

Xin Yu Tang

Professor Singleton

ENG 2015T

21 March 2022

Why Should We Invest in Solar Energy?

One of the things we use every day in our life is energy, such as gas and electricity. Gas and electrical energy are generated by natural gas, coal, and nuclear energies. However, these energies are limited, we would run out of these energies soon in the future. According to Millennium Alliance for Humanity and the Biosphere, “Since our society is so dependent on fossil fuels, it, therefore, is extremely important for us to know when these fuels will run out according to [4]: Oil will end by 2052 – 30 years time Gas will end by 2060 – 40 years time Coal will last till 2090 – 70 years time.” This article was written in 2019, so this means around 2050 to 2060 we would run out of oil, gas, and coal as a source of energy. Therefore, we should find new sources of energy for fossil fuels.

There are two types of energy, renewable and non-renewable. Natural gases are non-renewable energies, natural gases are produced from the rock formations deep under the surface of Earth, people need to dig under the ground to find them. However, natural gases are limited, they need a lot of time to form. The natural gases we are using right now are formed millions of years ago. So it is impossible to wait for natural gas to form if we run out of them in the next 50 years because they need millions of years. However, with renewable energy, we could use them for a long time because we could reuse them. Two examples of renewable energy are solar energy and wind energy. Solar energy uses sunlight to produce energy and wind energy uses the wind. Earth would always have sunlight and wind so these energies wouldn't run out.

Substituting renewable energy with fossil fuels could prevent people from running out of energy and also control energy prices. One of the problems that everybody faces is paychecks, and one of the checks is utility bills. The prices of our utility bills have been increasing from year to year. Especially during the Pandemic, people are losing their jobs and facing inflation at the same time. If utility bills are getting higher and higher people couldn't afford to use gas and electricity. As shown in figure 1, we could see that the price of electricity (cents per Kilowatt-hour), the price are increasing from year to year. In addition, according to Gothamist, a website about New York City, it states, "About 70% of the energy used in New York state comes from natural gas, and Con Ed says that's the primary reason for the sudden increase in electricity costs." (Lewis) When things are rare, the prices are high. In connection to the quote, when natural gases are rare the price of electricity would increase since about 70% of Con Ed's electricity comes from natural gas. Some examples of increasing electricity bills are: in comparison to February 2021, the ratepayers from Long Island PSEG (Public Service Electricity and Gas Company) saw the price of electricity increase by approximately 26%. In addition, the customer in Hudson Valley could see their electric bills rising approximately 46% in the 2022 winter from Central Hudson Gas & Electric Corporation. Also, in New York State some electric and gas ratepayers have said that their utility bills have spiked 121% high than the month before. (Lewis) One cause of the increase in utility bills was the amount of natural gas we could use are decreasing.

Electric Power Monthly

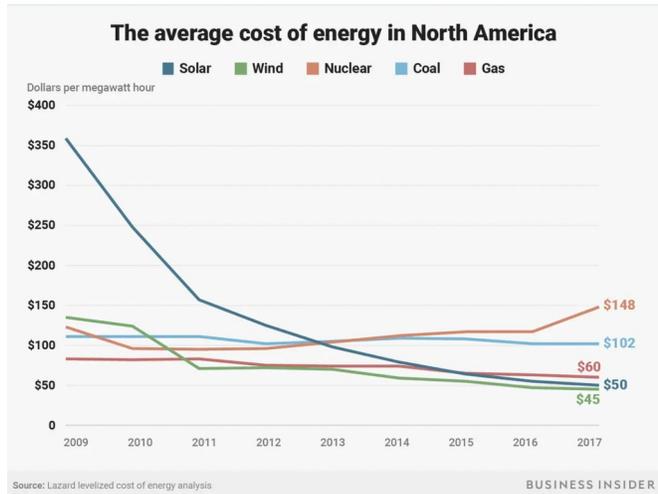


Table 5.3. Average Price of Electricity to Ultimate Customers:
Total by End-Use Sector, 2012 - January 2022 (Cents per Kilowatthour)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2012	11.88	10.09	6.67	10.21	9.84
2013	12.13	10.26	6.89	10.55	10.07
2014	12.52	10.74	7.10	10.45	10.44
2015	12.65	10.64	6.91	10.09	10.41
2016	12.55	10.43	6.76	9.63	10.27
2017	12.89	10.66	6.88	9.68	10.48
2018	12.87	10.67	6.92	9.70	10.53
2019	13.01	10.68	6.81	9.66	10.54
2020	13.15	10.59	6.67	9.90	10.59
2021	13.72	11.27	7.26	10.21	11.18

Figure 1: Table 5.3. Average Price of Electricity to Ultimate Customers from U.S. Energy Information Administration

As natural gas prices are increasing we could move to renewable resources. According to the Center for American Progress, “Fortunately, clean energy is ever more affordable. In fact, it’s now cheaper to build a new solar or wind project than to continue operating most of the existing coal-



fired power plants in the United States.”(Higgins) This proves that as time goes on if we invest in renewable resources it would be cheaper than coal energy. Also, as we can see in the graph, “The average cost of energy in North America”, the cost of coal is somewhat increasing. However, the price of solar energy and wind energy is continually decreasing and now it’s lower than coal and gas energy.

WIND ENERGY	
Wind can be harnessed day or night.	Wind is an unpredictable energy source.
Wind farms can generate power on a massive scale.	Wind turbines are susceptible to damage from lightning and wind.
Wind turbines can be built offshore.	Turbines can harm or kill flying wildlife, including birds and bats.
Turbines produce more electricity than solar panels.	Turbines can be noisy.
Turbines are less polluting than solar panels.	Turbines aren't practical for densely populated areas.
Since wind farms are typically located in remote regions, transmission lines must be built to bring electricity to populated areas.	

As renewable energy is cheaper we should continue to invest in them. But what kind of renewable energy is better? Wind energy produces energy by the wind. For wind energies to be produced you need a wind turbine. As the wind blows it functions the turbine and produces energy from the engines in the wind turbine. However, if there is little to no wind the wind turbine can't function. The efficiency of a wind turbine in normal houses is very low because wind turbines are very picky. A wind turbine cannot be placed everywhere because it could affect the surroundings,

such as the animals who live around it and the noises that the wind turbine makes are very loud. In comparison, solar panels could be placed in a lot of different places, such as rooftops, parks, lawns, and other places where sunlight could be reached. People could even install their own solar panels in their houses if they want, however, other renewable energies, you can't. And all other renewable energies, like geothermal energy, biomass, and hydropower would also be a good choice, however, they are very complicated and cannot be placed at home for everyone to have.

In addition, according to Greg Wetstone, "The cost of wind energy has declined by 70 percent, while the cost of solar power has declined by an even more impressive 90 percent. In much of the country, renewable energy is the most affordable source of new electricity. In fact, renewable energy was America's largest source of private-sector infrastructure investment in 2020."(Karaim) From this information, we could predict that solar energy is a better investment because the cost of solar energy decreased more than wind energy. In addition, everyone who has a right amount of money could invest in solar energy rather than wind.

In conclusion, even if people have enough energy to use right now, they still need to think about their future. The kids in the next generation also need energy, therefore, we cannot use up all the resources. Also, investing in new energy could help us reduce the cost of money for utility bills when natural gases are getting less. So we need to change to renewable sources and one of the most common and easy renewable sources is solar energy.

Cite:

Berke, Jeremy. "One Simple Chart Shows Why an Energy Revolution Is Coming - and Who Is Likely to Come out on Top." *Business Insider*, Business Insider, 8 May 2018,

<https://www.businessinsider.com/solar-power-cost-decrease-2018-5>.

"Con Edison Files Investment Plan." *Consolidated Edison, Inc.*,

<https://investor.conedison.com/news-releases/news-release-details/con-edison-submits-investment-plan-clean-energy-reliability>.

Danny Lewis, et al. "The Electric Bill Is Too Damn High: Here's Why and What You Can Do about It." *Gothamist*,

<https://gothamist.com/news/the-electric-bill-is-too-damn-high-heres-why-and-what-you-can-do-about-it>.

Electric Power Monthly - U.S. Energy Information Administration (EIA),

https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_03.

Off Campus Access @ Baruch College,

<https://library-cqpress-com.remote.baruch.cuny.edu/cqresearcher/document.php?id=cqresrre2021111220&type=hitlist>.

"Wind vs. Solar - Which Power Source Is Better?" *Elemental Green*, 19 Apr. 2020,

<https://elemental.green/wind-vs-solar-which-power-source-is-better/>.

