

Disrupting climate change

After a season of record-breaking hurricanes in the US and floods across Asia, it would be easy to despair about the accelerating pace of climate change. Yet, despite the apocalyptic omens, an energy transformation big enough and fast enough to curb the spike in global temperature remains within reach. Better still, we do not need to wait for new inventions to implement the changes we need; the transformation can happen right now, with profitable solutions delivered by businesses and driven by markets.

Limiting the increase in global temperature to within two degrees Celsius of pre-industrial levels—the target set by the 2015 Paris climate agreement—will require decreasing reliance on fossil fuels, and changing how the world grows crops, harvests timber, and uses land.

New research by the Rocky Mountain Institute shows that both outcomes are possible, and that, together, the impact can “positively” disrupt the trajectory of climate change.

According to our analysis, there are pathways for the future supply and demand of energy, and for how forests and land store carbon, that, if followed, will dramatically slow the pace of warming.

By accelerating the clean-energy transition that is underway, it is possible to reduce greenhouse-gas emissions below what would be expected under current consumption patterns.

This scenario is not as far-fetched as some might believe. The world is already switching to cleaner energy, to electric mobility, and to smarter power and land-use systems faster than anyone, including experts, anticipated.

And it's not the first time the pace of change has exceeded expectations. In 1980, for example, AT&T hired McKinsey & Co. to forecast the number of mobile phones that would be in use in the US within two decades. The consultants predicted that by 2000, the US mobile phone market would support about 900,000 devices. In fact, over 100 million phones were sold that year. Today, the planet has more phones than people.

Solar and wind energy have suffered similarly flawed projections. For decades, experts at the International Energy Agency and the US Energy Information Administration underestimated how quickly supplies from these sources would grow. They consistently guessed low, increasing their forecasts only slightly every year, without ever catching up to reality. But as clean energy businesses innovated, the cost of production from wind and solar declined. Energy became cheaper, and usage increased as a result. Government models typically do not account for such expanding returns.

Another reason for underestimating the speed of today's energy transition is that the scale is different from previous conversions to new technologies.

When people switched from burning wood to burning coal, and then to burning oil, the “new” energy sources came from very large capital projects, like coal mines, offshore oil and gas fields, and refineries. The high costs of deploying these projects were then passed on to consumers.

By contrast, in today's energy market, consumers have more control.

Consider how easy it is to install rooftop solar panels; it can be done in a single day. Millions of small machines—photovoltaic cells, wind turbines, batteries, and smart appliances—are driving today's energy transformation.

Each new device in this distributed system is cheap and pays off quickly, so experimentation is affordable, and the technology can improve rapidly. The result is a huge field of global competitors, with faster innovation and new business models that are helping to achieve economies of scale.

The hardware of the clean-energy revolution has more in common with mobile phones and laptops than with mines and refineries. Because it can be sold in very large markets, with scalable production chains and still-maturing technologies, the transition to cleaner power is happening faster than many experts predicted it would.

Still, not even a rapid shift toward “greener” energy will be enough to keep global average temperature within two degrees Celsius of pre-industrial levels. To achieve that, the world will also need to take more greenhouse gases out of the atmosphere.

Fortunately, that, too, is possible. By incorporating carbon-reducing strategies into agriculture and land conservation, more heat-trapping gases can be locked up in forests and soils.

But while the techniques already exist, success will require increasing the use of no-till farming, adopting permaculture principles, better managing wetlands, and using rotational grazing techniques, among other measures.

The power of markets to drive radical changes in energy and land use is great, but as the storm season of 2017 should remind us, the climate emergency we face requires vigorous and urgent action.

Transforming the way people acquire and consume energy, and use land, will require strong incentives and policy frameworks to set the course for success.

But don't despair: there is still time to save our climate. The transformation has already begun—and it will play out faster than most people expect. ©2017/Project Syndicate

Jules Kortenhorst is CEO of the Rocky Mountain Institute.

Comments are welcome at theirview@livemint.com

END

Downloaded from **crackIAS.com**

© **Zuccess App** by crackIAS.com