

Our natural resources are not infinite. We must use what we have wisely.

Companies need to share breakthroughs in energy-efficiency if we are to reach net-zero.

A painful paradox lies at the heart of global efforts to reach net-zero carbon emissions by 2050. It can be illustrated with a hypothetical scenario. Let's say that scientists find a cost-effective way to extract hydrogen from water. There'd be cause for celebration as we'd suddenly have unlimited energy to unlock all that vast human potential. We could use this energy to desalinate some of our oceans and provide the world with clean drinking water. Such breakthroughs sound like a path towards environmental utopia, but there is a catch. With unlimited energy, we'd invent more, travel more and consume more. To fuel this, we'd still need natural resources, and we'd still need to dig minerals out of the ground and cut down trees. Even with limitless energy, we could still end up degrading the planet. But as disheartening as this may sound, this paradox also shows us a way forward. It illustrates that we cannot carry on as if natural resources are at our infinite disposal. We must build the cost of destroying nature into our economies, which ultimately means we must learn to do more with less. We've got to minimise energy consumption, but also use less metal, less plastic, less water and less heat.

As attendees prepare for COP27, we would do well to remember that the cleanest energy we currently have is the fossil fuel that we never burn. We all need to work together to become more efficient, to find the means to decarbonise and reduce the demand for natural resources. The stakes could not be higher. This year the thermometer in India and Pakistan reached 50°C, a deadly temperature for the human body. The flooding in Pakistan displaced 33 million people¹. If we do not act quickly, the climate crisis will intensify year after year. It is easy to become depressed in such a desperate situation, but those on the frontline of these disasters do not have that luxury. The people displaced by Pakistan's floods had to make life-changing choices to ensure their survival; the rest of us owe it to them to do the same and avert this crisis.

All of us must realise that we are responsible for acting on the climate crisis in whatever way our expertise allows. A vast collective response, as multitudinous as we are, might match the scale and complexity of the problem we face. And there is cause for optimism. Some solutions are already available. Heat pumps are an example of a low-energy usage device that only meets seven per cent of the world's heating demands but could be scaled to reach ninety percent². In the UK, a government scheme subsidises £5000 of the cost and installation of a heat pump. Policies like these need to be broadened to realise these energy efficiencies globally. Countries need to look to each other for help in achieving this. As part of Joe Biden's climate bill, \$9bn in rebates were offered for buying and retrofitting homes with energy-efficient and electric appliances³. In Europe, a similar package of up to €10bn is being developed and could make a huge difference⁴.

¹ <https://reliefweb.int/report/pakistan/pakistan-flood-disaster-affects-more-33-million-people>

² <https://www.iea.org/reports/installation-of-about-600-million-heat-pumps-covering-20-of-buildings-heating-needs-required-by-2030>

³ <https://www.ft.com/content/b27ced7c-3034-4909-83e4-e669b143ac3f>

⁴ I couldn't find the direct reference for this here is the closest I got: https://ec.europa.eu/commission/presscorner/detail/el/IP_19_1381

Achieving net-zero emissions by 2050 will also require stricter international regulation. Companies must accept that when a clean technology is developed, it needs to be shared to become an industry-wide standard. To help share these technological improvements fairly, we must develop agreements and codes of conduct. We cannot afford to have companies that invest in clean technologies be surpassed by competitors making cheaper and less efficient products for a quick return. We want to shift the point of competition to where companies that create the most sustainable products and processes make the best return. This might seem anti-competitive, but we have no other choice. We are already at the gates of climate disaster. There are just 380 weeks to hit the 2030 target of reducing emissions by 45%. Unfortunately, we are on course to miss them by some distance⁵.

The situation is desperate, but we regularly learn of breakthroughs in improving energy efficiency: from smart energy grids that can manage demand more efficiently⁶ to new solar cells that can extract more energy from the sun⁷. Funding these breakthroughs will be expensive but worth it. The greater risk is not investing and not working together across all fronts, all of the time. In 1987 the Montreal Protocol helped to reduce the hole in the ozone layer, but it will take until 2050 for it to return to pre-1980 levels⁸. The cost of inaction today will last well into the future, and the devastation to our planet will be beyond our comprehension. We must invest in solutions that enable us to do more with less, even if that comes at the expense of profit. And we must invest now to ensure our children a future. It is that simple.

⁵ <https://www.reuters.com/business/environment/europe-miss-2030-climate-goal-by-21-years-current-pace-study-2021-09-04/>

⁶ <https://www.economist.com/technology-quarterly/2022/06/23/getting-the-most-out-of-tomorrows-grid-requires-digitisation-and-demand-response>

⁷ <https://www.economist.com/science-and-technology/2020/05/21/new-solar-cells-extract-more-energy-from-sunshine>

⁸ <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>