FOOD & WATER WATCH

The Science is In:

We Can and Must Achieve 100 Percent Renewable Electricity by 2030

Rising global temperatures risk irreversible worldwide ecological and climatic changes, with widespread impacts on human health and ecosystems, resulting in more violent storms, droughts, floods, acidifying and rapidly warming oceans, and altered growing seasons.[1]

Current national pledges aimed at reducing greenhouse gas emissions, along with the 2015 Paris Agreement to limit warming below 2 degrees Celsius (°C) — even if fully implemented — are not enough, and we are still likely to see 3°C of global warming. Moreover, tipping points could be triggered with a rise of anywhere between 1°C and 2°C. With global carbon dioxide (CO_2) emissions reaching peak levels in 2019, we have little time to lose.[2]

In order to stave off the catastrophic impacts of climate change, we must rapidly transition away from dirty fossil fuels like coal, oil and natural gas to clean, renewable energy as soon as possible to prevent the worst effects of a warming planet. The United States must — and can — shift to 100 percent clean, renewable electricity by 2030.

Consequences of Climate Change

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a report documenting that global CO_2 emissions must decline 45 percent from 2010 levels by 2030, and reach net zero by 2050, to hold global warming to 1.5°C.[3] A slower pathway — reducing emissions 25 percent by 2030 and reaching net zero in 2070 — would limit global warming to below 2°C.[4]

Mitigating the worst effects of climate change will require fundamental, systemic transformation. The difference in just a half degree of additional warming would yield massive consequences: trillions of dollars in additional costs, increasingly dangerous environmental impacts, and profound suffering and poverty for hundreds of millions of people. Moreover, according to the IPCC, a warming climate "would disproportionately affect disadvantaged and vulnerable populations through food insecurity, higher food prices, income losses, lost livelihood opportunities, adverse health impacts and population displacements."[5]

In the most recent IPCC report on the ocean and cryosphere, scientists warn of a variety of climate tipping points that will cause unpredictable and irreversible changes to our planet, including uncontrolled releases of greenhouse gases from melting permafrost and excessive global sea level rise. The chance of crossing these tipping points goes up with increasing emissions.[6]

The Technical Capacity Exists

We have the ability to eliminate greenhouse gas emissions in our electricity sector by 2030 by transitioning to 100 percent clean, renewable energy. Technologies like

wind and solar power, backed up by battery storage, as well as energy efficiency measures to reduce consumption, exist to support a full transition.[7]

The transportation sector is also well positioned for a shift to 100 percent clean, renewable energy, excluding certain sectors like aviation.[8]

Furthermore, renewable energy is better for public health, conserves important resources like water, and is more reliable and resilient than fossil fuels.[9] There are also economic reasons to make this transition, given that the levelized cost of new solar, wind and storage technologies is comparable to, and in some instances cheaper than, fossil fuels, including natural gas — these costs will continue to fall significantly in the decades to come.[10]

The transition also has the potential to create millions of jobs. In 2016, more American workers were employed in the renewable energy and energy efficiency sectors (over 2.6 million jobs) than in fossil fuels (1 million jobs), according to Department of Energy data.[11] With a full-scale transition to clean, renewable energy, these numbers could increase significantly.

Conclusion

Given that the United States is the largest historic emitter of greenhouse gases, and given our vast economic resources, we are obligated to go even further.[12] A more aggressive timeline will help to avoid climate tipping points, as well as create many ancillary benefits including cleaner air and water, lower energy costs and the creation of millions of jobs.

Eliminating greenhouse gas emissions in the electricity and transportation sectors by 2030 through the full-scale transition to renewable energy, coupled with cuts in the industrial, residential and agricultural sectors necessary to achieve net zero emissions by 2050, will get the United States to the emissions goals laid out in the IPCC report.

Endnotes

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