Optimal Pollution Is Our Least Bad Option

Charlie Rhomberg · Follow

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Source

Upon arriving at the Strait of Messina, the mythical hero Odysseus faced two treacherous paths.

On one side of the strait sat Scylla, a terrifying monster with six menacing heads. She was known to have an appetite for passing sailors.

Opposite Scylla was Charybdis, who was a different kind of monster — a whirlpool that was known to swallow ships whole if they sailed too close.

Odysseus saw no outcome that would prevent total loss of life. He chose the least bad option, which was sailing close to Scylla.

Tragically, he lost six of his men.

But the ship made it through.

Humankind finds itself in a similar lose-lose situation as it relates to carbon emissions. We've built our modern world on the back of fossil fuels, and developing countries are only beginning to realize the standard of living that modern countries have enjoyed for decades.

While great progress has been made in renewable energy, it hasn't reached a critical mass to the point where we can ditch fossil fuels for good.

Reliability and scale of renewables is still in early innings.

Yet climate change is breathing down our necks. Scientists tell us that we may already be too late in halting carbon emissions.

So, to balance the needs of people and the limits of our planet, we need to encourage the minimum level of pollution that ensures human well-being with the lowest possible damage to Earth.

Sounds straightforward, right?

Hardly.

Isn't "optimal pollution" no pollution at all?

I wish.

But in the short term, no. It's more complicated than that.

We live in a world with limited resources. If we could dig up, chop down, or synthesize every material we needed whenever we wanted, the global economy

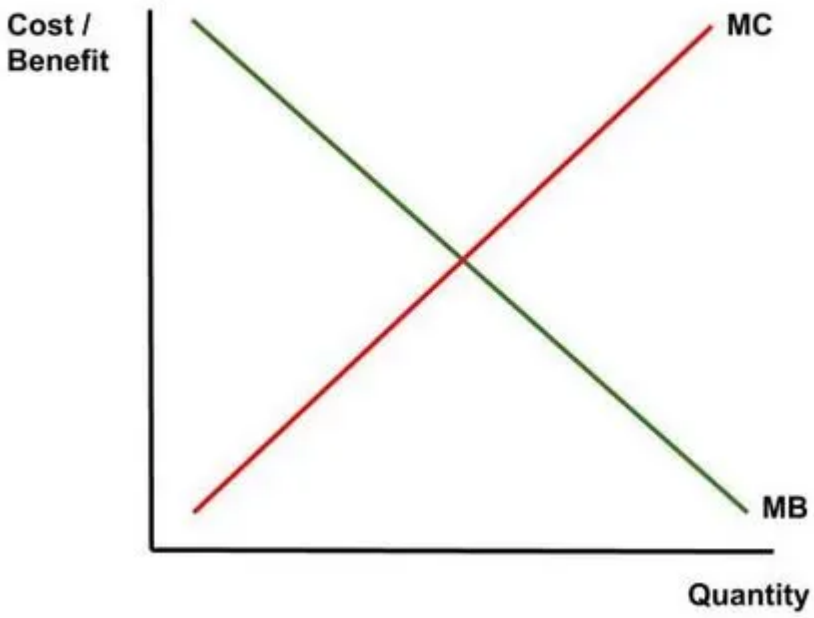
would be structured very differently.

However, energy and natural resources are finite, and we need to prioritize how these resources are used.

99.9% of people would agree that if we could snap our fingers and eliminate emissions throughout the world, without any cost, we'd do it.

The reality is, there is a "marginal benefit" and "marginal cost" to energy transitions that need to be brought into balance in order to allocate resources efficiently.

Getting this balance right is key to ensuring that Adam Smith's invisible hand pushes the market in the right direction.



Source

Unfortunately, emotion and political rhetoric have tossed this formula out the window, leaving us with a distorted black-and-white view of energy.

Ecological virtue has crowded out logic

The global green movement of the last several decades has been necessary and overdue.

Untold numbers of ecosystems have been saved from ruin, and we should be proud of our successes, such as banning DDT and cleaning up water in the United States.

However, it's reached a point where "green" investments are considered virtuous, and "brown" investments sinful, without much room for the massive grey area in between.

For example, wind energy is lauded as a key cog in the climate-change fighting machine, which it most definitely is.

But, let's not overstate its righteousness.

> As noted on energy.gov, "wind energy can have adverse environmental impacts, including the potential to reduce, fragment, or degrade habitat for wildlife, fish, and plants."

Source

Wind energy makes us feel good, yet has hidden drawbacks.

Nuclear energy terrifies us, but with modern improvements, is much safer than people realize.

In short, renewable energies have complicated knock-on effects, and so do brown energies. Oil & gas still have vital uses that we shouldn't brush off.

Don't take my word for it — brown energy assailant Elon Musk is calling for short-term oil & gas production to ramp up in order to fill the gap created by recent Russian oil & gas interruptions:

Elon clearly has a personal incentive to lobby for shutting down as much oil & gas production as possible for the good of Tesla.

However, he's a realist — until our green energy sources can provide the same reliability and cost-effectiveness of oil & gas, we'll need both types of energy. Unequivocally denying any place for oil & gas today ignores the basic needs of billions of people around the world.

We can't sacrifice near-term energy resilience in the name of climate change mitigation.

From Russian Gas to Texan Turbines

The recent Texas power crisis highlights this issue.

In February 2021, Texas experienced a historic cold snap that pushed the energy grid to its limits.

Wind turbines "sat frozen and immobile" when the state needed them most.

Source

Millions of homes and businesses went without power for several days, and hundreds of people died.

While failed wind turbines were hardly the only culprit (and their role has been overhyped), clearly the grid was not prepared for this type of environmental anomaly.

The conclusion here isn't that wind energy and renewables are hopeless.

Rather, it's that some amount of oil & gas needs to be kept around just in case, *until renewables become robust enough to withstand these kinds of shocks*.

This brings us back to optimal pollution. In order to determine the right mix of brown energy (oil, gas and coal) and green energy (solar, wind, nuclear, etc.) in the near term, prices need to reflect all externalities that an energy source creates.

This way, the world can smoothly move from brown to green energy, without sacrificing reliability during the transition.

Carbon taxes allow for energy reliability while incentivizing clean investments

Brown energy prices should reflect the environmental damage they cause, most often conceptualized as a carbon tax.

Clearer price signals reflect the benefits and harms to the public of different energies. If you think about the true cost, oil & gas have been "underpriced" for decades, since their prices have completely disregarded their environmental damage.

If oil & gas had carried a carbon tax in Texas for the last twenty years, there may have been more incentive to innovate away from brown energy and into a reliable, green grid. But without that carbon tax, it just wasn't profitable for firms and to make those investments.

Source

A carbon tax is a logical way of bringing the market back into balance and encouraging what the world needs — capital to flow out of brown energy and into green energy.

By more accurately pricing energy sources, capital will flow towards renewables as the more cost-effective option. Governments can accelerate these capital flows by subsidizing reliable, clean energy.

This type of tax is more nimble than a law blatantly outlawing brown energy. As shown in the Texas freeze example, in times of crisis, people are willing to pay higher prices for reliable energy to fulfill their basic needs.

In normal times, they would be be incentivized to move away from brown energy as quickly as possible to avoid paying the tax.

Just enough brown energy to get by in the short term is the least bad option.

Remember The Doughnut

My prior article on Doughnut Economics emphasized two key boundaries that humanity needs to stay within — Earth's ecological ceiling, and a social foundation for people around the world to live healthy, productive lives.

Climate change is happening, and time is running out to solve the problem — we know that.

But, environmentalists need to ask themselves a difficult question — **is it justifiable to ban brown energy now and impede human betterment in the interest of protecting the planet, and future generations, from climate change?**

Source

Honestly, I don't have a definitive answer to this question.

In fact, I've had many tough internal conversations on this topic. I used to be a save-the-planet-at-all-costs crusader, but as I learned more about the social impacts of monumental energy shifts, it made me question my myopic perspective.

It sure is easy to opine about the devastation of brown energy while residing in a fully-developed economy. But if I sat in a developing nation, looking around at the modest progress made in my country, I'd be worried about a forced green energy transition knocking that fragile economic progress off-course.

Who are we to determine this for other people, living thousands of miles away in much worse conditions? Western countries were allowed to develop their economies through dirty manufacturing, only after which came the privilege of upgrading to a cleaner, service-based economy.

As the world transitions to green, we can't hang these countries out to dry — richer countries have a responsibility to ensure clean development of emerging economies.

Source

Optimal pollution tomorrow is nonexistent

Based on my own research into green economics, the prevailing opinion among experts seems to be that some level of carbon emissions *in the short term* is needed to ensure that human well-being is met on a global level.

But tomorrow, with the help of carbon taxes and innovation, I have faith that we can get out of this mess and reach truly optimal pollution, which is zero.

Odysseus didn't survive his journey without any casualties. We may have to accept some emissions in the short term, and maybe even some warming in the medium term, to ensure human welfare.

Humanity has put itself in a really tough spot.

To me, the least bad option is shifting as quickly as possible to renewables, while keeping some brown energy around in the near term for when it's absolutely necessary.

Hopefully, I'm proven wrong and some innovation will come along that allows us to kick brown energy sooner than we thought possible.

Below are some of the best books I've read on this topc:

1. *The Spirit of Green* by William Nordhaus
2. *Fewer, Richer, Greener: Prospects for Humanity in an Age of Abundance* by Laurence B. Siegel
3. *Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters* by Stephen E. Koonin
4. *Nature's Fortune: How Business and Society Thrive by Investing In Nature* by Mark Tercek
5. *How to Avoid a Climate Disaster* by Bill Gates
6. *Speed & Scale: An Action Plan for Solving our Climate Crisis Now* by John Doerr
7. *Grand Transitions* by Vaclav Smil
8. *Good Economics for Hard Times* by Abhijit V. Banerjee and Esther Duflo

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