



French energy giant EDF's coal-fired power plant at Cordemais in western France. The writer says corporations across different sectors should focus on decarbonisation and actively setting 2050 net-zero targets. PHOTO: AGENCE FRANCE-PRESSE

We're in a climate casino. Here's how to fight against the odds

Extreme weather events point to an increasingly dangerous roulette game we play. Individuals and businesses can do their part but governments must do more at the upcoming Glasgow climate conference.

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For The Straits Times

Imagine you are in a casino where the roulette wheels have only red and black colours. You win if the ball falls on red. Currently, more black than red slots exist, so it is a tempting game to play as the odds are in your favour.

However, what if the croupier adds more reds to the wheels over time? Will you still play when the odds significantly go against you?

This analogy can help explain one worrying conclusion of the Intergovernmental Panel on Climate Change's (IPCC) recently released Sixth Assessment Report on Climate Science that has immense ramifications for people in Singapore and South-east Asia.

There have been more frequently occurring extreme weather events, such as heatwaves, rainfall-driven floods, droughts, wildfires and tropical cyclones. Having these episodes happen is akin to getting a red with each roulette spin.

The IPCC assesses that most projected climate-driven weather extremes will be more frequent, intense and more widespread, with every additional tonne of greenhouse gas (GHG) emissions into the atmosphere or further deforestation that causes global warming.

Natural variability of climate alone cannot explain recent increases in frequency and severity of these events. Instead, the report assesses clear scientific evidence of a human "fingerprint" which can be attributed to these episodes we have recently seen.

The risk of more climate extremes with additional global warming is akin to a casino (the planet's environment) further rigging the roulette wheels to favour the house, with more reds (extreme weather) replacing blacks (normal weather) with increased global carbon emissions over time.

Slowly but surely, the odds are no longer in our favour.

THE RISKS FOR SOUTH-EAST ASIA

Climate hazard types depend on the region in question. In the IPCC

report, the climate roulette odds in South-east Asia are stacked for more frequent hot temperature extremes, more intense rainfall, much stronger typhoons affecting countries such as Vietnam and the Philippines, and greater occurrence of extreme coastal floods and erosion from rising sea levels.

Consequently, societies in the region have to anticipate larger physical and financial risks over the coming decades from several of these climate extremes, such as

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an increased likelihood of heat stress and heat-related injuries for people exposed outdoors for prolonged periods.

Or damage to buildings, roads and other urban infrastructure, or to agricultural crops arising from more likely rainfall-driven flood events. Or more intense super-typhoons – like last year's Goni, Meranti in 2016, and Haiyan in 2013 – making landfall over vulnerable South-east Asian settlements, resulting in catastrophic damage.

In the long run, however, sea level rise is the climate hazard that all coastal cities around the world will dread. It is virtually certain that global sea levels will rise due to expanding ocean water from warming, and from melting massive glacier and ice sheets in Greenland and Antarctica.

Even if we keep to the Paris Agreement limit of 2 deg C above 19th-century global temperatures, the projected global average sea level rise will range between 30cm and 60cm from now until 2100.

This may not seem like much, but observed global average sea level rise was only 20cm from 1901 to 2018 when the world warmed by 1.1 deg C.

The worrying thing is that sea level rise may accelerate considerably due to uncertainties over melt rates for large ice sheets. Under very high greenhouse gas emission scenarios, above-average polar warming may result in extensive ice sheet melt accelerating global sea level rise by 2100 in metres, not centimetres.

If that happens, the roulette wheel turns all red before a fateful final spin for many sinking coastal settlements and small island states.

WHAT CAN BE DONE

The obvious question facing us is: What can be done to improve our climate odds?

From an evidence-based scientific perspective, the solution is unambiguous. Current emission rates of about 50 billion tonnes of carbon dioxide-equivalent GHGs per year must reach net-zero levels. The sooner net-zero is reached, the lower the climate risks, and global temperatures will eventually stabilise close to the Paris Agreement goals.

What the IPCC report does not state, however, are the policies governments can take to reach net-zero emissions. The IPCC's remit does not allow it authority to prescribe climate mitigation or adaptation policies, or set deadlines for needed emissions reduction.

It can only assess climate policies relevant towards the net-zero goal to inform governments for their action. Such options are currently being assessed for subsequent IPCC assessment reports that will be released early next year.

From a personal perspective, however, society can act decisively in getting the reds off the roulette wheel, with information from the IPCC.

First, governments need clear, quantifiable and ambitious science-based plans to cap and reduce emissions to net-zero as soon as possible.

Most countries have aimed for a

2050 deadline to meet this goal. Few, though, have listed specific policy details, such as context-specific measures shifting to a "green" economy, or added quantifiable net-zero targets. And for those that have done so, such as Singapore's Green Plan 2030, the initial ambition still falls far short of net-zero by 2050.

Second, individuals cannot be apathetic. The biggest mistake one can make is either thinking that nothing can be done to shift the needle for GHG emissions, or that it is a problem for someone else.

Instead, learning about the subject – such as engaging with the IPCC reports, and talking with others knowledgeable about climate change – is a good start towards living a more sustainable lifestyle that reduces an individual's carbon "footprint".

However, very real limits exist to personal action and individual responsibility with respect to reaching net-zero emissions, especially when the vast majority of emissions worldwide originate from fossil fuel-dependent industries.

Third, businesses must act urgently through reducing their climate risk to their assets, and account for net-zero emissions in their operations.

Companies with assets vulnerable to climate hazards should reduce their exposure to the ever-reddening climate roulette wheel.

Further, corporations across different sectors should focus on decarbonisation and actively setting 2050 net-zero targets through some combination of developing and applying emission-reduction technologies, or by investing in low-carbon operational practices.

Taken together, these actions throughout society – from governments, businesses and people – must align towards the common net-zero emissions goal that will reduce the reddening of the casino's climate roulette wheels.

Since the 2015 Paris Agreement, I have discerned a palpable sense of global urgency for climate action, as people realise the threats to the planet. Governments, especially in major GHG-emitting countries, should leverage this sentiment to enhance net-zero commitments, especially at the forthcoming Climate Change Conference of Parties to be held in Glasgow, Scotland, in November.

Some of the much desired outcomes of the conference would be having enhanced 2050 net-zero commitments from governments, as well as finalising a detailed "rulebook", making the Paris Agreement operational for all nations.

Achieving these goals is a must. We need to stop the climate roulette wheel from being rigged further, especially since playing at other casinos is not an option.

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