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Assessing the Nuclear Content of COP28

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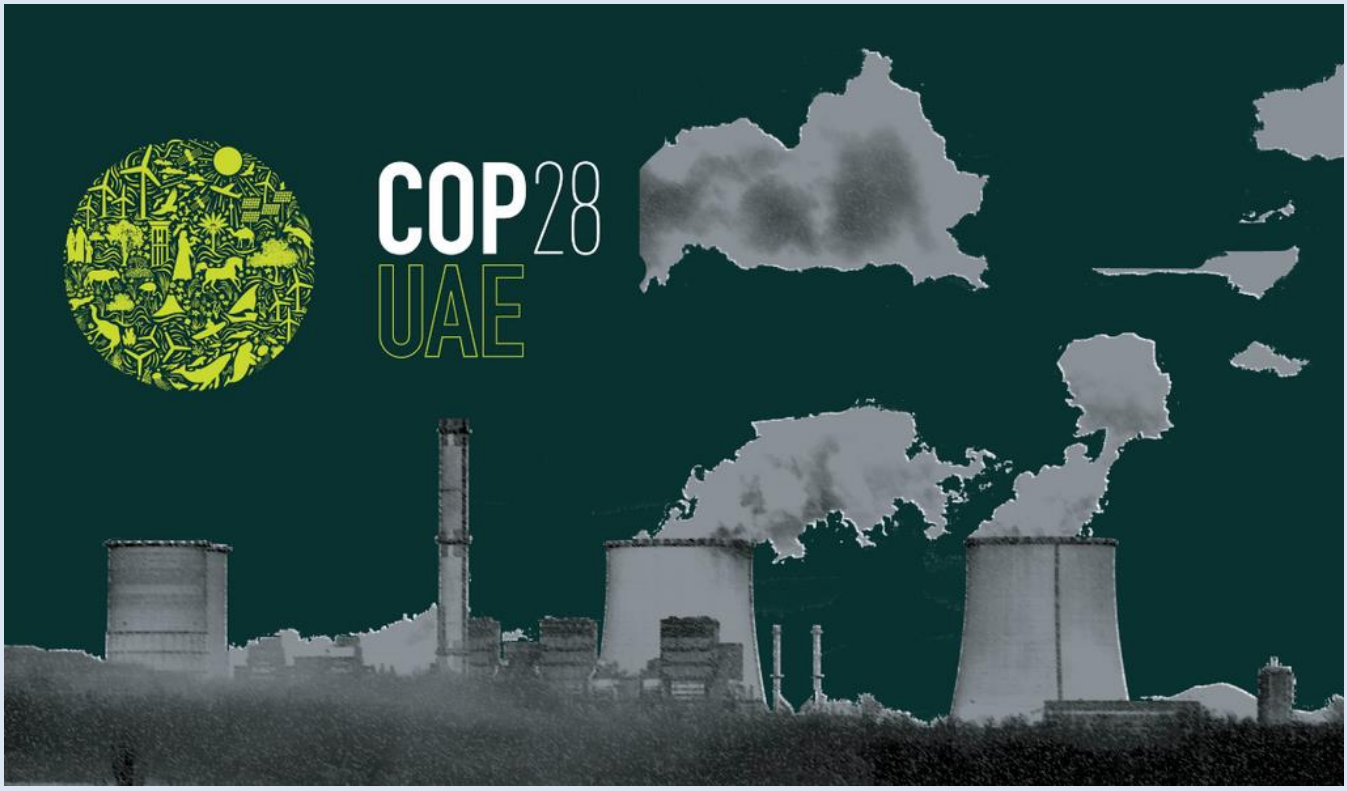

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As 2023 drew to a close, the world's vulnerability to climate catastrophe was well recognised at the World Climate Action Summit. The 28th Conference of the Parties to the U.N Framework Convention on Climate Change known as COP28 was held in Dubai, UAE in the first two weeks of December. The conference saw significant announcements by countries to adopt low-carbon technologies and sustainable sources of energy to keep global warming within 1.5 degrees Celsius. A UN report shows that the world must cut greenhouse gas emissions by 45 per cent to avoid global catastrophe.[1] There is no way that this intense and rapid decarbonisation and transition away from fossil fuel can be achieved without a massive increase in nuclear power globally.[2] This year COP28 has attempted bold movements towards accelerating the deployment of nuclear energy production to combat climate change. This resulted in the inclusion of nuclear energy in global stocktake, a final document that assessed the parameters for achieving the 2015 Paris Agreement objectives and identified shortcomings.[3]

Significant decisions on Nuclear Energy in COP28

On December 1, 2023, an important declaration was signed where USA and 21 other countries pledged to triple global nuclear capacity by 2050, from 2020 levels, to achieve net zero carbon emissions. This declaration was a major step taken by nations to put nuclear power at the centre of the transition to clean energy. The countries from 4 continents include Bulgaria, Czech Republic, Finland, France, Ghana, Hungary, Republic of Korea, Moldova, Mongolia, Morocco, Netherlands, Poland, Romania, Slovakia, Slovenia, Sweden, Ukraine, United Arab Emirates, Canada (world's second-largest uranium producer), France (the global leader in nuclear energy), United Kingdom, and Japan.[4] According to an International Energy Agency (IEA) report, to achieve net-zero emission by 2050, nuclear power capacity needs to increase from 417 gigawatts in 2020 to more than 900 gigawatts in 2050, which is more than double.[5] The declaration also invites international financial institutions to encourage lending policies for nuclear energy. However, multilateral banks, including the World Bank, have declined to finance nuclear projects by claiming a lack of relevant expertise.[6] This negatively affects the interests of developing countries.

- On December 2, 2023, in a landmark move, the U.S. collaborated with the International Fusion Energy Partnership Strategy to expedite the development of commercial fusion energy, tackling key challenges in research, demonstration, and regulatory frameworks.[7] U.S. Climate Envoy John Kerry said in the announcement, "Although the development of fusion technology is set to revolutionise global efforts to achieve net-zero but careful thought

and thoughtful policy is going to be critical to navigate this".[8] If successfully harnessed, fusion could be a game-changer in energy production, delivering an affordable and environment-friendly alternative to existing power sources, leaving behind no carbon footprint or radioactive baggage.

- Ongoing innovations in Small Modular Reactors (SMRs) possess the potential to play an important role in energy systems by providing on-grid baseload electricity and commercial viability. During the COP28 summit, the U.S. Export-Import Bank (EXIM) and the U.S. Department of State announced a suite of financial tools to support SMR deployments to help reach net-zero goal. The announcement included large investment in collective enrichment and conversion capacity across Canada, Japan, France and the UK. This group is known as Sapporo 5.[9]

- Moreover, French President Emmanuel Macron, in his address at COP28, emphasised the need to "support the growth of nuclear infrastructure in emerging countries who are willing to invest in SMRs as a reliable alternative and for strategic autonomy." This can be seen in the light of the announcement made a week ago by the European commissioner for Single Market about the creation of a new European Alliance on SMRs in the coming year 2024.[10]

- The report "A Global Playbook for Nuclear Energy Development in Embarking Countries: Six Dimensions for Success," was launched by the EFI Foundation, Nuclear Energy Agency (NEA), Clean Air Task Force (CATF), and Nuclear Threat Initiative (NTI) at COP28. This report presented a roadmap of responsible, sustainable, and robust nuclear energy deployment to guide countries in leveraging nuclear power for a clean energy future and expanding capacity to meet national needs unique to their circumstances.[11] It delivers a comprehensive strategy for nuclear deployment without compromising on non-proliferation standards and nuclear security standards.[12] This report would be helpful in providing encouragement to the countries which are planning for new nuclear procurement, expansion of nuclear energy and policy reforms to bolster nuclear cooperation.

- The International Atomic Energy Agency (IAEA) opened the Atoms4Climate pavilion with the aim of spreading awareness about the benefits of nuclear technology and its compatibility in addressing the climate crisis. COP28 presidency and IAEA co-hosted this ministerial event which was supported by the countries which are integrating nuclear as a key pillar in the journey towards net zero.[13] IAEA Director General Rafael Mariano Grossi said that "achieving

a fair and enabling investment environment for new nuclear projects remains an uphill battle. We are not at a level playing field, yet, when it comes to financing nuclear projects."[14] Nuclear power is a capital-intensive sector which needs the support of government and International Financial Institutions (IFI) and Multilateral Development Banks (MDB). Moreover, the creation of the new International Bank for Nuclear Infrastructure (IBNI) was proposed for nuclear financing to bring support for an increased role of nuclear power and energy security, which would be significant in global nuclear scaling and achieving 2050 Net Zero targets.[15]

- COP28 focused on scaling up the involvement of companies and investors to invest in clean technologies, harnessing climate finance opportunities and contributing to system change by adopting climate friendly behaviours. One such step of private sector involvement was witnessed when "Bill Gates' nuclear reactor company TerraPower and a state-owned firm of UAE, Emirates Nuclear Energy Corporation (ENEC), signed a memorandum of understanding (MoU) to study the potential development of advanced reactors in the Gulf state and outside" according to the statement carried out in the signing ceremony. This step will enhance the transition as they would be working to reduce emissions not only in their own countries but also in other countries involved. Additionally, ENEC signed an MoU with GE Hitachi Nuclear Energy for future investment in SMR technology development.[16] These deals pave the way to harness the potential nuclear technologies that will contribute to a sustainable energy future.

- Future IAEA announced a Nuclear Energy Summit for the next year in March in Brussels. Leaders from around the world will assemble to highlight nuclear energy's role in reducing carbon footprints, ensuring reliable power, and unlocking economic potential.[17]

In order to achieve the proposed nuclear capacity, the nuclear industry needs stronger and committed policies. Affordable financing is a must. Licensing and regulatory processes need to be streamlined for expanding supply chains and human resources.[18] The COP28 meeting witnessed the real progress of nuclear power in the global climate and energy debate. However, the implementation stage will face several challenges, including policy formation, financial support, supply of raw material, safety and security. Placing all bets on nuclear power would turn into a complete solution only through actions on global and domestic levels together. The coming years look promising for curtailing global carbon footprint, but that can only be achieved by embracing nuclear power along with other clean sources of energy.

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