

# CSR TODAY

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Monsoon changes  
threaten Asia and warn  
the world

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How can Asia build a  
circular economy in its  
post-Covid recovery?





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# Water scarcity can be overcome naturally!



**Rajesh Tiwari**

Publisher  
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**WORLDWIDE, WETLANDS' FULL INTEGRATION INTO WATER PLANNING AND MANAGEMENT ACROSS ALL ECONOMIC SECTORS WOULD BRING FAR-REACHING BENEFITS. SUFFICIENT WATER SUPPLIES COULD STIMULATE ECONOMIC GROWTH, REDUCE CONFLICT, AND RELIEVE ENVIRONMENTAL STRESS. BUT THAT REQUIRES SIGNIFICANT SUSTAINED INVESTMENT TO MEET SURGING DEMAND.**

**A**t a time when the world is reeling under critical issues like population, pollution and poverty which has been compounded by the Covid-19 pandemic, we have to look ahead.

Humanity's consumption of fresh water has long exceeded the rate of replenishment. Now, researchers are warning that this essential natural resource is running out. If we are to reverse this trend, investing in natural solutions is our best hope.

Water is essential for survival and can combat many other problems. And let's look at wetlands for water.

Martha Rojas Urrego is secretary-general of the Ramsar Convention on Wetlands, points out: "Industry, too, must step up as an equal partner in conservation and efficient use. Ecosystem protection and an attractive business environment might once have seemed incompatible. Today, businesses' very survival depends on a healthy natural environment."

Less than 1 per cent of all water on Earth is accessible or usable fresh water. Most is held in inland wetlands, including rivers, lakes, marshes, peatlands, and underground aquifers. These wetlands are nature's water harvesters, cleaners, and bankers. By capturing, purifying, storing, and releasing rain and floodwater before releasing it when needed, they enable the global water cycle that ensures a constant supply.

Worldwide, wetlands' full integration into water planning and management across all economic sectors would bring far-reaching benefits. Sufficient water supplies could stimulate economic growth, reduce conflict, and relieve environmental stress. But that requires significant sustained investment to meet surging demand.

Consumption of fresh water has increased sixfold over the last 100 years, and demand is still rising, with agriculture, industry, and energy accounting for 90 per

cent of the total. At least 55 per cent more water will be required by 2050 to meet the demand created by economic growth, urbanisation, and a global population of nearly ten billion people.

Already, there is considerably less water per person now than there was just two decades ago. As a result, over three billion people face severe water shortages, which often fuel violent conflict. By 2050, more than half the world's people will be water-insecure; in dry regions, climate change will aggravate scarcity.

Climate change is only one threat. Pollution is also exacerbating the water crisis. Unsafe drinking water is a potentially fatal reality for people around the world. Virtually all freshwater sources are now contaminated to some extent; not even Mount Everest's snowcaps have been spared.

Their versatility is especially relevant when considering that water crisis ranks among the World Economic Forum's top five global risks in terms of impact. Their water-harnessing capacities above and below ground – counteracting droughts, floods, and the impact of melting glaciers – are particularly important. And yet, although they provide most of our fresh water, nearly 90 per cent of all wetlands have disappeared since the Industrial Revolution, and the loss is accelerating in tandem with globalisation. Many remaining wetlands are critically endangered.

Wetlands are particularly vulnerable because they are frequently considered wasteland to be converted for farming and development, or disease-ridden areas to be reclaimed. This tendency highlights the lack of understanding of wetlands' critical role that underpins the world's water crisis. To ensure safe, secure, and adequate water supplies, we must focus on the connection between human dependence on water and what we do to wetlands. **■**

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## CSR TODAY

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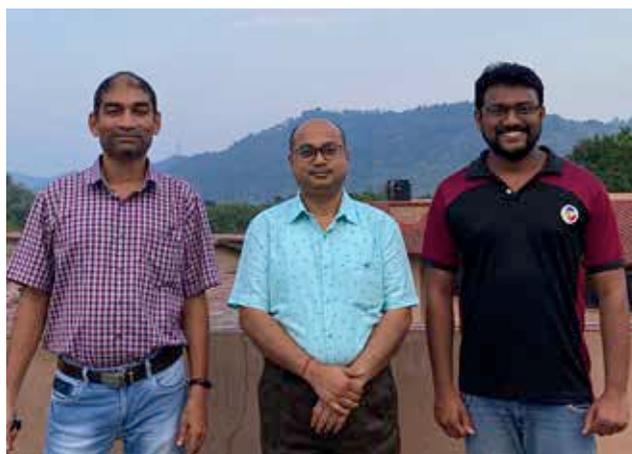
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## IIT Guwahati researchers use a hollow fiber membrane to remove micro-plastics from seawater before salt extraction

Indian Institute of Technology Guwahati researchers have developed a microfiltration process to remove microplastics from seawater in order to prevent the inclusion of plastic residues in edible salt extracted from it. Prof. Kaustubha Mohanty and Dr. Senthilmurugan Subbiah, Department of Chemical Engineering, IIT Guwahati, have recently published the results of this research in the journal *Environmental Technology & Innovation*, in a paper co-authored by their research scholar, Mr. Naveenkumar Ashok Yaranal.

Plastic pollution is rampant all over the world and while there is some level of awareness, the seriousness is not yet understood. Microplastics – plastic pieces smaller than one-fifth of an inch – are now found in almost all oceans and marine animals. What's worse, sea salt has been found to have considerable amounts of micro-plastic. Research performed in East Asia has shown that 90 percent of the table salt brands sampled worldwide has micro-plastics. Another study by IIT Bombay showed that eight brands of Indian sea salt were contaminated with micrometre sized particles of polyesters, polyethylene terephthalate (PET), polyamide, polyethylene, and polystyrene. Micro-plastics ingested by human beings can disrupt hormones, leading to infertility, and cause nervous system problems, and even cancer.



(L to R) Dr. S. Senthilmurugan, Prof. K. Mohanty, Mr. Naveenkumar A. Yaranal, from IIT Guwahati

While there have been many studies to identify and quantify micro-plastics in various food products, including salt, there have been fewer attempts at finding ways to remove them. The IIT Guwahati team has, for the first time, shown efficient removal of micro-plastics from synthetic seawater using hollow fibre microfiltration (HF-MF) membranes.

“In our hollow fibre membrane filter, hundreds of tiny straw-like tubes are bundled together to create a filter matrix,” explained Dr. Mohanty. The walls of these tubes are filled with microscopic pores, and when water is passed through the tubes, the micro-plastics are trapped inside, thus freeing water of this pollutant.

Hollow fibre membranes are already used extensively in daily life

applications such as RO pre-treatment, industrial water/wastewater, juice processing, and other biotech applications, including in dialysis membranes used for kidney ailments. The hollow fibres are made of many kinds of materials and the ones used by the IITG team was made of poly-

propylene and a silk protein called sericin. “We were able to remove 99.3 % of the micro-plastics present in seawater, without any reduction in the salt content”, said the key researcher. If this filtered water is used to extract salt, it would be free from micro-plastics. The researcher clarifies that this can only remove micro-plastics from seawater before salt extraction, and obviously cannot remove micro-plastics that get added during salt production, such as through the use of descaling agents in the desalination process itself.

Some advantages of hollow fibre membrane technology that make it promising for pre-treatment of seawater include simplicity of installation and use, cost effectiveness, no need for power supply, no generation of waste, and operability under low water pressure.

# CSR INDIA UNITED

## 'Feeding the hungry' campaign launched amidst Covid -19 pandemic



Flagging off ceremony from Kolkata



Philem Rohan is distributing the food packets to the homeless people



Indian migrant workers during the COVID-19 pandemic has faced multiple hardships. With offices and factories following the protocol of the lockdown imposed in the country, millions of migrant workers had to deal with job loss, food shortage and uncertainty about their future. Scarcity of food is the biggest problem faced by the

poor and homeless people during this pandemic. Nearly 14% of India population is undernourished and India ranked 94 among 107 nations in the Global Hunger Index 2020, many people lose their lives because of hunger.

The COVID-19 pandemic has caused a food shortage in India and Cycling for Humanity's - 'Feeding the

hungry' campaign aimed at feeding the poor & homeless people. The team of young enthusiasts with the vision of working towards humanity, distributed food items, groceries, one time meal and even provided shelter to the homeless and migrant labour. They also helped more than 60 drug addicts and successfully shifted to the rehabilitation centers with the help of local police. The campaign was started a year ago from Manipur but later decided to take it to the other parts of the country as well.

As a part of the campaign, Rohan along with his team embarked a cycle journey starting from Kolkata to Chennai - Bengaluru - Delhi. The campaign, which was flagged off on 5th February from Kolkata and culminated on 8th April, traversing around 5000+ kms. The focus of the campaign was to help people in need by providing them with food, groceries, slippers, clothes etc. for their basic survival.

Talking about his commitment and passion Philem Rohan Singh, Cyclist & Social Activist and the Founder of 'Cycling for Humanity' said, "I have started cycling in 2018 and complete 8 expeditions as of now, the aim of each expedition is to spread awareness towards humanity. Due to the pandemic, so many people are facing the food scarcity, especially the homeless. So, we decided to initiate the campaign 'Cycling for Humanity- Feeding the hungry' and travelled across 4 major metros to feed hungry people".

"During our expedition we could not cover Mumbai because of the increasing Covid 19 and country again getting into the lockdown situation, still were able to feed 4000+ people in just 60 days and will continue to do so", he added.

While travelling from Kolkata - Chennai - Bengaluru - Delhi the team faced various challenges, the covid protocol was the biggest challenge for travelling.

# EU-India Economic Diplomacy

POSTED ON 10/04/2021 BY CED

## Meeting the Next Moment, Together: EU-India Economic Diplomacy in a 'Multipolar' Asia

Authored by  
**Pooran Chandra Pandey**

**E**conomic diplomacy is a form of 'diplomacy' that uses the full spectrum of economic tools of a state to achieve its national interests.

The scope of economic diplomacy can encompass all of the main international economic activities of a state including, but not limited to, policy decisions designed to influence exports, imports, investments, lending, aid, free trade agreements, et al.

Concept is concerned with economic policy issues, e.g. work of delegations at standard setting organizations such as World Trade Organization (WTO). Economic diplomats also monitor and report on economic policies in foreign countries and give the home government advice on how to best influence them. Economic diplomacy employs economic resources, either as rewards or sanctions, in pursuit of a particular foreign policy objective. This is sometimes also called "economic statecraft"

### Background and Context Setting

Economic diplomacy is traditionally defined as a decision-making, policy-making process, advocating for sending state's business interests. The concept

requires application of technical expertise while analyzing effects of a country's (receiving state) economic situation on its political climate and on the sending state's economic interests. The sending state and receiving state, foreign business leaders, as well as government decision-makers, work together on some of the most cutting-edge issues in foreign policy including but not limited to technology, environment, and health, as well as in the more traditional areas of trade, commerce and finance. Versatility, flexibility, sound judgment and strong business skills are all needed in the execution of economic diplomacy.

State and non-state actors – all government agencies involved in international economic mandates are players in economic diplomacy (though they often do not describe them as such). Further, non-state actors such as non-government organisations (NGOs) engaged in international economic activities are also players in economic diplomacy. Businesses and investors are also actors in the processes of economic diplomacy, especially when contacts between them and governments are initiated or facilitated by diplomats. Scope of definition is especially applicable to practice of economic diplomacy as it is unfolding in emerging economies.

This new approach though involves an analysis of a nation's economy, taking into account not only its officially

reported figures but also its gray, or unreported, economic factors. A nation that wants to attract business must be proactive rather than passive seeking out opportunities and learn to bring them home. Tax and other concessions are necessary and costly, in short term; however, creative support of new business opportunities can generate major chances for success. This sort of activity is also a part of economic diplomacy.

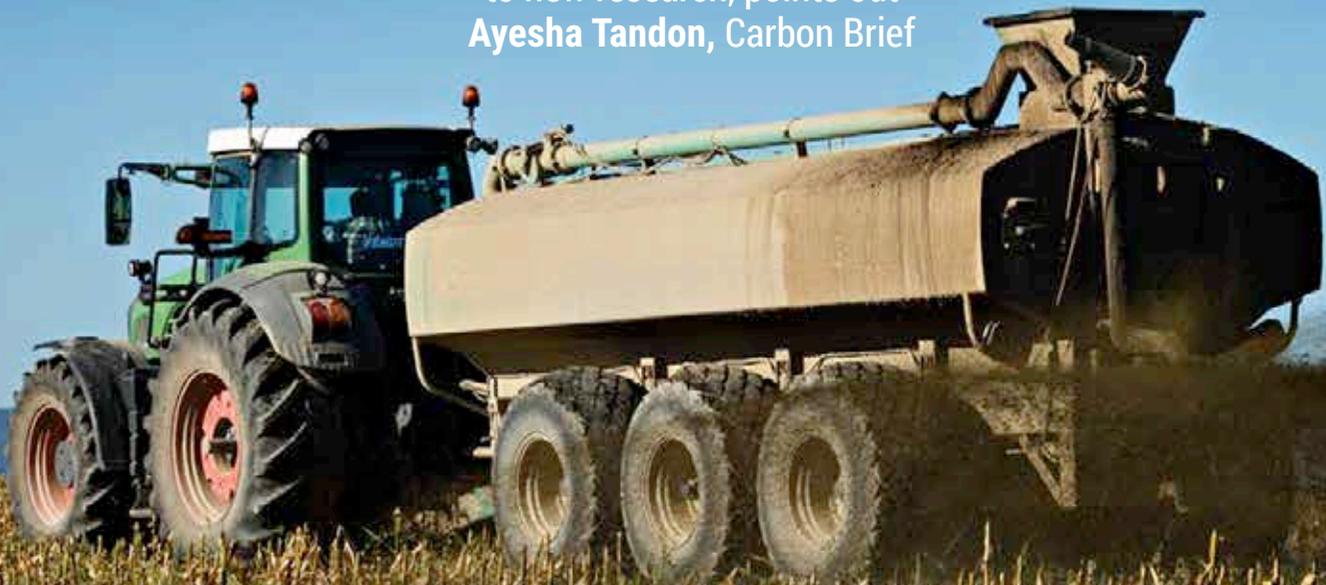
### EU-India's Relations and Current Trade Status

India-EU relations date to the early 1960s, with India being amongst the first countries to establish diplomatic relations with the European Economic Community. A cooperation agreement signed in 1994 took the bilateral relationship beyond trade and economic cooperation. At the 5th India-EU Summit at The Hague in 2004, the relationship was upgraded to a 'Strategic Partnership'. The two sides adopted a Joint Action Plan in 2005 (which was reviewed in 2008) that provided for strengthening dialogue and consultation mechanisms in the political and economic spheres, enhancing trade and investment, and bringing peoples and cultures together.

- India now is amongst the world's fastest-growing large economies and is an important player in global economic governance. It is also an important trade and investment partner for the European Union (EU), representing a sizable and dynamic market, with an annual gross domestic product (GDP) growth rate of around 6 percent (at a pre-Covid-19 level).
- The EU is India's largest trading partner, accounting for €80 billion worth of trade in goods in 2019 or

# FOOD SYSTEMS RESPONSIBLE FOR ONE THIRD OF HUMAN-CAUSED EMISSIONS

'Food systems' were responsible for 34 per cent of all human-caused greenhouse gas emissions in 2015, according to new research, points out **Ayesha Tandon**, Carbon Brief



A trailer spreads liquid manure on a field owned by Mercer Vu Farms in Mercersburg. Processes that separate out solids from the manure have reduced transportation costs and allowed the farm to more precisely apply nutrients, reducing pollution and reducing its carbon footprint. *Image: Chesapeake Bay Program, via Flickr. CC BY-NC-ND 2.0.*

**T**he study, published in Nature Food, presents EDGAR-FOOD – the first database to break down emissions from each stage of the food chain for every year from 1990 to 2015. The database also unpacks emissions by sector, greenhouse gas and country.

According to the study, 71 per cent of food emissions in 2015 came from agriculture and “associated land use and land-use change activities” (LULUC).

The rest stemmed from retail, transport, consumption, fuel production, waste management, industrial processes and packaging. The study finds that CO<sub>2</sub> accounts for roughly half of food-related emissions, while methane (CH<sub>4</sub>) makes up 35 per cent – mainly from livestock production, farming and waste treatment.

Emissions from the retail sector are rising, the study finds, and increased by 3-4 times in Europe and the US between 1990 and 2015.

The authors also find that “food miles” contribute less to food emissions than packaging. The authors add that 96 per cent of the emissions from transporting food come from local or regional transport by road and rail, rather than international transport.

### **‘AN EXCELLENT DATABASE’**

While feeding the world’s population of almost 8bn people is a fundamental task, it comes at a heavy cost to the climate.

Food production uses up half of the Earth’s habitable land and a 2019 report from the Intergovernmental Panel on Climate Change (IPCC) estimated that between 21-37 per cent of global emissions are derived from food systems.

(Last year, Carbon Brief produced a week-long series of articles, discussing the

climate impacts of meat and dairy, outlining how changing diets are expected to affect the climate, and asking how we can change our eating habits to minimise our carbon footprint.)

The new study presents EDGAR-FOOD – the first database to cover each stage of the food chain for all countries, providing data for every year between 1990 and 2015.

The database estimates CO<sub>2</sub>, CH<sub>4</sub>, nitrous oxide (N<sub>2</sub>O) and fluorinated gas emissions for each stage of the food system, as well as by country.

University of Oxford’s Dr John Lynch, who researches the climate impacts at food and was not involved in the study, tells Carbon Brief that it “has often been hard to get fully detailed coverage across the whole food system” and that this new paper is a “great resource”.

Dr Sonja Vermeulen – director of programmes at the Consultative Group on International Agricultural Research (CGIAR), who also was not involved in the study – adds that this is an “an excellent database and set of analytic tools to signpost the way forward for food”.

Vermeulen notes that she published “perhaps the first estimate of total food system emissions” around a decade ago, estimating that food systems account for one-third of emissions.

This is the same estimate as the new database, she notes, but adds that her figure was “based on much rougher data and calculations” than the new assessment and “it is great to see the figure grounded much more strongly in evidence and detail”.

### **GLOBAL FOOD EMISSIONS**

The study finds that global food production increased 40 per cent between 1990 and 2015, and that annual emissions from the food system rose from 16bn tonnes of CO<sub>2</sub>e (GtCO<sub>2</sub>e) to 18GtCO<sub>2</sub>e.

Aleya Akter works in a recycle plastic factory. There are six members in her family. She works to support her family financially. Women, in particular, suffer from plastic-related toxicity risk, due to higher aggregate exposure to plastics at home and even in feminine care products. Image: UN Women Asia and the Pacific, via Flickr. CC BY NC-ND 2.0.



# Plastic pollution disproportionately hitting marginalised groups, UN environment report finds

Vulnerable communities disproportionately bear the brunt of environmental degradation caused by plastics pollution, and action is urgently needed to address the issue and restore access to human rights, health and well-being, according to a new UN report



# MONSOON CHANGES THREATEN ASIA AND WARN THE WORLD



An artist's rendering of the 600MW Guimaras Strait offshore wind energy project located between Panay and Negros Islands, covering over 12,700 hectares in shallow water depths. A second project in Aparri is also in the works, with a potential output of 500 to 600MW. Image: Triconti ECC

## PHILIPPINES TO BUILD FIRST OFFSHORE WIND FARM:

# WHAT LESSONS CAN IT LEARN FROM ASIAN NEIGHBOURS?

Eco-Business speaks with wind developer Theo Sunico of Triconti ECC, which has tapped into the Philippines' nascent wind market. Wind has the potential to meet soaring consumer demand for power, but will policy disconnect stall growth?

**A**s the Philippines builds its offshore wind potential, its developers are looking to its Asian counterparts for which policies to push as well as avoid to successfully drive the sector's growth in the archipelago.

Triconti ECC, an alliance between Filipino, German and Swiss clean

energy private sector experts, has been doing pre-feasibility studies since it was awarded the rights to develop wind farms off the coast of the Southeast Asian nation in March 2020. Wind farms with a combined maximum capacity of about 1.2 gigawatts (GW) are being earmarked for development in the internal waterways of Aparri Bay in the north of

the country and Guimaras Strait in central Philippines, avoiding the main typhoon path of the natural disaster-prone country.

Like its Asian neighbours Taiwan, Vietnam, Japan, South Korea, India, and China; the Philippines is ramping up floating wind, turbines fixed to tethered structures that float, to meet its soaring energy demand and reach its climate targets.

The country's department of energy estimates that an additional 43.7GW of new power capacity will be needed by 2040—current peak demand is estimated to be 15.6GW. The government is aiming to achieve 35 per cent clean energy in the power generation mix by 2030,

# How can Asia build a circular economy in its post-Covid recovery?

The post-pandemic era could see circular business models take off in Asia. But strong government support and public awareness campaigns are needed to get companies on board, write **Bingxun Seng and Mohak Mangal**

**T**he Covid-19 pandemic has resulted in far-reaching economic and social implications. Developing nations, where the crisis has overwhelmed vulnerable healthcare systems and exacerbated both poverty and inequality, have been hit the hardest.

Calls for a green recovery from the economic downturn have prompted the World Economic Forum to propose The Great Reset at Davos 2021, a set of initiatives to lay the foundation for a more sustainable and resilient world. In the Asia Pacific region, a key thrust of this transformation needs to be the accelerated adoption of comprehensive circular economy principles.

The reasons for that are obvious: On the production side, the region is a vital driver of global manufacturing and deeply integrated in global supply chains, with many countries being key suppliers of raw materials and producers of con-



**Plastic, circular economy, Asia** Women sorting plastics in Guangzhou, China.  
Image: baselactionnetwork, CC BY-ND 2.0

sumer and capital goods. Consumption, already high, is expected to rise exponentially with more than 3.5 billion Asians expected to be members of the middle class by 2030.

A circular economy is an economic concept that champions material recovery at the end of products' lifecycle to channel resources back into production and eliminate waste. While circular business models have been widely adopted in European countries like Denmark, Finland, Belgium, and the Netherlands, the circular economy remains largely a buzzword in many parts of developing Asia.

Perhaps due to rising social pressure and investor emphasis on environmental, social and corporate governance issues, the term has been loosely used by both the public

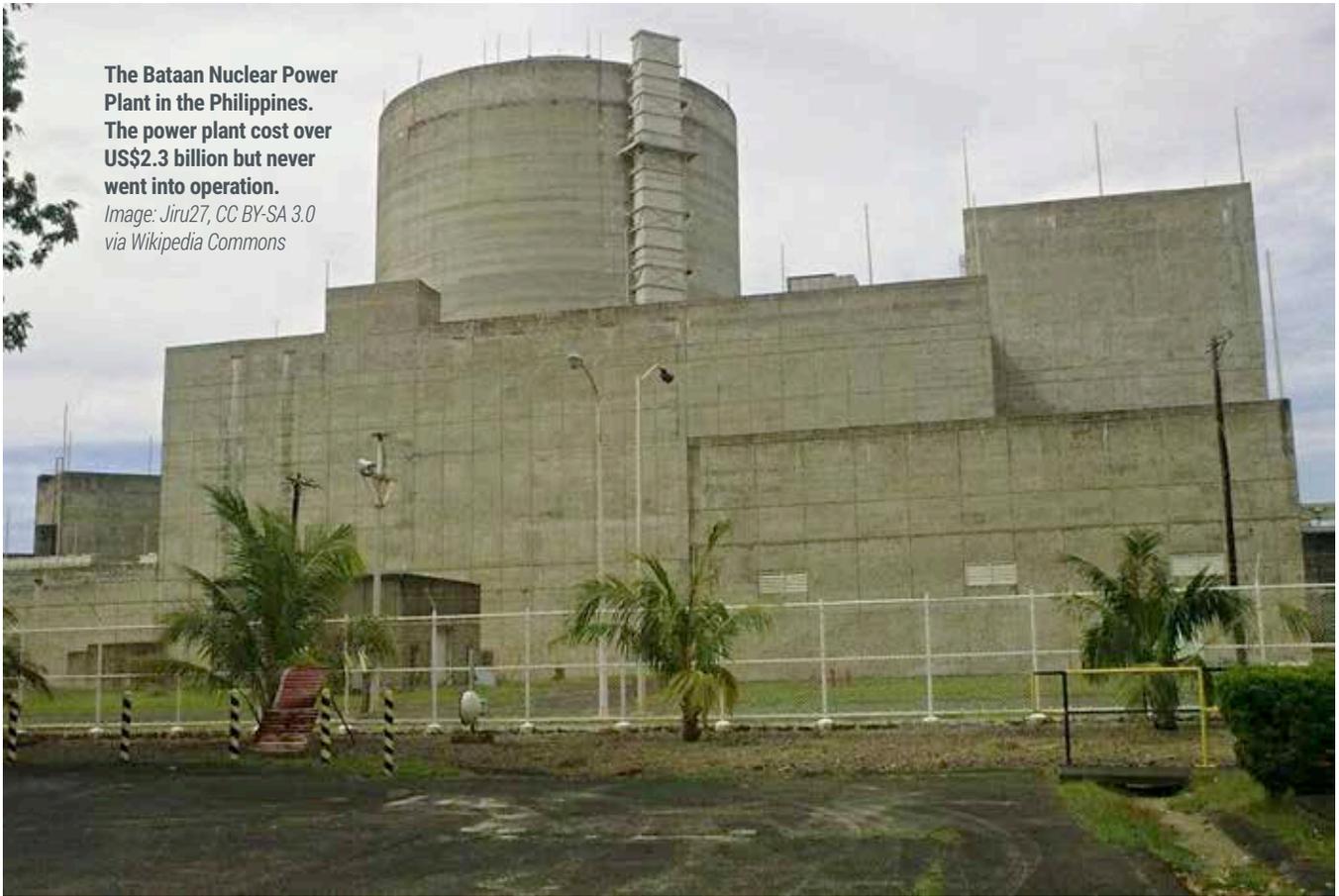
and private sectors to signal their social commitments to stakeholders.

However, Singapore-based consultancy AlphaBeta's engagement with organisations across the region suggests that behind closed doors, there remains some resistance and questions around large-scale circular adoption.

Here are three immediate steps that governments across the region can take to facilitate the circular transformation.

## 1. Raise awareness

The first is to aggressively raise awareness of the benefits of a circular economy across government units, businesses, the public, and civil society. This requires comprehensive studies to be conducted to ascertain these benefits.



The Bataan Nuclear Power Plant in the Philippines. The power plant cost over US\$2.3 billion but never went into operation.

Image: Jiru27, CC BY-SA 3.0 via Wikipedia Commons

# A decade on from Fukushima, it's time for Southeast Asia to bury its nuclear dream

Other than to have mercy on soon-to-be-unemployed nuclear engineers, there is not a single reason why Southeast Asia shouldn't leapfrog nuclear energy. Dangerous and expensive, the technology simply isn't worth the hassle, writes **Tim Ha**

**E**very now and then, the debate resurfaces over whether nuclear power has a role to play in Southeast Asia's energy transition. But as Japan marks a decade since the Fukushima disaster, the region needs to move on and see the technology for what it is: a dangerous and costly distraction.

It's obvious why nuclear power plants are appealing. Unlike wind turbines and solar panels, they can—in theory—run around the clock, uninterrupted by the whims of nature, and generate stable baseload electricity that could directly replace polluting coal.