

Together, We Can Rise to the Challenge of Climate Change – Even If the Trump Administration Won't

Twelve years.

That's how much time we have to limit the worst impacts of catastrophic climate change, according to the world's top climate scientists at the Intergovernmental Panel on Climate Change (IPPC).

Also Read: [India on Target](#)

As world leaders meet this week at the U.N. climate summit, the stakes have never been higher. 2018 has seen devastating wildfires in California, unprecedented hurricanes in the southeast U.S. and Asia, record droughts in Cape Town, and fires in the Arctic. Climate change is happening here and now. To protect ourselves and the planet, we need bold action to move us toward 100 percent clean energy – and fast.



Delegates at the United Nations COP24 climate summit in Katowice, Poland, on Dec. 3, 2018.

Sebastian Indra / MSZ (Ministry of Foreign Affairs, Poland)

Rather than promoting U.S. clean energy leadership and innovation on the world stage, President Trump is taking desperate measures to deny reality and defend his fossil fuel cronies. His administration held a sideshow at the summit to promote fossil fuels and joined climate outlaws Saudi Arabia, Kuwait, and Russia to reject the IPCC report. While California was still burning, the administration went all out trying to bury a dire warning from their own experts on the risks climate change poses to our health, economy, and national security. Meanwhile, they are trying to prop up their friends in the fossil industry by bailing out uneconomic coal plants, expanding oil and gas drilling, and dismantling environmental protections.

The good news is that in the absence of common sense in Washington, communities, cities and states are stepping up to take the lead.

Earthjustice is working with partners around the world to stop dirty energy projects that threaten their health and fuel climate change. In Africa and Asia, we're assisting groups that are challenging coal-fired power plants with legal arguments and technical analysis to help them succeed. In Australia, we're helping indigenous peoples take their fight against a giant coal mine to the United Nations. And in Latin America, we're partnering with groups that are challenging new fracking projects.



Solar panels in Los Angeles, which is standing by its commitment to the Paris Agreement.

Wanganoi / Getty Images

We're also working with a global alliance of cities that are taking bold steps to ramp up renewable energy to reduce climate pollution. These cities are standing by their commitments under the Paris Agreement, and Earthjustice is providing legal analysis to support policy and regulatory reforms to accelerate their transition to clean energy.

Earthjustice is also working to clear the way for clean energy in places like California, which made history this year as the largest economy in the world to commit to 100 percent clean energy. We're using the power of the law to remove barriers to clean energy and level the playing field so the state can meet its ambitious targets. At the same time, we're working to tackle carbon pollution from our transportation sector and bring electric vehicles to our cities.

Together, we can rise to the challenge of climate change – even if the Trump administration keeps its head buried in the sand. By saying no to dirty fossil fuels and removing barriers to clean energy, our partners are setting an example for the world to follow.

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Trends: Cong is winning MP

Bhopal, Dec 11 (UNI) At the conclusion of three hours of counting of Assembly poll votes on Tuesday, Madhya Pradesh's principal-opposition Congress was leading in 113 constituencies and the ruling Bharatiya Janata Party (BJP) in 105 even as the Bahujan Samaj Party (BSP) and others are dominating vis-a-vis the rest of the seats. Numerous ministers of the saffron party, which has been in the saddle for 15 years, are trailing and they include Public Relations Minister

Narottam Mishra who is behind Mr Rajendra Bharti (Congress) in Datia.

In Budhni, Chief Minister Shivraj Singh Chouhan is leading over his nearest Congress rival Arun Yadav who served as his party's state President.

Postal ballots were counted first for 230 seats and electronic voting machines taken up later, sources at the Chief Electoral Officer's workplace said.

Counting of votes cast on November 28 commenced on Tuesday morning at all district headquarters amid heavy security bandobast.

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MP trends: Cong heading towards magic figure

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Govts adopt UN global migration pact to help 'prevent suffering and chaos'

United Nations, Dec 11 (UNI) The Global Compact for Migration has been adopted by leading representatives from 164 Governments at an international conference in Marrakesh, Morocco, in an historic move described by UN Chief António Guterres as the creation of a "roadmap to prevent suffering and chaos".



Morocco-Ranks-2nd-in-Climate-Change-Performance-Index

The Compact was adopted on Monday in Marrakesh, Morocco.

Speaking at the opening intergovernmental session, Mr Guterres said that the Compact provides a platform for “humane, sensible, mutually beneficial action” resting on two “simple ideas”.

“Firstly, that migration has always been with us, but should be managed and safe; second, that national policies are far more likely to succeed with international cooperation.”

The UN chief said that in recent months there had been “many falsehoods” uttered about the agreement and “the overall issue of migration”.

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Businessman Vijay Mallya should be extradited from UK to India

Vijay Mallya has a break outside the court house as he waits for his extradition case to be heard at Westminster Magistrates Court, in London, Britain, December 10, 2018. REUTERS/Peter Nicholls

Businessman Vijay Mallya should be extradited from UK to India

10 Dec 2018 – 15:30



LONDON: Indian tycoon Vijay Mallya should be extradited from Britain to India to face fraud charges resulting from the collapse of his defunct Kingfisher Airlines, a London court ruled on Monday.

India wants to bring criminal action against Mallya, 62, whose business interests have ranged from aviation to liquor, over \$1.4 billion in loans Kingfisher took out from Indian banks which the authorities argue he had no intention of repaying.

Mallya, who co-owned the Formula One motor racing team Force India until it went into administration in July, has denied any wrongdoing and says the case against him is politically motivated. He declined to make any comment as he left the court room on Monday.

Judge Emma Arbuthnot, England's chief magistrate, decided there was a prima facie case against Mallya, who moved to Britain in March 2016, and that his human rights would not be infringed if he were extradited. Her ruling must be approved by Britain's interior minister.

Arbuthnot said false representations had been made to the banks, which include state-owned IBDI, regarding what the loans would be used for and she ruled there was evidence of conspiracy to defraud the lenders and of money laundering.

The judge said there had been a catalogue of failings by the banks themselves to carry out proper checks and to ensure guarantees were viable. But she said there was little evidence that senior IBDI officials themselves were involved in planning to defraud their own bank.

Arbuthnot said executives may have been in “the thrall of this glamorous, flashy, famous, bejewelled, bodyguarded, ostensibly billionaire playboy who charmed and cajoled” them into ignoring their own rules and regulations.

Arbuthnot said Mallya, nicknamed “the King of Good Times” after the slogan of one of his premium beers and his hard partying lifestyle, had used the loans, among other things, for “vanity projects” such as Force India which had received payments at a time when it was struggling in 2010.

“I have found that on the face of it, (Mallya) was doing everything he could by using honest or dishonest means to keep the company going,” she told Westminster Magistrates’ Court.

EXTRADITION

An extradition would be a huge win for Indian Prime Minister Narendra Modi months before an election, after opposition parties said the government had given a “free passage” to Mallya to flee, an accusation it denies.

Modi has faced pressure from political opponents to bring to justice several people who have fled India in recent years to escape prosecution in an array of cases, many of them loan defaults.

Monday’s ruling is unlikely to be the end of the long-running

case.

Mallya, who was arrested by British police in April 2017, can appeal Arbuthnot's decision within 14 days to London's High Court. The interior minister's decision can also be appealed to the High Court and ultimately the Supreme Court.

The Indian government said Kingfisher took out a series of loans from Indian banks, in particular IDBI, with the aim of palming off huge losses which Mallya knew the failing airline was going to sustain.

It argued that Mallya had no intention of repaying money it borrowed from IDBI in 2009 and that the loans had been taken out under false pretences, on the basis of misleading securities and with the money spent differently to how the bank had been told.

Arbuthnot rejected his defence team's argument that the case was motivated by political considerations or that he would not receive a fair trial in India.

She said the cell where he would be held was large and would be able to cater for his medical needs, dismissing claims extradition would infringe his human rights.

"A spell in custody is likely to help him cut down on alcohol," she added.

Mark Summers, the lawyer acting for the Indian government, said they would seek 216,000 pounds (\$274,924) in legal costs.

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MIT team gains ground on molten silicon energy storage concept

A molten silicon energy storage system is being touted as another possible – and much cheaper – contender for grid-scale storage of renewable energy, in the ongoing research quest to move beyond lithium-ion batteries to support solar and wind dominated grids.



A team of engineers from the Massachusetts Institute of Technology say they have come up with a conceptual design for a molten silicon-based system to store excess renewables, and deliver it back to the grid on demand, using large tanks of white-hot molten silicon and specially designed heat resistant pumps.



The tanks, which the researchers say could be designed to “power a small city” around the clock, would store heat generated by excess solar and wind power and then convert the light from the glowing metal back into electricity when needed.

The MIT team has estimated that such a system would be vastly

more affordable than lithium-ion batteries, and even about half the cost of pumped hydro storage, which is currently considered to be the cheapest form of grid-scale energy storage.

“Even if we wanted to run the grid on renewables right now we couldn’t, because you’d need fossil-fueled turbines to make up for the fact that the renewable supply cannot be dispatched on demand,” says Asegun Henry, the Robert N. Noyce Career Development Associate Professor in the Department of Mechanical Engineering.

“We’re developing a new technology that, if successful, would solve this most important and critical problem in energy and climate change, namely, the storage problem.”

The storage system is only at the design phase yet – a design that has been published in the journal *Energy and Environmental Science* – but stems from a project based on increasing the efficiency of concentrated solar power.

Most commonly, this sort of technology is used to focus sunlight onto a central tower, where the light is converted into heat that is stored in (usually) molten salt, and eventually turned into electricity. It’s the basis of SolarReserve’s Aurora solar tower power plant being built in Port Augusta South Australia.

“This technology has been around for a while, but the thinking has been that its cost will never get low enough to compete with natural gas,” Henry says.

“So there was a push to operate at much higher temperatures, so you could use a more efficient heat engine and get the cost down.”

To do this, the MIT team looked beyond salt, which at very high temperatures would corrode the stainless steel tanks that store it.

What they eventually settled on was silicon, which as well as being one of the most abundant elements on earth, can withstand incredibly high temperatures of over 4,000 degrees Fahrenheit.

It is the same line of thinking that led to the formation of Adelaide-based company 1414 Degrees, which in May of this year lodged a prospectus for an Initial Public Offering (IPO) with the Australian Securities and Investments Commission (ASIC), after one decade and \$15 million-worth of developing its own version of silicon storage technology.

The MIT team's recent momentum, however, is based on the development of a pump it says can withstand 4000°F temperatures, and could conceivably pump liquid silicon through a renewable storage system.

According to MIT News, the pump has the highest heat tolerance on record, and is the basis of the team's newly published molten silicon energy storage system design.

The system, which they call TEGS-MPV, for Thermal Energy Grid Storage-Multi-Junction Photovoltaics, proposes converting electricity generated by any renewable source into thermal energy, via joule heating – a process by which an electric current passes through a heating element.

The system would work using heavily insulated, 10-meter-wide tanks made from graphite and filled with liquid silicon, kept at a “cold” temperature of almost 3,500 degrees Fahrenheit. This would be connected to a “hot tank” by a series of tubes exposed to heating elements, powered by excess renewable electricity.

Liquid silicon is pumped out of the cold tank, through the heated tubes, and into the hot tank, where the thermal energy is stored at a much higher temperature of about 4,300 F.

When electricity is needed, the hot “glowing white” liquid

silicon is pumped through another bunch of tubes that emit that light, the MIT article explains.

Then, specialised “multijunction photovoltaic” solar cells convert the light into electricity for use on the grid. Meanwhile, the now-cooled silicon is pumped back into the cold tank until the next round of storage – acting effectively as a large rechargeable battery.

“One of the affectionate names people have started calling our concept, is ‘sun in a box,’ which was coined by my colleague Shannon Yee at Georgia Tech,” Henry says. “It’s basically an extremely intense light source that’s all contained in a box that traps the heat.”

It is also “geographically unlimited,” he says, and cheaper than pumped hydro, “which is very exciting,” Henry says. “In theory, this is the linchpin to enabling renewable energy to power the entire grid.”



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