June 9, 2015

Chairman Lisa Murkowski (R-AK)
Senate Committee on Energy and Natural Resources
104 Hart Senate Office Building
Washington, DC 20510

Ranking Member Maria Cantwell (D-WA)
Senate Committee on Energy and Natural Resources
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Murkowski, Ranking Member Cantwell, and members of the Committee:

As the Senate Committee on Energy and Natural Resources concludes hearings on energy policy bills and continues its work toward developing comprehensive energy legislation, the Natural Resources Defense Council urges you to embrace policies that promote clean energy and energy efficiency while modernizing our grid and ensuring it is resilient; and to reject any proposal that will keep us tethered to the dirty fossil fuels of the past or seek to dismantle decades of progress enacting safeguards and public oversight to protect our air, water, wildlife, communities, and climate.

NRDC is a national, non-profit environmental organization with more than 2 million members and activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. As such, NRDC's top institutional priorities include curbing global warming and creating a clean energy future.

Today, American innovation is delivering new technology and opportunities to enhance the nation's security and create jobs while reducing pollution. The energy decisions we make today will shape the economic and environmental futures of our children and grandchildren. Any energy policy should be judged by its contribution to meeting our obligation to reduce carbon pollution and pass on a cleaner, healthier, safer planet to future generations.

Clean energy—from solar to wind to energy efficiency—represents an abundant resource, demonstrating a rapid growth and surpassing most expectations. Its potential is enormous and poll after poll shows Americans strongly support more energy efficiency and clean energy. There is a clear and significant preference for making new investments in sustainable energy sources—like energy efficiency and renewable energy—rather than polluting ones; and our energy policy should reflect these values shared by millions of Americans to develop policies that deliver a cleaner, safer, more affordable and sustainable energy future.

Prioritize Energy Efficiency

Forty years of sustained improvements in energy productivity have made energy efficiency America's largest energy resource. Despite this success, much more can easily be done. More than one-half of the energy used to power our economy is still wasted, representing an enormous opportunity to save more energy. For example, buildings use more energy than any other sector of the U.S. economy. Together, residential and commercial buildings consume more than 40 percent of all energy and over 70 percent of all electricity used in the United States. These buildings can be made more efficient. Dollar for dollar, investing in energy efficiency is the cheapest and fastest way to cut carbon pollution, and help make workers more productive.

Federal programs advancing energy efficiency are succeeding. For example, the Department of Energy's appliance standards program, first authorized by Congress in 1987 and improved through numerous bipartisan bills over the years, will save all Americans over $1.8 trillion on their utility bills through 2030. To date, it has reduced carbon pollution equivalent to the annual carbon emissions of nearly 500 million automobiles.[1]

Despite the many benefits of energy efficiency, many opportunities fail to be implemented. According to International Energy Agency (IEA) projections to 2035, as much as two-thirds of energy efficiency potential will remain untapped unless policies change, noting the many barriers to investment that necessitate these policies, such as lack of information or financing.[2] Every home, building, and appliance we make more efficient cuts customers' energy bills, reduces pollution, and moves the nation closer to a more stable and prosperous future.

In order to decrease energy waste, we need to prioritize efficiency. Any energy policy should:

- Strengthen existing programs and policies that are saving consumers trillions of dollars and reducing pollution rather than seek to delay or undermine them. Congress should reject any proposal that would seek to interfere, delay or prohibit implementation of existing programs and policies that are proven effective at reducing energy consumption and saving consumers money.
- Leverage energy efficiency to protect and empower consumers by expanding and modernizing existing programs and policies to ensure energy efficiency is better integrated into homes and businesses. For example, Congress needs to revise a variety of separate energy efficiency tax incentive provisions with a system that uses a technology neutral, performance-based approach that drives innovation in new and existing homes and commercial buildings.
- Increase investment in energy efficiency to cut pollution and end needless waste. Congress should establish a long-term national energy savings target that utilities or non-utility program administrators can meet through customer energy efficiency programs. These programs can lay the foundation for sustained investment in energy efficiency and send clear signals to market actors about its importance.

Embrace Renewable Energy

The renewable energy industry has experienced explosive progress over the past six years. Costs are plummeting, capacity is skyrocketing, and technological advancements are occurring at a rapid pace. In fact, current U.S. utility-scale solar PV capacity has already surpassed the Energy Information Agency's AEO 2012 estimates for 2030 -- by 227 percent![3,4] Wind's success story is similar, as is its potential. Between 2008 and 2014, installed wind capacity has grown

[1] Saving Energy and Money with Appliance and Equipment Standards in the US, U.S. Department of Energy Office of EERE, available at http://energy.gov/sites/prod/files/2015/02/f19/equipment_standards_factsheet_updated_Feb_11_2015.pdf

[2] Energy efficiency: a key tool for boosting economic and social development, International Energy Agency, available at http://www.iea.org/topics/energyefficiency/energyefficiencyiea/multiplebenefitsofenergyefficiency

[3] GTM Research and Solar Energy Industries Association, U.S. Solar Market Insight Report: 2014 Year in Review (March, 2015), executive summary available at http://www.seia.org/research-resources/solar-market-insight-report-2014-q4 .

[4] U.S. Energy Information Administration, Total Energy Supply, Disposition, and Price Summary, Reference Case, available at http://www.eia.gov/oiaf/aeo/tablebrowser/ .

dramatically from about 25 GW to nearly 66 GW.[5] The National Renewable Energy Laboratory (NREL) has recently announced funding to try to scale turbines up to 140 meters (from an average of 80-90 meters today), which it estimates would result in an additional 1800 GW, or 237,000 square miles, of wind resource potential nationwide, and would significantly expand the geographic diversity of wind resources.[6]

Additionally, the resource potential for offshore wind in the United States is vast and adjacent to many metropolitan areas with high electricity demand. The Department of Energy recently found that providing 35 percent of our electricity from wind power (combination of onshore and offshore) is not only technically achievable, but also economically beneficial – creating jobs and lowering pollution at little to no cost to consumers.[7] Further illustrating its potential, just one-quarter of our nation's offshore wind potential would match our nation's entire existing fossil fuel-based electricity generating capacity.[8]

Importantly, recent analyses also show that high penetrations of renewable energy can be integrated into our existing grid at little to no additional costs. Detailed analyses performed on the PJM grid (the nation's largest grid operator), the Eastern Interconnection, and Western Interconnection have all found that renewables can provide up to 30 percent of total electricity generation with only minor adjustments to the existing grid and proper system planning.[9, 10, 11]

As we shift away from fossil fuels, our nation has also witnessed a sea change in the amount of clean energy that has been permitted and sited on our public lands. Starting from scratch in 2009, 55 onshore renewable energy projects have been approved by the Bureau of Land Management (BLM), totaling 14,599 megawatts of new power. These projects are creating jobs, driving innovation, and will help supply markets with clean renewable power for decades to come. Progress has also been made to shift from a project-by-project approach by embracing a "Smart from the Start" approach, which diligently contemplates and anticipates the best places to site renewables in a more deliberate fashion while also protecting ecologically important areas. But additional tools and mechanisms will be necessary in order to permanently ensure that the recent and substantial gains that have been achieved in deploying renewables on BLM lands can continue in a meaningful manner. Critically, only legislation by Congress can fully ensure that such mechanisms can and will be fully adopted by the BLM.

To put us on a sustainable emissions pathway and maintain our leadership in the global clean energy economy, any federal energy policy should:

- Incentivize continued growth in wind, solar, and other renewable resources, through tax policy or renewable electricity standards;
- Provide transparency and long-term certainty for industry;
- Properly prioritize low-carbon energy by including greenhouse gas (GHG) requirements for biomass under any renewable energy policies;
- Support policies that aim to tap the rich renewable energy resources found on U.S. public lands in a manner that safeguards and enhances the health of our lands, water and wildlife;

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[5] AWEA, "Annual Market Report 2014," http://www.awea.org/Resources/Content.aspx?ItemNumber=5059

[6] DOE/NREL, Energy Department Announces Funding to Access Higher Quality Wind Resources and Lower Costs, (Jan. 30, 2014) available at http://energy.gov/eere/articles/energy-department-announces-funding-access-higher-quality-wind-resources-and-lower

[7] Department of Energy, "Wind Vision Report", March 2015, available at: http://www.energy.gov/windvision

[8] Office of Energy Efficiency & Renewable Energy, Offshore Wind Research and Development, U.S. Department of Energy, available at http://energy.gov/eere/wind/offshore-wind-research-and-development

[9] GE Energy Consulting, PJM Renewable Integration Study (March 31, 2014) available at http://www.pjm.com/~/media/committees-groups/task-forces/irtf/postings/pris-executive-summary.ashx

[10] GE Energy Consulting, Western Wind and Solar Integration Study, performed for NREL (September 2013) available at http://www.nrel.gov/electricity/transmission/western_wind.html

[11] GE Energy Consulting, Eastern Renewable Generation Integration Study, performed for NREL (2010) available at: http://www.nrel.gov/electricity/transmission/eastern_renewable.html

- Support research in emerging technologies (e.g., energy storage, smart inverters) that will be critical to renewables integration at levels necessary to reach our long-term GHG reduction goals.

Support Modernization of our Electric Grid

The nation's backbone electric grid will serve as the foundation for our clean, reliable, and affordable energy future. Maintaining resiliency after super storms, keeping the lights on when old fossil-fueled power plants break down, and even connecting rooftop solar, appliances, and vehicles to the grid save on our electric bills. These benefits all depend on significant investment to modernize the grid. The Department of Energy's recently released Quadrennial Energy Review makes clear that there is an urgent need to modernize the nation's electricity delivery system to ensure reliable, secure, and clean power is available to fuel our economy in the coming decades. This modernization investment is unavoidable and Congress should act now to support the resilient, clean, secure and reliable grid for the future.

In order to ensure wise investment in this necessary grid modernization, Congress should:

- Strengthen grid planning and ensure cost-effective investment by (1) requiring regions to proactively plan for the impacts of public policies on the grid and (2) requiring that regions plan together for the high voltage transmission necessary to transport zero-fuel cost and zero-carbon wind and solar power across regions and into the homes, businesses, and factories that need it. Congress can do this by supporting Sen. Heinrich's federal backstop siting authority proposal, a limited authority for the Federal Energy Regulatory Commission (FERC) to ensure necessary interstate transmission line development.
- Give non-transmission alternatives like storage, customer demand response programs, and clean local generation like rooftop solar a fair chance to compete with transmission investment on the grid by (1) providing for cost allocation of those resources and (2) further strengthening planning processes to require (in addition to the existing requirements to consider transmission solutions) consideration of energy efficiency, demand response, energy storage, and generation solutions to grid problems.
- Strengthen wholesale markets by (1) clarifying, if necessary, that FERC has authority to provide market opportunities for clean customer-powered resources like demand response, energy efficiency, and rooftop solar; (2) allow renewable energy resources to provide grid services that they have demonstrated the capacity to provide and (3) exempt customer-powered resources from wholesale seller filing requirements at FERC, or streamline those requirements

Promote Clean Vehicles and Fuels

The U.S. has started to reverse a dangerous, decades-long trend of rising oil consumption and accompanying carbon pollution by the transportation sector. From 1985 to 2005, U.S. oil demand rose approximately 32 percent, driving up greenhouse gas emissions in this sector. However, cars and trucks are consuming less fuel and belching less pollution in more recent years, thanks to clean vehicle and fuel efficiency standards.

Policies that reduce our demand for oil and shift remaining transportation energy needs to clean fuels are critical for stabilizing our climate, cleaning our air, and protecting our economy from volatile world oil prices. Today, the U.S. transportation sector is almost entirely dependent on oil and responsible for over 70 percent of our oil consumption.[12] As a result of the transportation sector's oil dependence, the sector contributes about one-third of our nation's carbon pollution. The United States needs to transition our cars and trucks (where feasible) to run on electricity.

While the electric vehicle market is growing each year, the nation should implement policies to accelerate electric vehicle deployment to reduce our dependence on oil and carbon pollution as soon as possible. In the near term, Congress can help by:

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[12] EIA, "What are the major sources and users of energy in the United States?", May 30, 2014. Available at http://www.eia.gov/energy_in_brief/article/major_energy_sources_and_users.cfm

- Converting the existing electric vehicle tax credit to a point of purchase rebate;
- Providing a stable, long-term funding stream for alternative fuel infrastructure;
- Protecting aggressive funding for research and deployment of advanced fuel efficient vehicle technologies; and
- Maximizing the flexibility for federal agencies to purchase clean, ultra-efficient vehicles by incorporating costs incremental to conventional GSA vehicles into their GSA lease terms. Right now, federal agencies typically lease from GSA and, if they want a hybrid or electric vehicle, GSA requires them to cover the incremental cost up-front instead of in their lease. The federal agencies run into problems having the up-front funds in their capital budgets but could cover higher lease costs in their operating budgets.

Oppose Subsidization of Dirty Energy and Dismantling Environmental Safeguards

American ingenuity is already moving the nation beyond fossil fuels and Congress should focus on proposals that accelerate that transition in order to secure a safer, healthier, cleaner future for all Americans. Proposals to incentivize and expand offshore drilling, demolish bedrock environmental laws like the National Environmental Policy Act, or alter the approval process for cross-border energy projects have no place in any final energy legislation.

Offshore drilling is dirty, dangerous, and unnecessary. It will keep our nation tethered to the fossil fuels of the past and threatens the health and economies of our coastal communities. The proposed offshore drilling bills under consideration:

- *Contradict* the international scientific consensus that in order to avoid the worst impacts of climate change, the vast majority of *known* fossil fuel reserves must remain undeveloped-—let alone new carbon pools like the oil and gas in the Atlantic and Arctic oceans.
- *Assume Climate Failure* by embracing oil industry claims that Arctic oil may be needed 30 years from now which assumes continued oil-dependence scenarios that the International Energy Agency says will result in an average global temperature increase of at least 6 degrees Celsius—three times what science states the planet can sustain without devastating impact.[13]
- *Ignore the risk of devastating oil spills.* In the Arctic, the Department of Interior's own assessment finds a 75 percent chance of a major oil spill should drilling under existing leases in the Chukchi Sea proceed. A major oil spill off our Atlantic coast could coat beaches stretching from Savannah to Boston. A spill off Virginia's coast could threaten the Jersey Shore.
- *Reflect No Revisions of Safety Laws* which the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling recommended -- throwing into severe doubt any claim that expanded drilling is "safe."
- *Create perverse financial incentives* that exacerbate the above risks by directly incentivizing increased drilling, in some cases even sending funds directly to states or coastal areas that pursue drilling closer to shore.

The clean energy economy is booming. Even if Arctic and Atlantic offshore oil and gas were made immediately available, there is no current demand due to a global oil glut. In the midterm, its development is countermanded by the explosive growth in clean energy and effective fuel efficiency and clean vehicle policies. And over the long term, the only possible justification for exposing these unique ocean environments and vibrant coastal economies to the risk of devastating oil spills is to assume a total failure in addressing climate change.

Conclusion

As the United States continues to transition to a clean energy economy, renewable energy and energy efficiency are supporting increasing numbers of domestic jobs and stable growth while simultaneously reducing the nation's dependence on fossil fuels that produce dangerous pollution. Our energy policy should put a premium on clean energy

[13] International Energy Agency, Projections and Scenarios, available at http://www.iea.org/publications/scenariosandprojections/

and in particular on investing in energy efficiency to cut waste; as well as strong federal support for wind turbines, solar facilities, electric vehicles and other types of clean energy that create jobs while cutting pollution.

Clean energy policies can also strengthen communities by improving safety, reliability, and resiliency. A tremendous opportunity also exists to address our nation's rapidly changing energy systems and upgrade aging transmission, storage and other infrastructure toward a more sustainable and clean energy future. Please keep this framework in mind as you consider the energy-related bills before you.