

Photo Credit: Julius Trajano/NTS Centre

Securing Clean Energy from Nuclear Power for Climate Change Mitigation

By Julius Cesar Trajano

Limiting global warming to 1.5 degree Celsius necessitates a drastic reduction in global greenhouse gas emissions. Strengthening energy security, in the context of global clean energy transition, requires significant financial and technological investments in zero-carbon energy sources. However, transitioning away from dirty fossil fuels and guaranteeing stable and affordable electricity supply (24/7) would be difficult to achieve if the world solely relies on fluctuating renewables.

In the global transition to clean energy, we need the complementary roles of both nuclear power and renewable energy. In fact, the [latest global energy forecast](#) indicates that nuclear power and renewables “dominate” electricity demand growth from 2022 to 2025, together meeting more than 90% of additional global power demand for the next three years. Nuclear energy must therefore be part of the clean energy solution.

Asia is currently leading international resurgence in nuclear power generation, driven by new construction in China and India, together with reactor restarts in Japan. The global energy crisis spurs a revival of nuclear power in Asia and an improvement in public opinion on it, as countries grappled with the economic impact of rising energy costs and limited supply exacerbated by the lingering impact of the pandemic and the war in Ukraine.

East Asia hosts 43% of global nuclear new build, with three quarters in China alone. Governments in Japan and South Korea are adopting new policies to expand the share of nuclear energy and reversing anti-nuclear pronouncements

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which were triggered by the 2011 Fukushima nuclear accident. In February 2023, Japan's Cabinet officially adopted the "green transformation" policy that permits the operation of nuclear reactors beyond their current 60-year limit alongside the construction of new nuclear reactors. South Korea's government issued a new energy policy that aims to maintain the share of nuclear power in the country's energy mix at a minimum of 30% by 2030. China is rapidly building more nuclear reactors, including its own Small Modular Reactor (SMR) technology.

Even some countries in Southeast Asia have been taking preparatory steps in exploring nuclear power as one of their future clean energy sources. According to the latest [7th ASEAN Energy Outlook 2020-2050](#), nuclear energy is predicted to be deployed in the region between 2030 and 2040, with 5.2 GW of electricity to be supplied by nuclear power plants in 2050, or around 1.6% of the power mix in Southeast Asia.

The [Philippines, Vietnam, Myanmar, Indonesia, and Thailand](#) are carefully studying the viability of advanced SMRs through various commercial agreements and feasibility studies with SMR developers, mainly from the United States, South Korea, Russia, China and European countries. The potential role of SMRs, including floating nuclear power plants, has strengthened the stance of nuclear energy proponents as SMRs hold particular promise for newcomer countries and those with smaller grids or less developed infrastructure in decarbonising electricity production and providing a clean source of energy for a variety of uses.

But given the novelty of SMR technology, it is expected to have uncertainty about its safety, security and non-proliferation features. SMR has raised concerns about the applicability and scope of existing nuclear safety, security, and safeguards conventions and standards for regulating their use. Geopolitical and economic considerations will also have an important role in the deployment of SMRs in the region. Nevertheless, nuclear governance tools and mechanisms, particularly by national regulatory bodies, should be put in

place before their initial deployment.

Energy planners clearly recognise that introducing nuclear energy, especially for newcomers in Southeast Asia, entails addressing a total of [19 nuclear infrastructure issues](#) that may take even a decade to complete. Thus, the overall governance challenge is to advance and boost national policies and international cooperation that uphold safe, secure, well-regulated, economically viable and climate-friendly expansion of nuclear power globally, especially in countries where nuclear energy has yet to be generated.

SUGGESTED READINGS

Simon Evans. (2023). "Renewables will be world's top electricity source within three years, IEA data reveals." *Carbon Brief*, 8 February 2023, accessed 13 September 2023.

David Santoro and Carl Baker, eds (2023). *Southeast Asia's Clean Energy Transition: A Role for Nuclear Power?* Honolulu: Pacific Forum.

Julius Cesar Trajano and Alvin Chew. (2023). "The Future of Small Modular Reactors: Implications for Nuclear Governance." *NTS Insight No. IN-23-01*, July, accessed 13 September 2023.

ASEAN Centre for Energy (2022). *The 7th ASEAN Energy Outlook*. Jakarta: ACE.

IAEA. (2022). *Climate Change and Nuclear Power*. Vienna: IAEA.



CLIMATE CHANGE

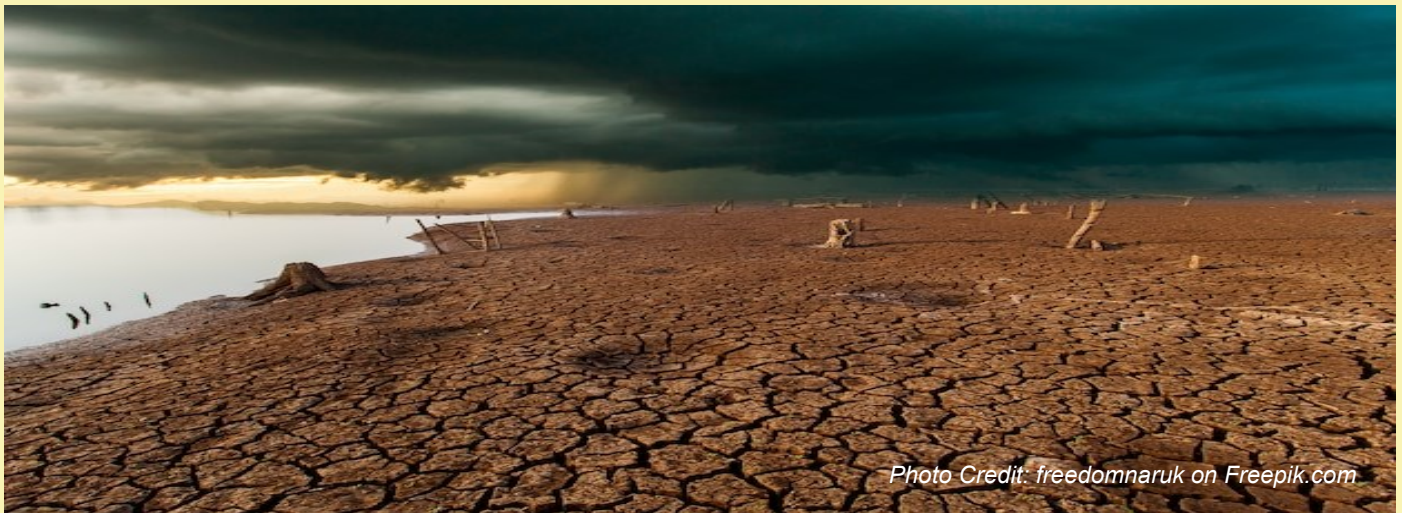


Photo Credit: freedomnaruk on Freepik.com

NEWS & COMMENTARIES

Climate change ‘dystopian future already here’

The UN human rights chief Volker Turk highlights ‘environmental horror’ for many countries as fossil fuel projects continue unabated globally, specifically highlighting Iraq’s “spiralling damage” from global warming.

Al Jazeera

11 September 2023

G-20 fails on fossil fuel phase-out as ‘dark cloud’ looms

Amid warnings that the world is failing to do enough to slow climate change, the Group of 20 big economies has set a goal of tripling renewable energy capacity but faced criticism for spurning bolder steps to halt the use of fossil fuels.

Reuters, The Straits Times

12 September 2023

River water quality declining worldwide as a result of climate change

Climate change is taking a significant toll on the quality of river water worldwide, posing threats to ecosystem health and human access to clean water.

The Helsinki Times

13 September 2023

Climate takes center stage at UN as global temperatures hit record

With the world on track to break the record for the hottest year in history, world leaders, business leaders, celebrities and activists have converged for Climate Week and the U.N.’s Climate Action Summit. The Climate Action Summit aims to reverse backsliding on Paris climate agreement goals and to encourage governments to adopt serious new actions to combat climate change.

Valerie Volcovici

Reuters | 19 September 2023

SELECTED PUBLICATIONS

Technical dialogue of the first global stocktake

Since its adoption, the Paris Agreement has driven near-universal climate action by setting goals and sending signals to the world regarding the urgency of responding to the climate crisis. While action is proceeding, much more is needed now on all fronts.

UN Framework Convention on Climate Change
2023

Global annual to decadal climate update

The annual mean global near-surface temperature for each year between 2023 and 2027 is predicted to be between 1.1°C and 1.8°C higher than the average over the years 1850-1900. It is unlikely that the five-year mean will exceed the 1.5°C increase threshold. The chance of at least one year exceeding the warmest year on record, 2016, is very likely.

World Meteorological Organization
2023

EVENT & ANNOUNCEMENT

Climate Ambition Summit

The Summit represents a critical political milestone for demonstrating that there is collective global will to accelerate the pace and scale of a just transition to a more equitable renewable-energy based, climate-resilient global economy.

New York, the United States
20 September 2023

ENERGY SECURITY



Photo Credit: frimufilms on freepik.com

NEWS & COMMENTARIES

Fukushima water release: Trusting scientific innovation and nuclear safety regime

Japan's decision to gradually release treated Fukushima water into the Pacific Ocean has been found to be scientifically safe, using innovative technological solutions. However, decisions based on science and technology need to be backed by efforts to build trust and confidence at multiple levels amidst politicisation of the issue and threats to the health of our oceans.

Mely Caballero-Anthony and Julius Cesar Trajano
RSIS Commentary | 28 August 2023

Singapore expands study nationwide to assess geothermal energy as potential power source

If Singapore adopts geothermal energy for power generation in future, it would be one of the first countries to deploy next-generation geothermal systems in a densely populated city.

Lee Chong Ming
Channel News Asia | 4 September 2023

Revised energy roadmap will include nuclear energy

The Philippines' gradual development of nuclear energy is taken into account in the clean energy goal, with 1,200 megawatts (MW) of capacity planned by 2032, 2,400 MW by 2035, and 4,800 MW by 2050.

Power Philippines News
4 September 2023

Indonesia pushing green energy transition as ASEAN chair: Official

There is a global trend toward a low-carbon economic transition and ASEAN wants to be at the center of this transition.

Antara News
6 September 2023

SELECTED PUBLICATIONS

Energy landscape and requirements of Vietnam

The chapter provides an overview of Vietnam's energy security issues and the role of nuclear power in the country's clean energy transition.

Nguyen Nhi Dien

Southeast Asia's Clean Energy Transition: A Role for Nuclear Power?
Edited by Carl Baker and David Santoro | 2023

Towards a circular steel industry

Achieving a circular steel sector requires improved material and process efficiency; increased steel recycling; and the adoption of renewable energy sources for steel production.

International Renewable Energy Agency
2023

EVENT & ANNOUNCEMENT

Call for Abstracts: International Conference on Nuclear Security

The conference will feature presentations on best practices, lessons learnt, and policy recommendations to enhance nuclear security.

Vienna, Austria

Deadline for submission of abstracts 15 October 2023

FOOD SECURITY



Photo Credit: user6702303 on Freepik.com

NEWS & COMMENTARIES

Volatility in the rice sector: Time for ASEAN to act?

How Thailand and Vietnam – two major rice exporters after India – will react to the latter’s recent rice export ban will depend very much on expectations of how long the ban will last. Should rice exporters in these countries engage in price speculation, global food security can be put at risk. The article argues it is timely for ASEAN to explore how price speculation in the rice trade can be prevented.

Jose Ma. Luis Montesclaros

RSIS Commentary | 22 August 2023

The dual mandate of food exporting states: India’s roles in the global food order

Criticisms of India’s rice export ban must be balanced with the recognition of its responsibility to ensure food affordability for its constituents. This article argues that finding a middle ground that addresses India’s predicament could help to prevent the impending international food price crisis from escalating.

Jose Ma. Luis Montesclaros

RSIS Commentary | 6 September 2023

PM cites India’s successes in digital penetration, food security at Asean meet

During the 20th ASEAN-India Summit (Jakarta), Malaysia’s Prime Minister Datuk Seri Anwar Ibrahim recognised the potentials for further collaboration in improving digitalisation in the food sector, building on India’s “successful history in terms of food security despite the odds of climate challenges” and in “smart agriculture practices.”

Ahmad Fairuz Othman

New Straits Times | 7 September 2023

G20 leaders commit to boost global food security, eliminate hunger

Leaders of major economies highlighted the urgency to augment research cooperation on climate-resilient and nutritious crops, such as millets, quinoa, and sorghum, within the G20 New Delhi Leaders’ Declaration. These included pushing for productivity-enhancing innovations and investments, cutting food wastage, and bolstering sustainable and climate-friendly food systems.

Puja Das

Mint | 9 September 2023

SELECTED PUBLICATIONS

How climate change and war are compounding food insecurity

Supply chain shocks stemming from the war in Ukraine, alongside the myriad challenges caused by accelerating climate change, highlight the need for greater diversity of food production to avoid widespread food systems collapse. The diversification of diets and food production, as well as financial and technical support to grow and produce staples, are needed to build resilience to shocks and stressors.

Isabel Schmidt and Miranda Wilson

Foreign Policy | 2023

FAO-WFP Anticipatory Action Strategy: Scaling up anticipatory actions to prevent food crises

This report presents key anticipatory action measures to protect people’s food security from shocks, which were committed to by the Food and Agriculture Organization of the United Nation (UN FAO) and the World Food Programme’s (WFP). Among others, it includes pooling of resources and “adapting an existing, or setting up a new early warning system with suitable indicators, pre-agreed thresholds and timely triggers” to better inform anticipatory action.

FAO and WFP

2023

EVENT & ANNOUNCEMENT

How can the rice sector address the global market disruptions

This International Rice Research Institute (IRRI) webinar discussed the impacts of India’s trade export ban on international markets.

The current market disruptions pose an opportunity for the emergence of new suppliers outside Asia, such as in South America and Africa, argued experts at the recent webinar.

Recorded Webinar

23 August 2023

HEALTH SECURITY



Photo Credit: DC Studio on Freepik.com

NEWS & COMMENTARIES

Asia, Africa bear brunt of pollution health burden – research

A study by the University of Chicago's Energy Policy Institute (EPIC) shows that air pollution across the globe continues to pose the greatest external risk to human health, with countries in Asia and Africa suffering most of the impact.

Reuters

28 August 2023

Why G20 India could be a game-changer for midwives and nurse's leadership in global health

This article argues that G20 provides an opportunity for India to demonstrate its leadership in global health by focusing on inequalities in health, particularly gender inequality.

Kaveri Mayra, Deepika Saluja, and Shubha Nagesh

The Lancet | 5 September 2023

Southeast Asia's healthcare sustainability struggle lingers post-Covid

Decarbonisation efforts of the health sector in Southeast Asia continue to be hampered by cost, habits and a lack of data. More government support is needed to further scale up the adoption of innovative and technological solutions by hospitals in the region.

Liang Lei

Eco-Business | 8 September 2023

US FDA authorizes Pfizer-BioNTech and Moderna's updated COVID shots

US FDA authorises updated Covid-19 shots from Pfizer-BioNTech and Moderna. The updated vaccines target the XBB.1.5 subvariant of the virus.

Michael Erman and Sriparna Roy

Reuters | 12 September 2023

SELECTED PUBLICATIONS

Towards responsive policy and actions to address non-communicable disease risks amongst adolescents in Indonesia: Insights from key stakeholders

This study aims to understand how policies and actions should address NCD risks (tobacco smoking, inadequate physical activity, and diet) for adolescents in Indonesia, and how young people can be meaningfully involved.

Karly I. Cini, et al.

The Lancet Regional Health Southeast Asia | 2023

Projecting the future incidence and burden of dengue in Southeast Asia

This study projects that dengue incidence will peak this century before declining to lower levels with large variations between and within countries. Northern Thailand and Cambodia will show the biggest decreases and equatorial areas will show the biggest increases. The impact of climate change will be counterbalanced by income growth, with population growth having the biggest influence on increasing burden.

Felipe J. Colon-Gonzalez, et al.

Nature Communications | 2023

EVENT & ANNOUNCEMENT

8th International Conference on Global Public Health

This conference will bring together world-renowned speakers from prestigious public health faculties. It will cover a wide range of public health issues, ranging from COVID-19 to climate change and health.

Kuala Lumpur, Malaysia

19 – 20 October 2023

HUMANITARIAN ASSISTANCE AND DISASTER RELIEF



Photo Credit: EU Civil Protection and Humanitarian Aid on Flickr.com

NEWS & COMMENTARIES

In the crossfire: South Sudan is the deadliest place for humanitarian aid workers

Since the beginning of this year, 48 aid workers have been killed while they were carrying out their missions. 87% of these 48 have been national staff, further highlighting the tendency for national staff of such aid agencies to bear the brunt of these attacks.

CARE

17 August 2023

Misrepresenting crises: How the Maui fire exposes the colonial roots of humanitarian reporting

Some of the reporting done on the Maui wildfires have come under criticism for privileging the views of Western aid workers and “experts” above the perspectives of locals who actually experience the crisis. In particular, complaints have been directed at foreign journalists who have little knowledge of the history of the area – none of which are new complaints for the non-Western world.

Patrick Gathara

The New Humanitarian | 24 August

Q&A: ‘We’re changing the world of supply in humanitarian work as we know it’

The awareness of the need to take the needs of the environment in account when delivering humanitarian aid has led the UNHCR to reduce their carbon footprint and make the provision of aid to forcibly displaced people more sustainable.

Kristy Siegfried

UNHCR | 13 September 2023

Libya and Morocco: A quick breakdown of north Africa’s double disaster

With two disasters over the weekend in North Africa, Libya and Morocco are still in the midst of response efforts. The toll of the dead and missing continue to rise as relief efforts are being complicated by internal politics.

Annie Slemrod

The New Humanitarian | 13 September 2023

SELECTED PUBLICATIONS

The situation of persons with disabilities in the context of the war of aggression by Russia against Ukraine

Based on interviews with persons with disabilities and representatives of Organizations of Persons with Disabilities, this report documents instances of violations of human rights and humanitarian law occurring in Ukraine.

International Disability Alliance
2023

OCHA Annual Report 2022

This report looks at the many humanitarian crises across the world across 2022. From 274 million people who needed humanitarian assistance in January 2022, the number went up to 324 million people – due in part to crises such as the invasion of Ukraine and the cataclysmic monsoon in Pakistan.

United Nations Office for the Coordination of Humanitarian Affairs
2023

EVENTS & ANNOUNCEMENTS

Advancing Public-Private Humanitarian Partnership - Security Council

Chaired by the Minister for Europe and Foreign Affairs of Albania, Olta Xhaçka, this open debate will allow the Security Council to seek to identify and advance public-private partnership solutions to promote international peace and security by addressing current and future humanitarian needs.

Recorded Debate
14 September 2023

MIGRATION



Photo Credit: UN Civil Protection and Humanitarian Aid on Flickr.com

NEWS & COMMENTARIES

As Nauru shows, asylum outsourcing has unexpected impacts on host communities

Nauru was a forerunner in the now global trend of outsourcing asylum. Beyond impacts on the asylum-seekers that were housed there – whose struggles have been well-documented – outsourcing asylum also has repercussions for host communities.

Julia Morris

Migration Policy Institute | 29 August 2023

Safe, regular and orderly migration for inclusion and sustainability

With migration on the rise in the Asia-Pacific, migration needs to be managed properly to ensure its benefits are properly shared among migrants and their families, their home countries and their host countries.

Vanessa Steinmayer and Simon Graham

UNESCAP Blog | 31 August 2023

US-Mexico border, ‘world’s deadliest’ overland migration route: IOM

With least 686 deaths and disappearances in 2022, the United States-Mexico border is now considered to be the deadliest land migration route. However, these figures are based on the lowest estimates available due to the lack of data. While states have a responsibility for decisive action, there is also a need to enhance data collection.

UN News

12 September 2023

Libya: Migrants among thousands feared dead and missing after storm Daniel

Of the thousands feared dead and missing in the aftermath of storm Daniel, a significant proportion is likely to be migrants. An estimated 30% of the over 700,000 migrants in Libya, live in the east, which was affected by the storm.

Ana P. Santos

Info Migrants | 12 September 2023

SELECTED PUBLICATIONS

Diaspora and transnational identities - An analysis of legal frameworks and policies

Focusing on the legal framework of diaspora engagement as well as the rights and opportunities available to diasporas in selected countries of origin and destination, this report aims to foster discussions on engaging with diaspora communities through the institutionalisation of support functions, and distribution of duties and rights.

International Organization for Migration
2023

Surviving statelessness and trafficking: A Rohingya case study of intersection and protection gaps

Based on qualitative research in Myanmar, Bangladesh, India and Malaysia, this paper looks at the additional vulnerabilities that affect the Rohingya as a result of the denial of citizenship in their home country, Myanmar, and denial of legal status in the countries to which they fled.

Institute on Statelessness and Inclusion
2023

EVENT & ANNOUNCEMENT

Migration and Citizenship Pathways in Asia

This workshop looks at the various pathways to citizenship that migrants take in the context of Asia where privileged access to permanent residency and citizenship in receiving states is usually limited to highly skilled professionals and capital-rich migrants. It also seeks to examine the impact of factors such as family considerations and axes of identity such as ethnicity, class and gender, and how they manifest.

Hybrid Workshop, Singapore
21 – 22 September 2023