

**Testimony of Cathy Zoi
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Mr. Chairman, members of the Committee, thank you for the opportunity to speak with you today and thank you for your continued leadership on an issue that I believe is at the core of the most important challenges facing our country.

I am Cathy Zoi, CEO of the Alliance for Climate Protection, a nonprofit communications and grassroots organization focused on solutions to the climate crisis. Our bipartisan Board of Directors is chaired by Al Gore

Many Americans have a hard time thinking about our energy future, largely because their energy present is so challenging. With gas prices hovering near \$4 per gallon, families have sustained an economic stomach punch. Gasoline prices are just the tip of the iceberg: Coal prices have skyrocketed and natural gas prices have spiked as well. Global demand for these resources is growing putting upward pressure on prices. We can now see very clearly that the suite of fossil fuels that have been the staples in our energy supply will continually be subject to wild swings in prices. And as global demand for them increases, so too will the prices consumers must pay. Staying on our present track is an invitation to sustained higher prices, greater economic uncertainty and more difficulties for American families and businesses.

Our energy policy is of course linked to our foreign affairs and defense policies. This is for one very obvious reason: dependence on foreign oil. And while our troops are under fire today for a variety of reasons, not least among them is our need to satisfy the Nation's oil appetite. Intervening in such perilous regions will be difficult to avoid unless or until we find new ways to power our economy. And there is another security element linked to energy. Last year, testifying to this Committee, retired General Gordon Sullivan described changes in food production, losses of water supplies and massive human migrations that could result from unchecked global warming. To avoid those impacts, the best first step is to reduce our carbon emissions.

Our future energy vision should be shaped by what we see today in new weather patterns. A parched American West is burning today. That disaster follows fast on a spring when floods soaked the Midwest. Those are the extremes that will continue to result from the climate crisis. And it is a crisis. The Congress has debated measures that include targets set for the years 2040 or 2050; and those are worthy debates. But the best climate scientists tell us we must make very swift progress – in the next five to ten years – in leveling off global carbon emissions. Failing to move swiftly will make those more distant targets impossible to hit. Failing to move swiftly will deprive the U.S. economy of earnings from one of the fastest growing technology sectors in the world. Failing to

move swiftly will affect every child living today, and will diminish the joys they might find by tapping a New England sugar maple, strolling through giant Sequoias in the Sierra or paddling past a moose cow and calf in Minnesota's Boundary Waters.

When we try to address these problems at once – a struggling economy, national security challenges linked to oil, and increasingly evident impacts of climate change – we tend not to get solutions. We can even make these problems worse.

What we have come to realize is that these problems may best be solved – or may only be solved – when we consider them together. There are times when reaching for more can improve the prospects for success. That's why we're convinced that the time for incremental steps and distant targets has passed. It's time to consider a goal that is on the same scale as the problems we face. It is time to consider a goal that draws out the best in America – in her leaders and in her people.

Vice President Gore has issued such a challenge: To generate 100% of our electricity from truly clean sources that do not contribute to global warming – and to do so within ten years.

It is an ambitious but attainable goal. That might not be so if this challenge were issued elsewhere. But we think American workers, families and businesses can meet this goal. We think they would be thrilled to do so. They'll embrace the challenge. They'll also be grateful for the relief. If we remain on our current path, the old days of dependable cheap energy will be gone for good. Moving instead to the path toward free fuels would offer the affordability, stability and confidence our economy desperately needs. And, as I will discuss, it will generate tens of thousands of good American jobs that can't be outsourced.

Meeting the challenge to repower America will involve simultaneous work on three technical fronts. One, get the most out of the energy we currently produce. Two, rapidly develop and commercialize the clean energy technologies that we already know can work. Three, create a new integrated grid to deliver power from where it is generated to where people live.

The first front is about energy efficiency. By helping American families save energy in their homes, we reduce demand and eliminate the need for more traditional power plants. We help families save money on their energy bills. We improve productivity of our factories and businesses, and comfort in our buildings. We give every American family a chance to directly participate – they can play a role in meeting this great challenge. A project of the Lawrence Berkeley National Laboratory, begun after the California energy crisis in 2001, showed that the average family can save 20% in energy use with existing technologies. These are the simple changes – lighting, thermostats, insulation – and don't even include the sizeable savings that would come with new appliances.

The second front, the expanded use of existing technologies, would likely start with accelerated growth in our wind energy industry. We have a strong running start. The

wind industry in this country has been growing at an annual rate of more than 20% a year, leading the world in installations in the past three years, and it will be even higher this year. T. Boone Pickens says we can get 21% of America's electricity from wind energy. We think he's right – and we might be able to get more. The Bush Administration's DOE recently provided a roadmap for achieving 30% of U.S. electricity from wind power.

Expanded use of tried and tested renewables would also involve accelerated growth in the photovoltaic sector. This industry has grown at 40% per year since 2000. The supply issues that slowed this industry in the past are no longer obstacles. Industry experts expect a four-fold increase in global production capacity for solar cells – from 90 to 100 lines in 2007 to as many as 400 lines by 2010 – each capable of 1 megawatt of production capacity.

This second front would also involve solar thermal power in the American southwest – an industry that is just beginning a period of explosive growth in both installations and manufacturing. With some of the best solar resources in the world, one company has calculated that a parcel of land in the southwest, 92 miles on a side, could power our entire electricity system. Utilities in Arizona, Nevada, and California have already announced nearly one million homes worth of solar thermal power projects to be built in the next several years. And advances in thermal storage technologies, along with investments in our grid, mean that solar thermal power will be able to provide baseload electricity at night, like coal power does today.

We must also continue expansion in geothermal energy – a mature technology and an abundant resource – as well as growth and commercialization of exciting emerging technologies using nanomaterials for solar power, wave, current, and tidal power, fuel cells, batteries, and other advanced energy systems.

The third front would involve an upgrade of our national electrical grid, which is vital to a clean and reliable electricity system. Today our grid is vulnerable, and geographically isolates our energy resources from our load centers. A smart national unified grid would allow us to efficiently carry large amounts of electricity over long distances in a network that is resistant to failure. It would allow us to connect solar power in Arizona with manufacturing centers in Ohio or allow us to move evening wind power on the East Coast to late afternoon peak demand in Nevada. A super smart grid will also allow households to sell electricity back to the grid from power generated at their homes or stored in their plug-in vehicles - a smart meter can spin both ways.

Other energy sources would play a role as well. Nuclear and hydroelectric power facilities currently combine to contribute roughly 25% of America's electricity. It would be reasonable to assume they would continue to produce at that level ten years from now, and longer. Coal and natural gas, which currently produce much of our electricity, could continue playing a significant role, but only if power plants relying on these fuels can capture and store their carbon emissions safely. Our hope is that this "CCS" emissions technology can be developed and commercialized quickly. Coal isn't "clean" without it.

There are reportedly three to five CCS plants now proposed in the U.S, compared to the roughly 70 proposed coal plants that don't include plans to capture their carbon. For coal to have a continued role in the power mix, all plants must capture their carbon pollution.

Accomplishing this 100% clean power goal would require a one-time capital investment in new infrastructure, with the bulk of funding coming from privately-financed sources. When the rules change, investors look for the safest haven for their capital. If the rules reward reducing global warming pollution, private capital will flow towards that safe haven. Smart investors have already recognized this inevitability – 2008 will be the fourth year in which more capacity was added to the grid from wind plants than from coal plants. The smart money is already moving.

The most important cost figures to consider may be the ones we'll avoid. American utilities will spend roughly \$100 billion on coal and natural gas for electricity this year. It's no stretch at all to project an increase in those costs to \$150 billion annually in ten years – and the costs could ultimately be much higher. If we make a switch to renewable energy sources, we no longer pay those fuels costs. The production and transmission of electricity will have costs associated with it, as is true today. But the actual fuel would be free and limitless. No foreign policy engagements to secure access to the fuel.

Tens of millions of new jobs can be expected as we implement a clean electricity system. These domestic jobs range from manufacturing, construction and installation, to engineering design and material science. And any shift should also be accompanied by programs to ensure fairness and enable a seamless transition. By commencing now, we can ensure that new jobs and training are available for workers across the country, and that clean energy industries move into communities most affected by any changes.

We've had many people ask about the timing of the ten-year "Repower America" challenge, and we have two direct responses. First, there are no technology, material or know-how impediments to achieving this goal. We can do this if we choose to do it. Second, the science, the economic pressure on American families, and our military personnel engaged overseas all either demand or deserve this swift and concerted action. To those who may doubt, I'll note that we've done this before. The Marshall Plan, the veritable reconstruction of the European economy, was executed over a four-year period. As Vice President Gore pointed out, we got to the moon in eight years, not ten. We can do this. We've done it before.

We have a choice. We can stay on the current path and rely on fuels that are subject to price swings and supply interruptions. Or we can move deliberately to a path that leads to free fuels and a great level of security. We cannot delay this. This is an ambitious goal. But a great nation can do great things. And a great nation should be willing to lead the way to a new energy economy. I'm hopeful that, with your leadership, we will accept the challenge of building a safe, secure and sustainable energy future.

Thank you.