been invested in, look at how much wind has gone up and investors, yes, with some policy support, have built thousands of megawatts of wind with less financial risk, a lot less time than nuclear. If investors wanted to invest in nuclear, there's been a lot, especially in the recent years in the energy bills, a lot of support provided to nuclear and it—the risk factors in terms of financing these large capital investments is huge. And that's the reason why nuclear hasn't gone anywhere in the last five or ten years and where wind resources are skyrocketing and will continue to, because it will make more sense for investors to put their money in wind than in nuclear with all of the policy support that nuclear gets and the little support I think that wind gets.

AR Can we fit in one quick one, one more quick one?

FEMALE VOICE Hi, I'm a writer here in New York. I actually have a rebuttal to Max's comment about energy efficiency and what his comment was about, the cap and trade. In terms of your argument about energy efficiency and consumption, you seem to be assuming that energy efficiency was causing greater consumption and you directly implied it actually twice. But I would say that, in fact, consumption has increased despite energy efficiency and that they're not, —obviously one doesn't causally cause the other. And in terms of, just therefore disregarding energy efficiency as a possible solution, I would argue that it should be like one wedge of a greater solution. I can't remember, there was a theory about how there should be different wedges that are part of a solution. And I would imagine that that would be one. And on top of that, what you were arguing also didn't take into account that the population is increasing. So if the population is increasing, then it's very important to decrease energy use per capita. And then the last comment that I want to make is about the—what you said about the cap and trade system in Europe not working. And obviously there are problems. It was, you know, the first time. And they gave away I think too many credits or something. But that kind of argument is like saying oh, the first computer was three-rooms big and therefore it's so difficult to make, we're not going to try to build on it and improve on it. But I think that these things can be improved with time. So I just wanted to make that comment.

AR [Interposing] I think this is the last question. I apologize. We've kind of—I guess we're running out of time.

I think that the biggest challenge for the grid and for the expansion of renewable energy is how are you going to get your energy sources to the markets?

—Max Schulz

MALE VOICE Sir, I just want to follow up on the point that the last questioner made. Yeah, I also would quibble with Mr. Schulz's assertion about the effective energy efficiency on consumption. I mean, in terms of the aggregate—about energy efficiency of the American economy, it has been improving, as has energy consumption. But as the last questioner implied, that's because the economy has been growing. So if, you know, absent those increases in energy efficiency, the energy consumption growth in America over the last three decades would've been much larger. So my question just for you is what research you're looking at because the research that I've looked at—and I'm really from Gilbert Metcalf—shows that if you're looking at the sort of inverse in energy efficiency, energy intensity, energy used per dollar of GDP, if you look at the declines in energy intensity since say 1973, they have brought about implied energy savings that in 2004 were equal to three-fourths of the total of U.S. energy supply. So, I mean, it seems to me that I think there are economic criticisms of energy efficiency involving whether or not it's efficient from an economic perspective, even if it does reduce energy use, but I think in the aggregate, there's just to me no question that energy efficiency has succeeded in holding down energy consumption.

[Crosstalk]

AR Any particular research you can direct him to quickly?

MS Well, I mean, from a very targeted standpoint, I would just look at our experience with CAFE and with the fact that driving cars are much more efficient than they were back in the 1970s. And by and large we drive, per capita and in the aggregate because we have a greater population, we drive more than we did. It costs less to drive. It doesn't these last couple months, but by and large you've lowered the

cost per mile to drive. And in the aggregate, we as a nation drive more. You know, and it isn't just our automobiles. It's lots of other areas in the economy have, we—you said that efficiency has helped create this, the increases in wealth, which it has. And that has in turn driven consumption. And in some respect, that's my point.

MALE VOICE Well, just to be fair, I wasn't claiming that the efficiency in themselves caused- -

AR [Interposing] You can continue offline perhaps. I would like to thank the panel for a very spirited evening.

APPLAUSE

AR I'm going to end the evening with one little quote. I think I spoke it here three years ago, too. And this was said, well, a little while ago. "I'd put my money on the sun and solar energy. What a source of power. I hope we don't have to wait until coal and oil run out before we tackle that." That was Thomas Edison in 1931. So we've got some work to do. Thank you, again.

APPLAUSE

PT That's going to conclude tonight's program. I just want to once again thank Con Ed for opening up this conversation, which clearly people care a lot about. Thank you.

PARTICIPANT BIOGRAPHIES

Susan Anderson is director of the Office of Sustainable Development in Portland, Oregon, which is responsible for that city's solid waste collection and recycling, energy conservation, renewable energy resources, green building and utility regulation. For more than a decade, she has led a movement toward sustainable practices in a city recognized worldwide for its innovative approaches to environmental policy. In 1993, under Ms. Anderson's leadership at the Portland Energy Office, Portland became the first U.S. city to adopt a global warming plan; its policies, regulations and voluntary programs have resulted in substantial reductions in greenhouse gas emissions.

Kevin Burke is chairman and CEO of Consolidated Edison, Inc. From 2000 to 2005 he was president and chief operating officer of the company's principal utility, Consolidated Edison Company of New York. In 1999 Mr. Burke was president of Con Edison subsidiary Orange and Rockland Utilities. He serves on the boards of Con Edison, the American Gas Association, Edison Electric Institute, the Energy Association of New York, the New York State Business Council, Partnership for New York City, the New York Botanical Garden, and the Greater NY YMCA.

Kenny Esser is energy policy advisor to New Jersey Governor Jon S. Corzine and is currently working with the Board of Public Utilities and other stakeholders on the state's Energy Master Plan, which is to be released in September of this year. He previously held positions at New Jersey's Department of Environmental Protection (DEP), Department of Consumer Affairs, and the Meadowlands Commission. In both his DEP and Meadowlands roles he served as a policy advisor for issues concerning energy and economic growth.

James T. Gallagher chairs the city's Energy Policy Task Force and is senior vice president for energy policy at the New York City Economic Development Corporation (NYCEDC), where he advises the mayor and implements many energy recommendations included in the PlaNYC blueprint. Prior to joining NYCEDC, Mr. Gallagher was director of the state Public Service Commission's Office of Electricity and Environment, which oversees electric system operations and pricing of utilities. He has also held senior positions at Northeast Utilities, the Pennsylvania Governor's Energy Council and the Tennessee Valley Authority.

Ashok Gupta is air and energy program director at the Natural Resources Defense Council (NRDC), a nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. He works on global warming policy, utility regulation, energy efficiency, renewables, sustainable building design and reducing petroleum dependence. Mr. Gupta is NRDC's representative on Mayor Bloomberg's Sustainability Advisory Board and Energy Policy Task Force. He also serves on Governor David Paterson's Renewable Energy Task Force, the MTA's Commission on Sustainability and the Kansas Energy and Environmental Policy Advisory Group.

John Podesta is a visiting professor at the Georgetown University Law Center and president and CEO of the Center for American Progress, a progressive think tank focused on energy, equitable economic development, universal health care and global security issues. He served as chief of staff to President Bill Clinton from October 1998 until January 2001, and was responsible for directing, managing and overseeing all policy development, daily operations, congressional relations and staff activities for the White House. He served in the president's Cabinet and as a principal on the National Security Council. Prior to becoming chief of staff, Mr. Podesta served as an assistant to the president, deputy chief of staff, staff secretary and senior policy adviser on government information, privacy and telecommunications policy.

Andrew C. Revkin is a prize-winning journalist and author and has been a reporter for *The New York Times* since 1995. His work covers environmental issues in their social and political context. His blog, Dot Earth (www.nytimes.com/dotearth), engages the public in a discussion of strategies for balancing human activity with the planet's limited resources. Revkin has written books on the Amazon, the Arctic and global warming, and has taught in graduate programs at Columbia University and Bard College.

Max Schulz is a senior fellow at the Manhattan Institute's Center for Energy Policy and the Environment, where his work focuses on the practical application of free-market principles in energy debates, particularly the intersection of energy, the economy and the environment. He previously served as senior policy advisor and director of speechwriting for United States secretaries of energy Samuel Bodman and Spencer Abraham. In his four and a half years at the Department of Energy, Mr. Schulz worked on issues ranging from energy supply and demand to nuclear security and nonproliferation. He has also been managing editor of *Forbes MediaCritic* magazine.

Julien J. Studley is principal of Studley New Vista Associates, currently involved in real estate investments and consulting. He was born in Brussels, Belgium and came to the United States in 1943 via France and Havana, Cuba. In April 1954, he founded Julien J. Studley, Inc., a commercial real estate brokerage firm and was CEO until December 2002, at which time the company was bought by its employees. In 1985 he established the Studley Foundation to aid non-profit organizations and initiate new projects. Deeply involved in the community, he is Chairman of the Board of Trustees at The New School, co-chairman of the Executive Committee of the Film Society of Lincoln Center, a member of the Board of Directors at Lincoln Center for the Performing Arts, chairman of the General Services Committee, and a member of the board of The Lincoln Center Redevelopment Group. He is also chairman emeritus as well as chairman of the Nominating Committee at the Graduate Center Foundation at CUNY.

Paul Travis is founder and managing partner of Washington Square Partners, a real estate development advisory firm responsible for major city initiatives including the Moynihan Station, Downtown Brooklyn and New York Historical Society redevelopments. He is also a partner in Kingsbridge Development Partners, which is responsible for River Plaza, the first major private development in the Bronx in twenty years. Previously, Mr. Travis served as chief operating officer of Forest City Ratner Companies, where he worked to develop Brooklyn's MetroTech Center. He is a class of 1977 alumnus and a member of the board of governors of Milano The New School for Management and Urban Policy.

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