

**Finance Committee
Subcommittee on Energy, Natural Resources, and Infrastructure
United States Senate**

**Testimony of Karen A. Harbert
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Thank you, Chairman Bingaman, Ranking Member Bunning, and members of the Subcommittee. I am Karen Harbert, President and CEO of the Institute for 21st Century Energy (Institute), an affiliate of the U.S. Chamber of Commerce. The U.S. Chamber of Commerce is the world's largest business federation, representing the interests of more than three million businesses and organizations of every size, sector and region.

The mission of the Energy Institute is to unify policymakers, regulators, business leaders, and the American public behind a common sense energy strategy to help keep America secure, prosperous, and clean. In that regard we hope to be of service to this Committee, this Congress as a whole, and the administration.

As this committee well appreciates, the energy policy decisions we make in the next few years will largely determine who we are as a nation for decades to come. We need to approach this thoughtfully and be crystal clear about the tradeoffs, timelines and costs to the American economy. We certainly don't want to find our economy in a worse situation than it is today.

Last month Doug Elmendorf, Director of the Congressional Budget Office highlighted the results of a CBO report that forecasts an increase in the public debt from \$7.5 trillion at the end of 2009 to \$20.3 trillion at the end of 2020 if President Obama's Fiscal Year 2011 budget were to be implemented.. CBO also found that over the same period, the debt would rise from 53% to 90% of gross domestic product. The last time the percentage was that high was right after World War II.

So as we examine energy policy, it is more important than ever that we look to options that don't further burden the taxpayer and offer the greatest return on investment to our economy.

The greatest challenge we now face as a nation is reviving our economy, restoring the 8.2 million jobs lost to the current recession, and creating the 11.8 million new jobs our growing nation will need over the next decade. Only a vibrant American free enterprise system can accomplish this goal.

I. Scale & Scope of the Challenge: A Reality Check

Underpinning America's national security, economic prosperity and quality of life is an available, affordable, and reliable supply of energy. Three recent events—the Washington state refinery explosion, the West Virginia coal mine explosion, and the Gulf of Mexico oil spill—have put the value of energy into stark relief. We must address our nation's serious energy challenges urgently, thoughtfully, and realistically. We must pursue a smooth and realistic transition to a lower carbon future that includes a diverse portfolio of energy sources and accelerated development and deployment of the necessary technologies.

However, I think it is critical to take stock of our current energy disposition before crafting new policies. The Energy Information Administration's (EIA) most recent forecast estimates U.S. energy demand will increase by 15% between now and 2030, and electricity demand will increase by 24% and perhaps as high as 33%. According to The Brattle Group, an investment on the order of \$1.5 to 2 trillion is needed by 2030 to maintain a reliable electricity sector. Both the electricity and transportation sectors are dominated by the least cost fuel sources: fossil fuels. In the electricity sector, wind and solar power comprise less than 2% of our electricity generation. Even under EIA's modeling of H.R. 2454's ("Waxman-Markey") aggressive carbon regulations, wind and solar will only comprise 6% of the country's electricity generation in 2030, requiring us to rely on other sources for the remaining 94%..

In the transportation sector 94% of the energy we consume comes from oil. Despite the valuable progress being made in the development of new alternative fuels and automotive technologies, there is still no viable substitute for oil in this sector. Fossil fuels will remain the backbone of our national and global economy for the foreseeable future. In light of the tragic situation in the Gulf of Mexico, there will be some who call for the United States to forego the tremendous economic and energy security benefits of tapping America's vast oil and gas reserves. Americans remain deeply concerned by the Gulf of Mexico oil spill and we must work together to get to its root cause. But, banning the production of up to 90 billion barrels of recoverable oil in the United States, more than four times proven reserves, will jeopardize our long-term economic recovery and competitiveness and threaten our energy security.

There is a growing and valid concern about our nations' dependence on foreign oil, yet turning our back on vast domestic oil and gas resources or increasing costs and taxes on the energy industry, as the Administration has proposed, will only serve to increase two things: energy costs and oil imports. To decrease our reliance on foreign sources of energy, we must increase the use of domestic energy, of all types, conventional and renewable. Improving the prospects for the production of all types of American energy increases investment and spawns new industries, manufacturing, and, most importantly, new and sustainable American jobs.

II. A Comprehensive Deployment Policy: Regulatory Burdens Frequently Trump Fiscal Incentives

Renewable sources of energy such as wind, solar, energy-from-waste, hydropower, geothermal, and biomass will play an increasingly important role in our nation's energy supply as they continue to become more cost competitive with traditional energy sources. This is especially true for sources that can provide reliable baseload electricity. It is critical that policies are put in place to promote the development and deployment of all clean energy technologies, including renewables. This does not, however, mean that we should create a sector of the energy market that cannot be sustainable over the long-term without substantial government subsidies.

While renewable electricity is enjoying robust growth, we must be realistic about the achievable scale of its expansion. With wind and solar accounting for 1.8% and 0.02%, respectively, of our overall electricity production, it remains a very small component. Conventional hydropower provided about 6.9% of generation in 2009, biomass 1.4%, and geothermal 0.4%.

Investing in research, development, and especially deployment of new technologies will ultimately pay major dividends. However, government should not be in the business of picking technology winners and losers, and we have to recognize that research and development—while critically important—takes time. It is also essential to find the appropriate roles for government and the private sector. The role of the private sector in our future energy security is paramount, and we should not seek to crowd out its participation, capital, innovations, or expertise.

Ultimately, we should be focusing on a comprehensive approach to the deployment of clean energy technologies that will help us transition to a cleaner and more secure energy future without further adding to our growing deficit or burdening taxpayers. These policies should be clearly limited in time and scope, but for long enough a period of time that they achieve their goal. It is also important to realize that tax incentives are only one avenue to foster the deployment of clean technologies; there are other instruments that, in some situations, have greater impact and are less expensive.

Subsidies and Tax Credits

The recent history of fiscal incentives for clean energy technologies is checkered with “boom-bust” intervals. The habit of Congress renewing tax credits only at the 11th hour each year creates uncertainty that inhibits private capital from being invested. Investors and manufacturers need predictability to make capital decisions, but that does not imply that subsidies need to be extended in perpetuity. Once a technology has realized the milestone of commercial deployment, the government should step back and let the efficiency of consumer choice through the marketplace determine the eventual success or failure of such technology. Subsidizing any technology in perpetuity is a wasteful use of tax dollars that does little to further the country's energy security or provide sustainable jobs.

The Advanced Energy Project Credit (48C) was included in the American Recovery and Reinvestment Act of 2009 as an investment tax credit for the expansion or retrofitting of manufacturing facilities geared toward advanced clean energy sources. As the original \$2.3 billion has now been committed, there are several issues this Committee should explore before expanding the credit by another \$5 billion. Some outstanding issues include:

- Is the number of jobs created sufficient to justify its continuation and are these jobs sustainable?
- Are there other, more cost-effective ways to stimulate these investments and jobs?
- In light of a ballooning deficit, what is the return on investment from these credits?
- What would be offered as the “pay-for” for these new credits and how do their benefits stack up against the credit’s benefits?

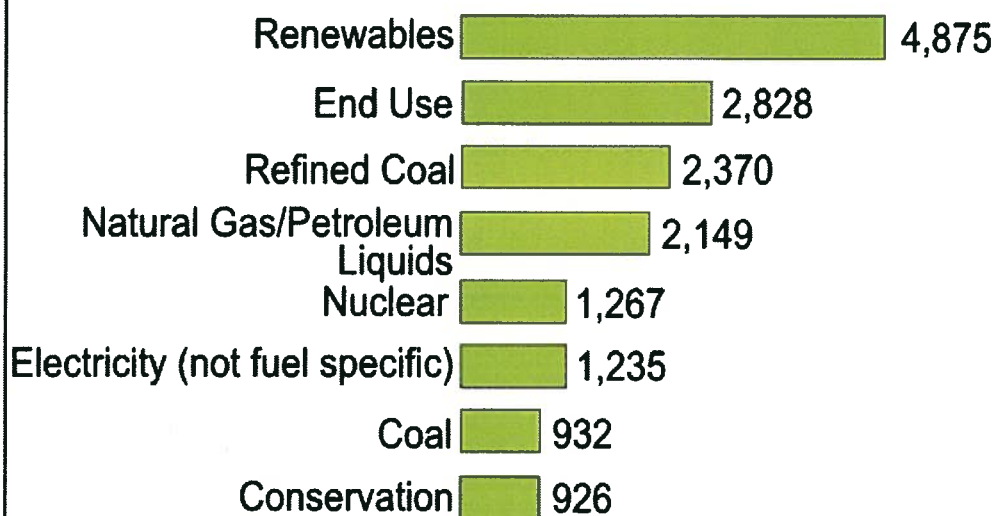
The Chamber supported 48C at the outset and has supported many other incentives for renewable technologies. For example, we support extending the various renewable production tax credits for renewable energy for eight years, followed by a scaled phase-out over four years. Providing long-term certainty for investors will ensure greater capital availability for clean energy technology deployment, while the definitive sunset will ensure tax dollars do not continue to support technologies that are not commercially viable and that the technologies continue to improve and evolve.

In the U.S., when subsidies across the electricity sector are compared, renewable sources have received the largest percentage of federal dollars and are the most expensive sources receiving subsidies except refined coal. Energy-specific subsidies have more than doubled since 1999.

Renewable energy received the greatest share of energy subsidies in FY 2007.

Federal Energy-Specific Subsidies and Support FY2007

Million Dollars



Source: Energy Information Administration, *Federal Financial Interventions and Subsidies in Energy Markets 2007* (April 2008).

Fiscal policy has been, and will continue to be, an important tool in the federal government's toolbox of technology deployment policy options. Tax incentives can be powerful drivers of capital to specific markets, but there are also other mechanisms that can facilitate private investment *without* further burdening the American taxpayer.

Regulatory Streamlining

Nearly every new energy project, whether traditional or alternative, struggles with regulatory and siting burdens that at best increase the cost of production, and all too often result in the project being canceled. Nearly everyone is familiar with the term, "NIMBY" and how it applies to building new energy facilities, but it has evolved to an even greater threat to our energy security; "BANANA," or Build Absolutely Nothing Anywhere Near Anything. This would be humorous if it were not an accurate depiction of the situation energy developers face across the country.

A little over a year ago, the U.S. Chamber began an initiative called "Project, No Project," an effort to catalogue any energy project that has been delayed or scuttled. We have recorded over

380 projects representing roughly 250,000 direct jobs and \$560 billion of capital investment. With unemployment hovering near 10% and nearly every state scrambling to cover budget shortfalls, getting these projects built should be a top priority for everyone.

While many of the stalled projects are traditional energy sources, most would find it astonishing that over 40% of them are renewable energy projects. Neither wind, nor solar, nor biomass is spared by the various obstacles routinely erected to block any new energy project. So while a company may decide to catch the green wave and build a renewable facility and then obtain capital commitments from private investors seeking the federal income tax credit, it is still more likely than not that the project will encounter obstacles in the permitting and siting process that increase the expense by drawing the process out, many times ultimately leading to scrapping of the project altogether. Congress can eliminate many of these obstacles by streamlining the approval process.

One clear example where Congressional action is absolutely necessary is interstate transmission. If the country is going to realize President Obama's goal of producing 25% of our electricity from renewable sources by 2025, it will require a significant build-out of solar in the southwest desert and wind in the upper mid-west because that is where those sources are most intense and most efficient. But, the fact is many people do not live in these areas. So developers will only build the renewable facilities if they can be assured that they can get their electricity to the major load pockets hundreds and thousands of miles away. Getting approval to site and build a transmission line across state lines is difficult to achieve, averaging upwards of 10 years. And most transmission developers quit long before the 10-year average because they cannot afford to have capital tied up in a risky project for a decade. Congress can solve this problem by granting the Federal Energy Regulatory Commission preemptive siting authority, much like it already has for pipelines. This one change, while not an easy political lift, will help facilitate significant build out of renewable power and without a cost to the American taxpayer.

Concessionary Financing

Beyond regulatory changes, there are additional steps the federal government can take to foster the necessary private sector investment needed to meet our future energy requirements that do not necessitate fiscal incentives. In fact, for new and emerging technologies, tax credits are not enough to encourage investors to take a risk on an unproven technology. Through the Export-Import Bank and the Overseas Private Investment Corporation, the federal government regularly provides a range of financing tools to U.S. companies to build clean energy facilities in other countries. Yet, no similar entity exists for deploying clean energy technologies domestically.

Indeed, securing our energy future is in large part tied to the degree we are able to accelerate the commercial adoption of new technologies, and that will necessitate an accelerated rate of capital formation. Federal and state governments can help leverage private capital to attain this goal by reducing investment risk and lowering the cost of capital. The Department of Energy's loan

guarantee program created in the Energy Policy Act of 2005 is a good start, but it is not independent and is not authorized to offer assistance beyond loan guarantees. We strongly support the creation of an independent Clean Energy Bank that is authorized to provide concessionary financing like loan guarantees, direct loans, and risk insurance to projects deploying new technologies that conventional capital markets avoid. Because the loans would be paid back, it would have no long-term impact on the deficit. This concept is effectively captured by the creation of the Clean Energy Development Administration (CEDA) in S. 1462, the American Clean Energy Leadership Act, sponsored by you, Chairman Bingaman as well as Ranking Member Murkowski, and we thank you for your leadership.

A federal approach to clean energy deployment that focuses on addressing market inefficiencies rather than competing with existing market players and investors is the appropriate role for government. Public-private cooperation is essential and should be encouraged, but injecting federal dollars into private markets too often creates distortions that ultimately increase prices for consumers.

Using Energy More Wisely

There is no question that the next best source of new energy is the energy we can save every day. The United States has improved its energy intensity—that is, energy use per unit of gross domestic product—at a steady rate. In 1970, it took roughly 18,000 btu to produce one dollar of GDP. Today, it takes a little less than half of that. At the same time, the United States can and should make further improvements. Putting into practice more robust energy efficiency programs is a crucial component of our nation's energy security. Immediate benefits can be realized by increasing building efficiency and appliance standards, two areas with high energy savings potential. These actions would reap immediate economic and environmental benefits by better harnessing the energy we unintentionally waste every day. Initial groundwork has been laid in this area following enactment of the Energy Policy Act of 2005, the Energy Independence and Security Act, and the American Recovery and Reinvestment Act of 2009, but substantial benefits are still in the offing.

Scaling up the Market

The price of commercially viable advanced and renewable technologies will continue to go down as the size of the market expands. Ironically, many countries' trade policies currently inhibit the natural expansion of advanced technologies by placing heavy tariff and non-tariff barriers on clean energy goods and services. The U.S. should lead the charge in removing these costly barriers thereby creating larger markets and export and job opportunities.

Diversity and Jobs in Nuclear Energy

We need a diverse portfolio that includes all of our domestic resources to increase our economic and energy security. One needs to recognize the tremendous benefits of and opportunities for the

largest source of clean energy we have--nuclear energy. Accounting for more than 70% of our emissions-free electricity, nuclear power will be a major driver in our transition to a clean energy economy. Nuclear power is also an economic engine, with each plant contributing more than \$430 million to the local economies and employing up to 700 workers at wage rates 36% above the local average. We estimate that if the 26 reactors that have been proposed to the Nuclear Regulatory Commission are built, approximately 240,000 jobs will be created. The nuclear industry has already invested more than \$4 billion and created more than 15,000 jobs in support of nuclear expansion and construction hasn't even started yet.

III. Cautionary Notes on an Over-Reliance on Subsidies to Expand Renewable Energy

Policymakers need to be mindful of not singularly supporting some industries at the expense of others. A study released in March 2009 by researchers at Spain's King Juan Carlos University examined the economic impact of Europe and Spain's support for green jobs. The study concluded that for every green job created, 2.2 jobs were destroyed and cautioned that if a similar agenda is pursued in the U.S, we could lose 6.6 to 11 million jobs in order to create 3 to 5 million green jobs, resulting in a net loss of jobs. In addition to the devastating impact on job creation, the study also cautions that the bubble created by Spain's push to create green jobs through government intervention instead of market incentives was ultimately paid for by the consumer. To pay for the enormous subsidies given to renewables, consumers faced both increases in electricity rates and also in taxes.. (A recent study in Italy reported similar results, with one green job costing on average as much 4.8 jobs in the entire economy and 6.9 jobs in the industrial sector.¹)

A study of Denmark's wind industry conducted by the Danish Center for Political Studies (CEPOS) released in September 2009 concluded that "creating additional employment in one sector through subsidies will detract labor from other sectors, resulting in no increase in net employment, but only a shift from the non-subsidized sectors to the subsidized sector." This also means that in many cases, jobs are being shifted from more productive sectors to less productive sectors, negatively impacting GDP. Proponents of unrestrained renewable energy subsidies continue to attack studies critical of that approach, but the findings are consistent: government policies that drive capital to investments the market otherwise avoids results in economic inefficiencies. In other words, there is no free lunches. When such policies are targeted and limited in their length and scope the catalytic effect outweighs economic consequences. But European style energy subsidies are neither targeted nor limited and economic consequences have been pronounced.

Many proponents of renewable energy cite Germany as a model for expanding the renewable power sector. However, after close examination it appears to be more of a cautionary tale.

¹ Carlo Stagnaro and Luciano La Vecchia, "Clean Jobs, Expensive Jobs: Why Italy can't afford a 'green economy,'" *Wall Street Journal Europe*, May 11, 2010.

Nearly 20 years ago, Germany implemented the world's most aggressive renewable power deployment policy consisting of progressively greater subsidies. The goal was to provide significant federal support to push the technologies to reach greater scales of efficiency and to make them competitive in the power market much sooner. Bringing down the marginal cost of clean technologies is a laudable goal and should ultimately be the aim of fiscal policy for energy technologies. However, the German case demonstrates how perennial direct subsidies actually disincentivize technology evolution and have created a market that is hardly more sustainable today than it was 20 years ago.

In 2008, Germany was home to the largest installed photovoltaic *capacity* in the world and the second largest wind *capacity*. However *capacity* and *generation* are not the same thing, and while German renewable facilities had the capacity to produce more than 26% of its total electricity demand, they generated only 17%. Coal accounted for more than 45% of the electricity generated while wind and solar accounted for only 7% in spite of an estimated direct subsidy of \$100 billion from 2000-2010.² In 2009, on-shore wind required a subsidy of three times the per-kilowatt cost of the market price to make it competitive and solar required a subsidy of more than eight times the market price. To pay for this, German consumers saw their utility bills jump by 8%. The German government proposal to reduce the current subsidy structure by 15% was met with protests by workers from renewable manufacturing facilities. With reduced subsidies in the offing, Germany's solar industry faces an uncertain future because even after 20 years of aggressive subsidies, the technology is still too expensive to compete with other sources, even with European Union climate regulations adding to the cost of conventional sources.

CONCLUSION

Our nation faces some extraordinary energy challenges in the years ahead, but these challenges are also an opportunity. When it comes to energy, we need all options on the table. New technology is the cornerstone of any sensible energy policy. Today, these innovations can only be successfully brought to market if an appropriate and stable legal, regulatory, and fiscal environment is maintained over the long term. But ultimately, such ideas must stand on their own and meet the demanding tests of both consumers and the free marketplace.

We must also recognize the strong economic foundation of our existing energy industry. The economic benefits of putting our homegrown resources to work for us are undeniable. The oil and natural gas industry supports 9.2 million jobs across the country and has the potential to employ hundreds of thousands more if policies that increase access to our domestic resources are implemented. In 2008 alone, natural gas production supported nearly 3 million jobs and contributed \$385 billion to our nation's economy. If oil and natural gas companies reduce

² Economic Impacts from the Promotion of Renewable Energies: The German Experience. Rheinisch-Westfälisches Institut. October, 2009.

domestic production as a result of increased taxes or other costs, much-needed jobs will disappear, and imports from some unstable areas of the world will no doubt increase to fill the void.

If we embrace a comprehensive approach and enact smart policies that do not further the growth of our nation's exploding deficit, we can lay the groundwork for energy security, environmental protection and economic prosperity and create the 20 million sustainable jobs our country needs. The private sector has been—and will continue to be—the engine that drives America's economic recovery, but it must have the tools to create the path forward.