FREQUENTLY ASKED QUESTIONS – WIND POWER

Q: Why should we pay more for expensive wind? Isn't this just giving government handouts to support one industry over another?

A: Onshore wind is now one of the least expensive sources for new electricity generation, rivaling natural gas plants. Fossil fuel industries have long benefited from subsidies and still do, making it harder for newer cleaner technologies to compete. For example, right now NY state is considering requiring ratepayers to pay billions of dollars to convert two coal plants from one dirty fossil fuel to another - natural gas.

Wind is still a small industry - with just 4% of U.S. electric generation, wind needs a boost to get to scale, and wind developers need certainty to invest in the clean energy we need right now. If we can get offshore wind going in the U.S., we expect to see similar reductions in cost that we've seen with onshore wind over time.

- Once a wind turbine is built, there are no fuel costs, so wind energy is less subject to price volatility than coal or natural gas
- A recent report by the EIA found that onshore wind was close in cost to new natural gas electric generation and less than new coal
- Offshore wind is now close in cost to solar PV
- Annual wind power additions in the United States achieved record levels in 2012, while wind energy pricing is near an all-time low, according to a new report released by the U.S. Department of Energy and prepared by Lawrence Berkeley National Laboratory (Berkeley Lab).
- Wind power has spurred more than $60 billion in investment in the last 10 years [National Association of Manufacturers]

Q: The wind doesn't always blow and the sun doesn't always shine, so moving toward renewables will result in more natural gas plants, right?

A: No, it doesn't have to. By utilizing a diverse portfolio of energy resources, including offshore wind, land-based wind, and solar we can ensure we have the electricity we need, when we need it. These various energy sources, strongest at different times of day and in different areas, complement each other for a robust energy supply. For example, onshore wind is often strongest at night, offshore wind during summer peak times in the late afternoon and early evening and solar of course is strongest during the day. Every megawatt-hour produced by a wind turbine is one that does not have to be produced by another generator, and the wind is always blowing somewhere

Q: Can wind really make a dent in our electricity generation?

A: In 2012 wind was nearly half of all new U.S. electricity additions, greater than any other type of generation, and 9 states are already producing more than 12% of their electricity from wind. The fact is, wind is already a significant part of our energy mix and we've barely scratched the surface of what is feasible.

- Wind power comprised 43% of all new U.S. electric capacity additions in 2012 and represented $25 billion in new investment. Wind power currently contributes more than 12% of total electricity generation in nine states (with three of these states above 20%), and provides more than 4% of total U.S. electricity supply. [U.S. Department of Energy and Lawrence Berkeley National Laboratory]

- Europe has been harnessing the power of offshore wind for twenty years and is a leader in offshore wind energy. By 2011, nine European countries had a total of 49 offshore wind farms, powering the continent with 3,294 megawatts (MW) of wind power, with another 100 GW under development. China last year built its first offshore wind farm, providing enough power for 200,000 Shanghai homes. Offshore wind has been proven to be a reliable form of energy around the world: now it's time for the United States to catch up.

Q: Why can't we just do efficiency? Or rooftop solar?

A: Efficiency and solar are a huge part of our clean energy future but the reality is that no matter how efficient we get, we will still need to generate electricity. We have pushed for increased funding levels for solar and got the Governor to commit to a 10 year 1.5 billion program and we need to do the same for wind to help us meet our RPS targets, to extend them and to increase both wind and solar in our electric mix to displace fossil fuels and nuclear energy.

In New York, wind and solar make up only around 3% of total electric generation, if we are to transition off of fossil fuels and nuclear energy in New York we need to get more large-scale renewable energy projects moving forward to displace dirty and dangerous fossil fuels and nuclear plants.

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Q: What is the impact of wind turbines on birds?

A: It's true that no form of energy generation is without some impact., but with improved turbine technology and proper siting, we can significantly minimize threats to birds.

We are an organization dedicated to the preservation of wildlife and wild places, so it's very difficult knowing that some clean energy technologies do harm wildlife, even if clean energy is ultimately necessary for protecting the natural environment in the U.S. and around the world. We support and will work to ensure proper siting, that avoids highly sensitive habitats, and provides strong mitigation for impacts that remain. The Intergovernmental Panel on Climate Change at the United Nations has concluded that unchecked climate disruption could result in the loss of one-third of all animal species by the end of the 21st century. Recognizing that the threat of climate disruption necessitates a transformation in our energy system, Sierra Club believes that with proper planning and conservation, it is possible to build and operate large-scale renewable energy projects and transmission that minimize impacts on habitat while conserving ecosystems for future generations.

Q: Do wind farms impact human health?

A: There is no scientific link between wind turbines and human illness. Studies by the Massachusetts Department of Environmental Protection and the Oregon Public Health Authority, as well as a scientific literary review by the Environmental Health Journal, have all found no scientific evidence to support claims of negative

health impacts from wind turbines. There is, however, extensive proof that shows serious health consequences from fossil fuels.

- Coal burning is one of the largest sources of respiratory illness causing pollution in the U.S. Pollutants like smog-causing ozone, nitrous oxides, and acid gases can trigger asthma attacks, heart attacks, and even cause deaths in sensitive populations.
- Pollution from natural gas wells also causes many respiratory problems
- Contamination of drinking water by mountaintop removal coal mining can cause cancer and other serious health impacts in nearby communities

Q: How loud are wind turbines?

A: At 300 meters, which is the standard setback from any home or business, the turbine won't make any more noise than your household refrigerator.

Q: What type of benefits does wind development provide the community?

A: Wind power provides our entire electric sector with clean, renewable energy but it also provides three tangible benefits to the local community. Landowners receive direct lease payments for hosting a turbine on their property, local government receives payments in lieu of taxes, and hundreds of local jobs are created.

Local tax payments ensure that everyone in the community benefits. On a 200MW project these payments can be anywhere from $1 million to $1.6 million. In addition examples across our state show that towns can negotiate for additional benefits, ranging from funding a local museum to repairing infrastructure.

Q: How do we ensure that wind developers do right by the community?

A: Communities have the opportunity to negotiate to ensure that the developer follows through on their commitments. Individual landowners can group together to negotiate with the developer and the developer must pay for a lawyer of the landowners choosing to review the contract.

The developer must also sign agreements with the local industrial development agency for PILOT payments and local hiring standards. And the town can negotiate a community host agreement for additional community benefits.

All of these are legally binding agreements. In the case that the developer cannot live up to them or at the end of the useful life of the wind farm there is a fund set aside by the developer to responsibly decommission the site.

Q: Will wind turbines decrease property values?

A: Nine major studies, detailing 270,000 property transactions have shown that wind has no negative effect on property values. In communities like Sheldon, NY the PILOT payments eliminated the town property taxes which has in turn made it easier to attract new homeowners to the area.

Q: Will wind turbines affect tourism?

A: Studies have shown that there is no negative impact on tourism in other communities that host wind farms. In fact, communities like Fenner located in Central NY have actually made their wind farm an attraction in their community. The wind developer funded an educational facility and local residents frequently sponsor tours of the wind farm.