WIND ENERGY TOPICS

HEALTH & SAFETY

THE CLAIM: Operating wind turbines constitute a health and safety hazard.
THE SCIENCE: Independent studies conducted around the world, including the U.S. have consistently found that wind farms have no direct impact on physical health.

- The Massachusetts Departments of Environmental Protection and Public Health recently commissioned a panel of experts with backgrounds in public health, epidemiology, toxicology, neurology and sleep medicine, neuroscience, and mechanical engineering to analyze "the biological plausibility or basis for health effects of turbines (noise, vibration, and flicker)." The review of existing studies included both peer-reviewed and non-peer reviewed literature.
- Specifically the Massachusetts study found no evidence for a set of health effects from exposure to wind turbines that could be characterized as "Wind Turbine Syndrome." Claims that infrasound from turbines directly impacts the vestibular system have not been demonstrated scientifically.
- The risk of ice throw from modernized fleets is negligible, particularly at distances of 1,000 feet. Conditions which could cause rime or glaze ice accumulation on blades will also cause ice formation on wind vanes and anemometers (located on each turbine). Vanes and anemometer instruments are constantly monitored remotely; if vanes or anemometers freeze the turbine will stop and display an error message. Additionally, ice deposits on blades will impact performance and cause vibrations, also monitored via sensors. Visual inspection and confirmation of thaw or evaporation of ice is required prior to resetting the turbine for operation.

MA Dept of Health Study – http://www.mass.gov/eea/docs/dep/energy/wind/turbine-impact-study.pdf
Study of court cases and results - http://www.energyandpolicy.org/wind-health-impacts-dismissed-in-court
Example de-icing technology on Siemens turbines in Scandanavian market:
http://w3.siemens.se/home/se/sv/energy/energiproduktion/vindkraft/documents/1556%20produktblad%20windpower_low2.pdf

PROPERTY VALUES

THE CLAIM: Wind farms hurt property values.
THE SCIENCE: Broad-based studies show no statistical evidence property values decline near turbines. Wind energy does drive community economic development that benefits all property owners.

- A major study released in August 2013 on wind farms and property values by Lawrence Berkeley National Laboratory analyzed more than 50,000 home sales near 67 wind facilities in 27 counties across nine U.S. states, yet was unable to uncover any impacts to nearby home property value.
- A 2014 LBNL / University of Connecticut study found no support for the claim that wind turbines affect nearby home prices. The analysis showed no unique impact on the rate of home sales near wind turbines.

Lawrence Berkeley National Laboratory Property Value Study (2013) - http://emp.lbl.gov/sites/all/files/lbnl-6362e.pdf
University of Connecticut & Lawrence Berkeley National Laboratory joint report (2014) - http://emp.lbl.gov/sites/all/files/lbnl-6371e_0.pdf

WILDLIFE

THE CLAIM: Wind turbines are killing birds at an alarming rate.
THE SCIENCE: Wind power is far less harmful to wildlife than traditional energy sources it displaces, including birds and their critical habitats. It is the only energy source without population-level impacts, such as climate change-related habitat loss.

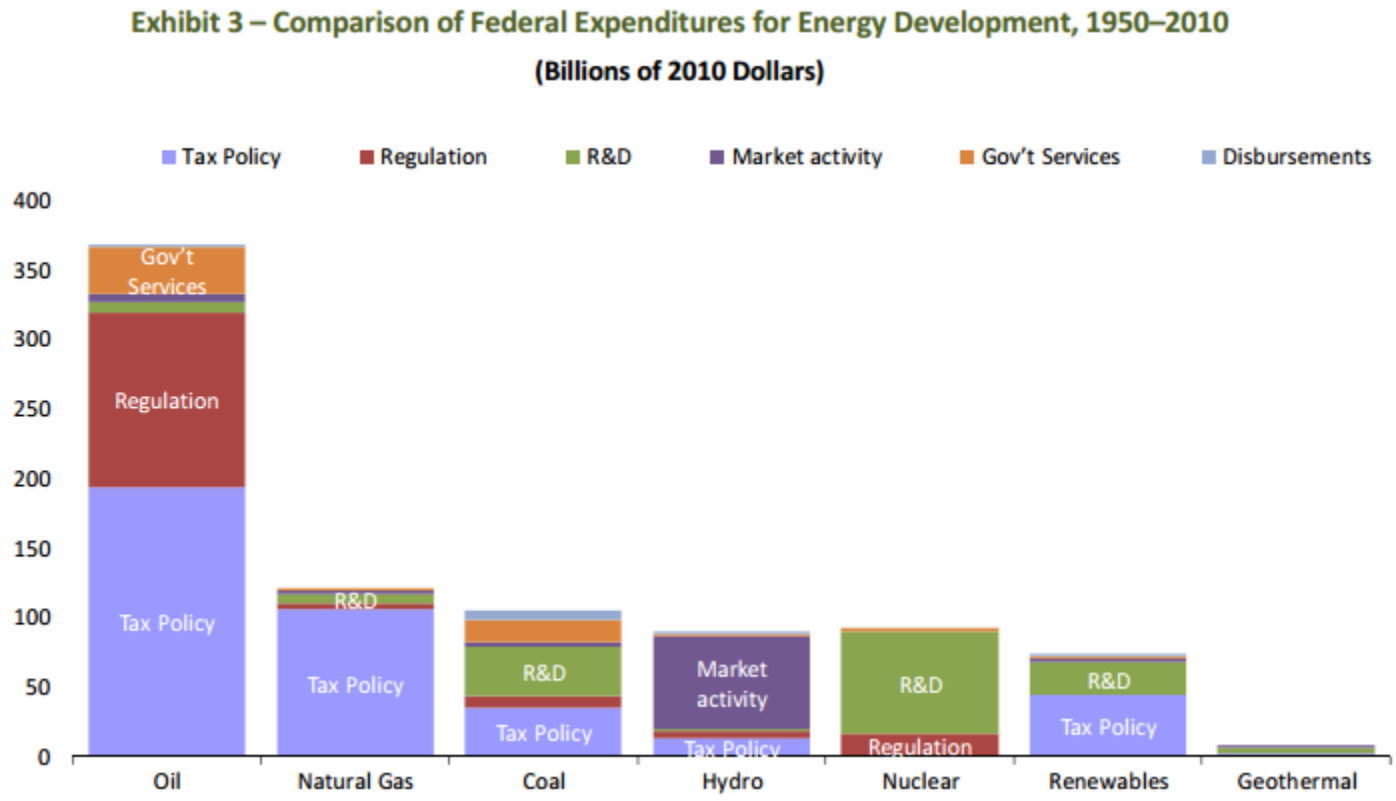
- No form of energy generation is free from impact and wind power is no exception. However, studies have shown wind energy's impacts to be the lowest, as it emits no air or water pollution, requires no mining or drilling for fuel, uses no water in the generation of electricity, and creates no hazardous or radioactive waste requiring permanent storage, and yet is held to the highest environmental standards

Energy Types and Bird Deaths - http://www.usnews.com/news/blogs/data-mine/2014/08/22/pecking-order-energys-toll-on-birds
Nebraska Game & Parks – Wildlife Sensitivity Map of Nebraska - http://outdoornebraska.ne.gov/wildlife/pdfs/wildlifewind.pdf

ENERGY INCENTIVES

THE CLAIM: Renewable energy is subsidized at higher rates than fossil fuels.
THE SCIENCE: American taxpayers have paid over $500 billion to fossil-fuel industries, through policies that are in many cases permanent. Fossil fuel subsidies dwarf renewable subsidies. Wind's primary incentive is the Production Tax Credit, a performance-based credit that drove over $25 billion in private investment in 2012.

Chart from an October 2011 - Analysis of Federal Expenditures for Energy Development – by The Nuclear Energy Institute



Nuclear Energy Institute study: http://www.nei.org/master-document-folder/backgrounders/white-papers/60-years-of-energy-incentives-analysis-of-federal
DBL Investors study: http://www.dblinvestors.com/documents/What-Would-Jefferson-Do-Final-Version.pdf