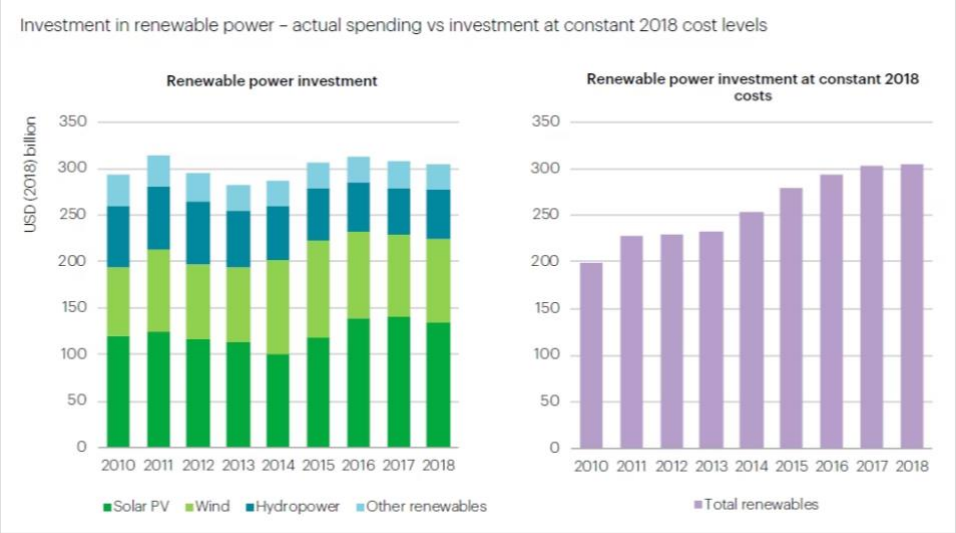
Fossil Fuels and Renewable Energy Research Report in Wisconsin

PurpleState Research and Analysis Department

Perspectives and Statistics from Research Organizations and Special Interest Groups

GREENPEACE – 8 Reasons Why We Need to Phase Out the Fossil Fuel Industry (2021) (https://www.greenpeace.org/usa/research/8-reasons-why-we-need-to-phase-out-the-fossil-fuel-industry/)

- Studies have shown if nothing is done to halt emissions, climate change could cost the U.S. $500 billion every year by 2090.
- Total global investment in energy added up to $1.8 trillion in 2018. Only 35% (~$630 billion) went towards low-carbon energy, while nearly double (~$1.2 trillion) went to fossil fuels.

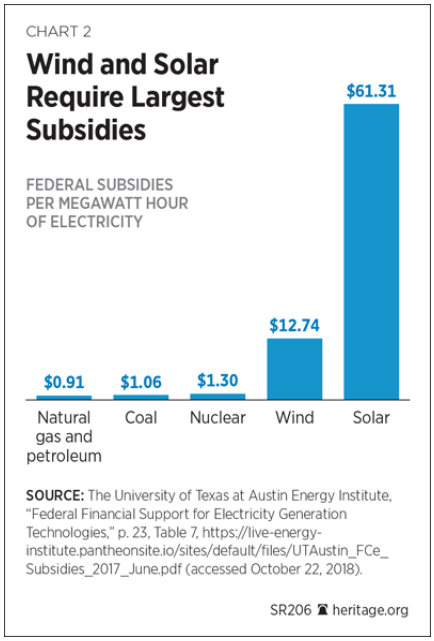


- One out of every 10 U.S. dollars spent on energy (roughly $170 billion in 2018) goes to fossil fuel supply projects, driving rapid increase in oil and gas production.
- In addition to releasing planet-warming greenhouse gas emissions, burning fossil fuels generates localized air pollutants — such as soot (fine particulate matter) and smog (ozone) — that increase the risk of death from stroke, heart disease, lung cancer, and respiratory illness.

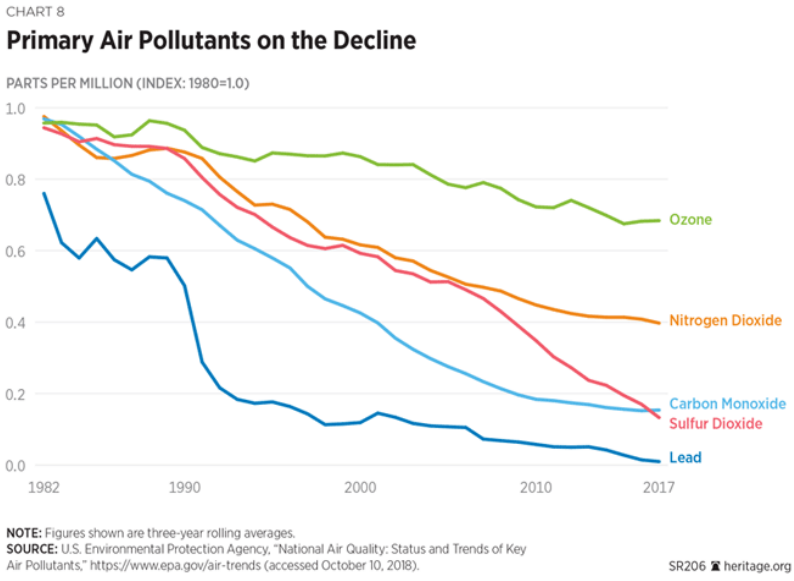
The Heritage Foundation – State Renewable Energy Mandates: A Regressive Green Tax on America's Poor (2018) (https://www.heritage.org/renewable-energy/report/state-renewable-energy-mandates-regressive-green-tax-americas-poor#:~:text=Natural%20 expansion%20of%20 renewable%20energy,utility%20bills%20than%20the%20wealthy)

- In 2018, the United States produced more than 75% of its electricity from natural gas, coal, and nuclear power.

- Between 2009 and 2014, more than $150 billion in federal subsidies went to wind and solar industries even though they make up less than 10% of U.S. electricity production.
- Wind and solar power require 5-20 times the amount of federal taxpayer subsidies per megawatt-hour compared to natural gas, coal, and nuclear.

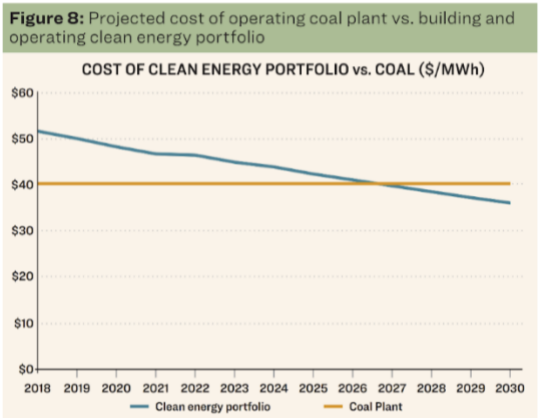


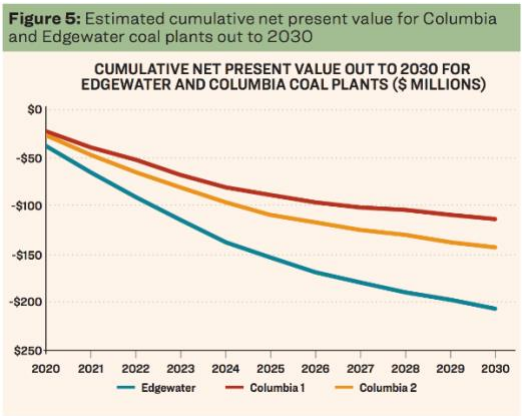
- Low-income households spend a higher percentage of their incomes on energy (5-10x) than do high-income households.
- In the US, the 6 principal air pollutants have fallen by 67% since 1980, despite a 44% increase in population and 25% increase in energy consumption.



Sierra Club – The Cost of Wisconsin's Overreliance on Coal (2020)
(https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u2196/SierraClub_CostOfCoal.pdf)

- Coal-fired power plants release many of the 187 different hazardous air pollutants listed in the Clean Air Act including nitrogen and sulfur oxides and fine particulate matter, as well as 42% of the US's mercury pollution.
- Coal power generates 65% of the electricity sector's carbon dioxide emissions.
- By 2030, in 96% of cases, it will be cheaper to build new solar or wind plants than to keep coal-fired power plants running.





- In Wisconsin today, it would be cheaper to replace 4 of the 7 largest coal-fired power plants with wind and solar than it would be to keep them running.
- Three times as many U.S. residents work in the clean energy sector as the fossil fuel sector, and the clean energy sector added 110,000 jobs in 2018.
- Economists estimate that the total costs from pollutants associated with mining, processing, transporting, and burning coal causes $175-500 billion worth of damage each year in the US.

American Action Forum – What it Costs to go 100 Percent Renewable (2019)
(https://www.americanactionforum.org/research/what-it-costs-go-100-percent-renewable/)

- A 100% renewable electricity system would cost about $150-300 per megawatt hour. In 2017, the average electricity cost was $104.8 dollars per megawatt hour.
- In a 100% renewable electricity system, residents would spend $576 - $3,882 more on their electricity per year.

- Batteries that store wind and solar power would cost between $204-298 per megawatt hour whereas natural gas power plants cost about $48 per megawatt hour.
- It would cost about $5.7 trillion to meet rising US energy demands using renewable sources.

All costs millions USD	Required New Capacity (GW)	Capital Expenditures	Annual Operations & Maintenance	Annual Costs (20-year recovery)
Solar	1022	$1,891,500	$23,892	$118,467
Wind	954	$1,579,966	$51,505	$130,503
Hydro	91	$262,765	$7,666	$20,805
Storage	912	$1,978,498	$55,225	$154,150
Total		**$5,712,729**	**$138,288**	**$423,925**