

NUCLEAR ENERGY

THE BETTER ENERGY

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Letter From The Founder



Climate change is one of the biggest threats that mankind is currently facing. Having neglected our role in causing climate change, we have already ushered into a planet of extremities. Extreme heat, wildfires, floods and whatnot!

IPCC's 2021 climate report has been an eye-opener for those living in denial. The feature article IPCC's 2021 Climate report: The Nuclear Perspective deals with some of the issues that this report raised and presents nuclear energy as a ray of hope. It is high time we accept that our climate goals cannot be met if we keep nuclear energy out of the equation.

The second part of this issue presents some lesser known facts about nuclear energy. Compiled by our member *Ashabari Majumdar*, these facts will help all those who are still skeptical to understand why nuclear energy is indeed the better energy.

Until next time, happy reading!

IPCC'S 2021 CLIMATE REPORT: THE NUCLEAR PERSPECTIVE

Author: Nirupama Sensharma

Denial is the greatest tool that mankind has employed when it comes to arguing against climate change. The mere existence of climate change has been contested repeatedly by humans all over the world. In the midst of raging wildfires, exceptionally hot weathers and incessant flooding in various tropical countries, the UN's Intergovernmental Panel on Climate Change (IPCC) issued its sixth assessment report on August 9, 2021 and the findings of this report have come as a slap on the face of mankind.

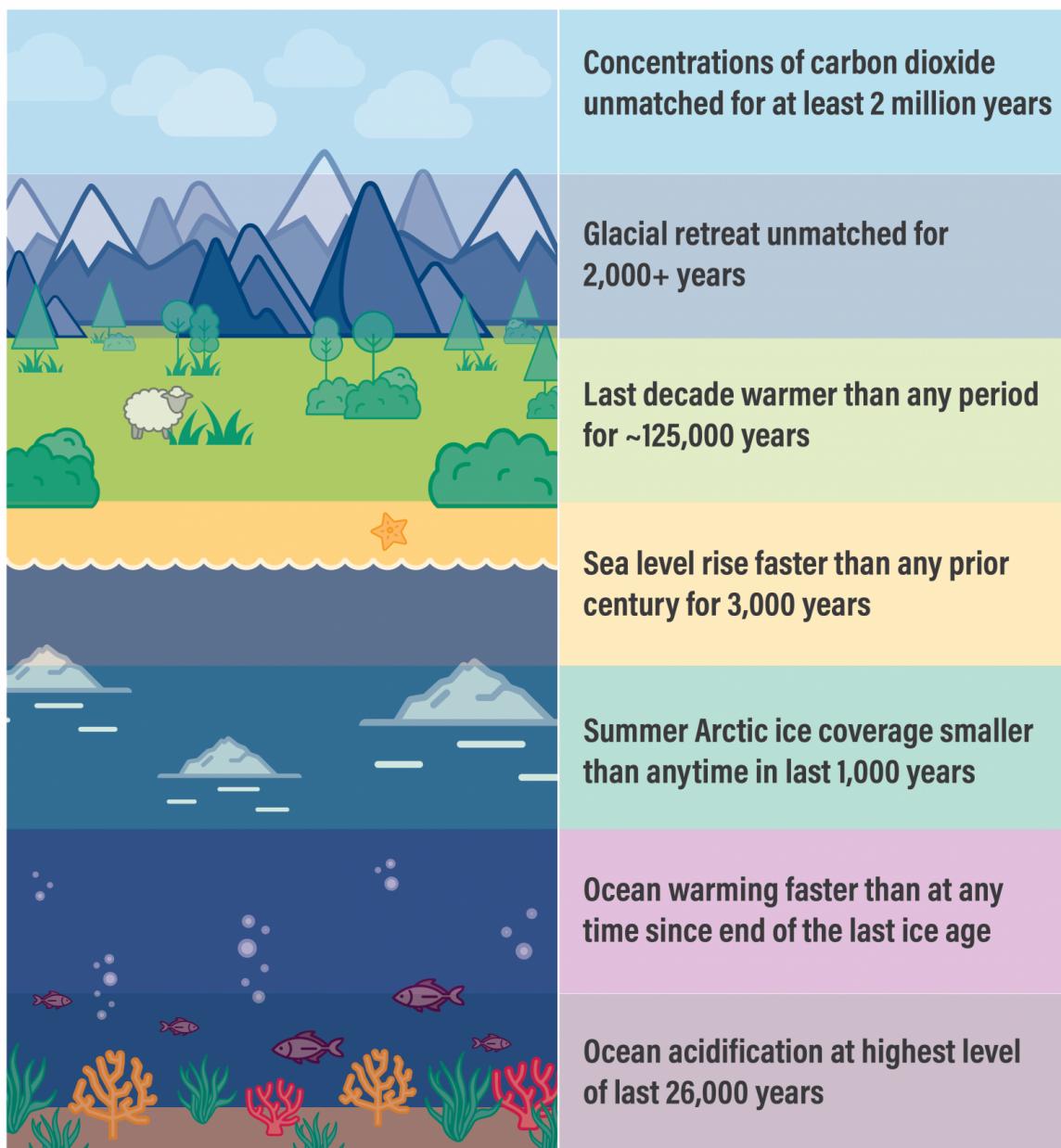
Humans are to blame and Temperatures will keep rising -- are two of the key takeaways from the UN climate panel's report. For several years now, IPCC's findings warned that given the current circumstances, it might be important to restrict the increase in global temperature by 1.5 degrees celsius which would be catastrophic for the planet at large. Taking a shift from their might be attitude, IPCC (in its sternest tone ever) has affirmed that even radical steps to cut down emissions are unlikely to avoid a 1.5 degree rise in temperature. Furthermore, it has been mentioned in the report that unless extreme steps are taken, the rise in global temperature may surpass 2 degrees, weather extremes will become an everyday phenomenon, arctic summers would be free of ice and sea levels will rise by 8-10 feet at the least.

Is all hope lost? Well, the answer to this question depends on how mankind decides to respond to this report. If we decide to do nothing and keep relying on fossil fuels, then yes, all hope is indeed lost. But if we do take immediate action and fight climate change with renewable and clean energy sources, then hope can still be alive. This wouldn't be easy though. What we need here is transformative action, a stern and uncompromising attitude towards fighting climate change. We have to understand that every fraction of increase in the

global temperature will affect us and more importantly, we need to be aware that the consequences of climate change are permanent. Sea levels that have risen, won't go down. Species that have become extinct, won't come back. Forests that have burnt, won't regrow. Ice sheets that have melted, won't form again. *We are running out of time* and we are in a dire need to step up and prevent any further damage.

Explaining the 2021 IPCC Report

Evidence of Global Warming Already Underway



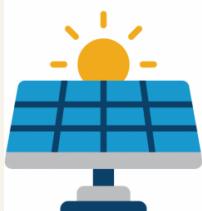
Source: IPCC.
21.08.05

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Although the IPCC report mainly reiterated the severity of climate change, it has also tried to guide us towards a better future where the effects of climate change can be limited provided we act more responsibly. Drastic measures need to be taken to cut down our emissions and eventually reach a net zero emission goal, the use of fossil fuels need to be stopped and we have to adapt to clean and sustainable energy. Governments and policy makers need to look beyond borders and must work hand-in-hand with the common man to help him realize the importance of shifting to clean energy. We have to use every available clean energy resource at our behest. While the widespread use of solar and wind power are still waiting for a breakthrough in battery storage technology, the world has something at hand that is effective and more importantly, ready to use now!

Explaining the 2021 IPCC Report

Can We Limit Global Warming to 1.5°C By 2100?



If we take aggressive action today*...

we can limit temperature rise to 1.6°C by mid-century and reduce to 1.4°C by 2100



If we take a high-carbon pathway**...

temperatures could climb to 2.4°C by mid-century and reach 4.4°C by 2100.

What Actions Are Necessary to Limit Warming to 1.5°C?



Decline global GHG emissions from the 2020s onwards



Reach net-zero GHG emissions by mid-century

Notes: *SSP1-1.9 **SSP5-8.5

Source: IPCC.

21.08.05



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Nuclear power is what the world needs to embrace. Nuclear energy is clean, reliable, continuous and cost-effective. Nuclear power contributes to 43% of clean energy generation sources within the UNECE (United Nations Economic Commission for Europe) region and has avoided about 74 Gigatons of CO₂ emissions over the past 50 years. The widespread use of nuclear energy has the potential to positively impact the planet's climate by replacing fossil fuel powered electricity generation plants. A stronger and faster impact can be achieved by adapting a decarbonized energy-mix by integrating nuclear power with other clean energy sources such as solar, wind and hydro. Scientists all over the world have now agreed that the goal of net zero emissions cannot be reached if nuclear power is kept out of the equation.

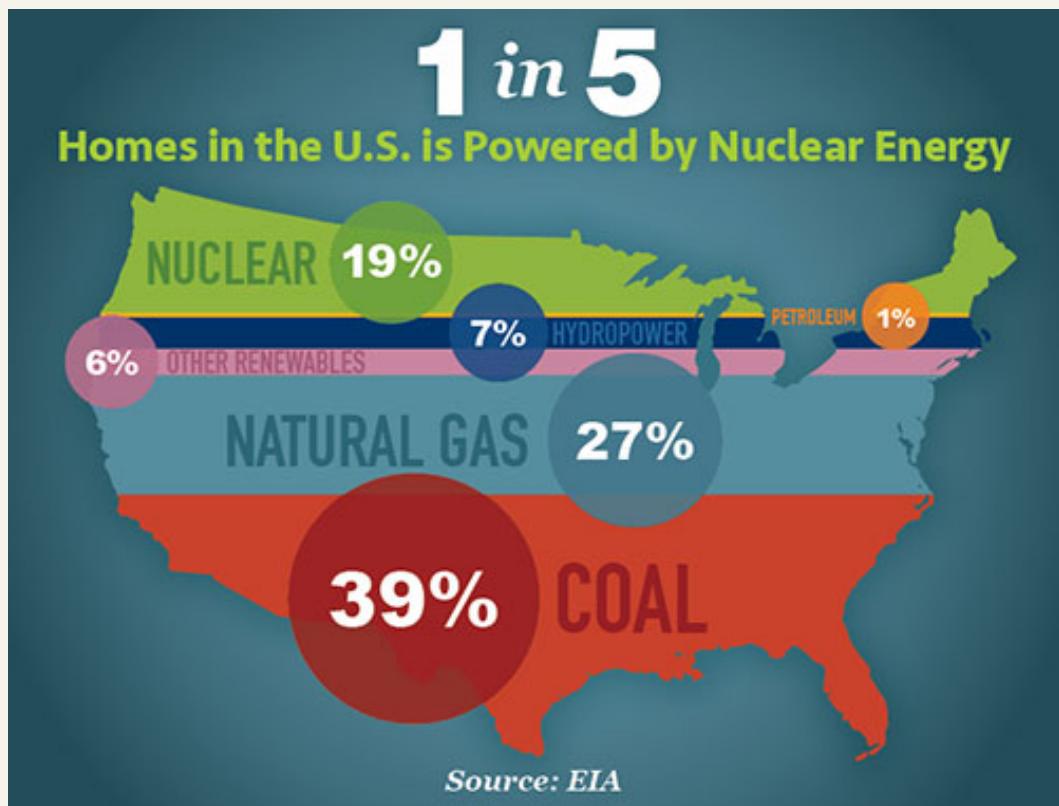
Deploying technologies to successfully combat climate change is the only way forward. It is time for everyone to become proactive and more responsible towards the climate. We have to work together to save the planet. The future of mankind lies in our hands. **NOW IS THE TIME!**

References:

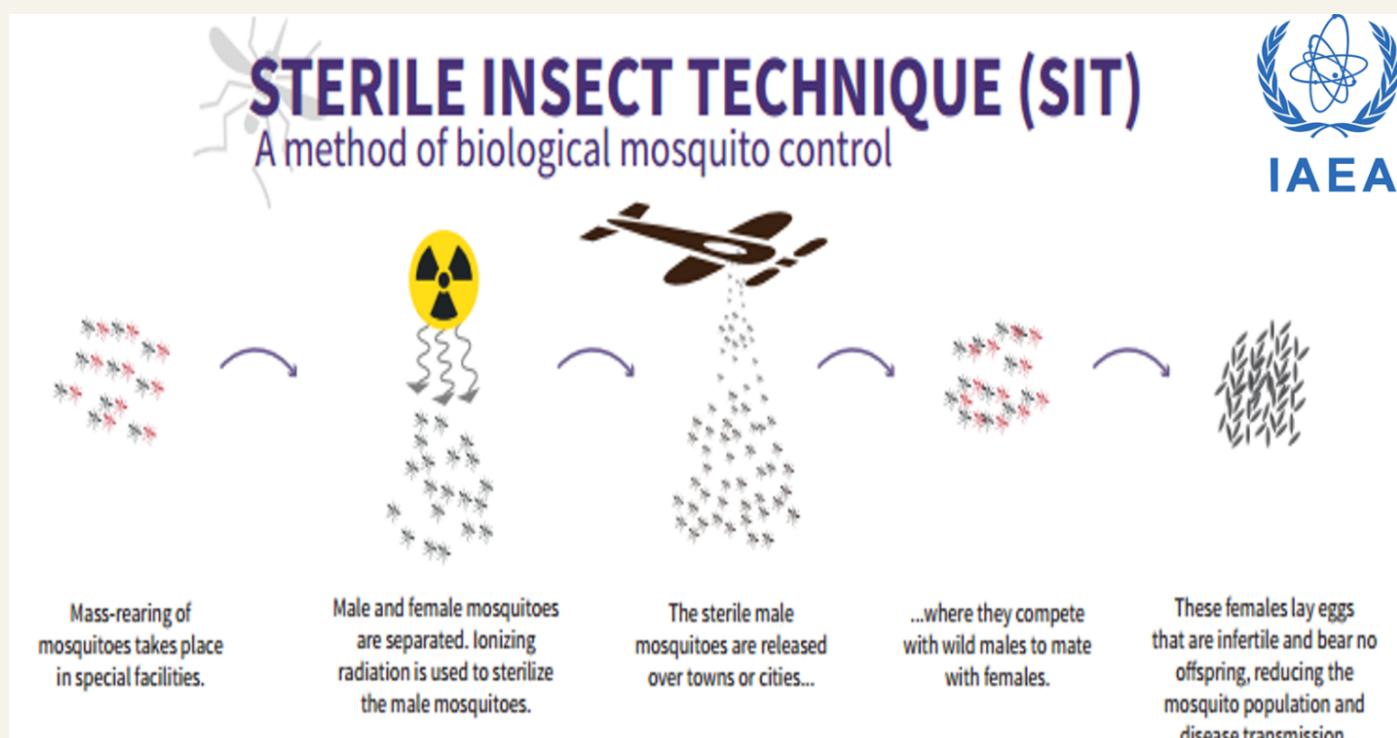
1. <https://www.reuters.com/business/environment/key-takeaways-un-climate-panels-report-2021-08-09/>
2. <https://www.wri.org/insights/ipcc-climate-report>
3. <https://www.jdsupra.com/legalnews/ipcc-report-underscores-need-for-5606025/>
4. <https://unece.org/climate-change/press/international-climate-objectives-will-not-be-met-if-nuclear-power-excluded>

5 FACTS ABOUT NUCLEAR ENERGY THAT YOU PROBABLY DIDN'T KNOW

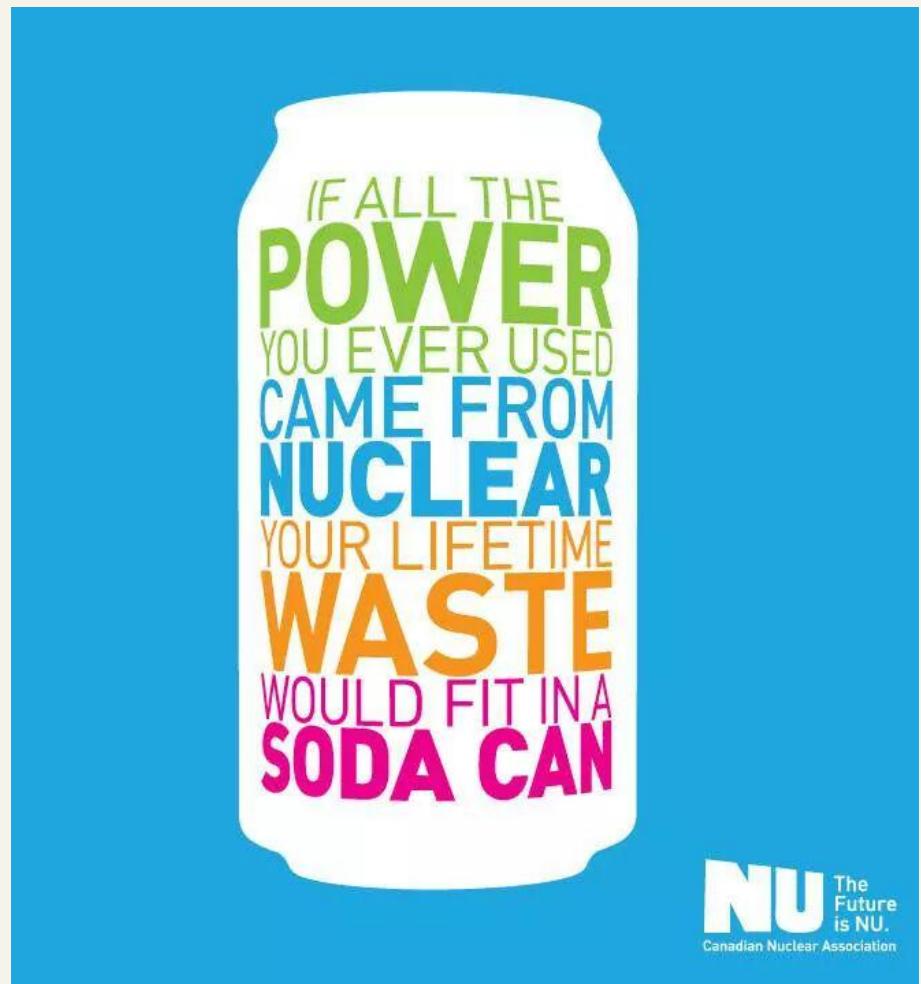
Compiled by Ashabari Majumdar



SOURCE: [HTTPS://WWW.ENERGY-NORTHWEST.COM/](https://www.energy-northwest.com/)



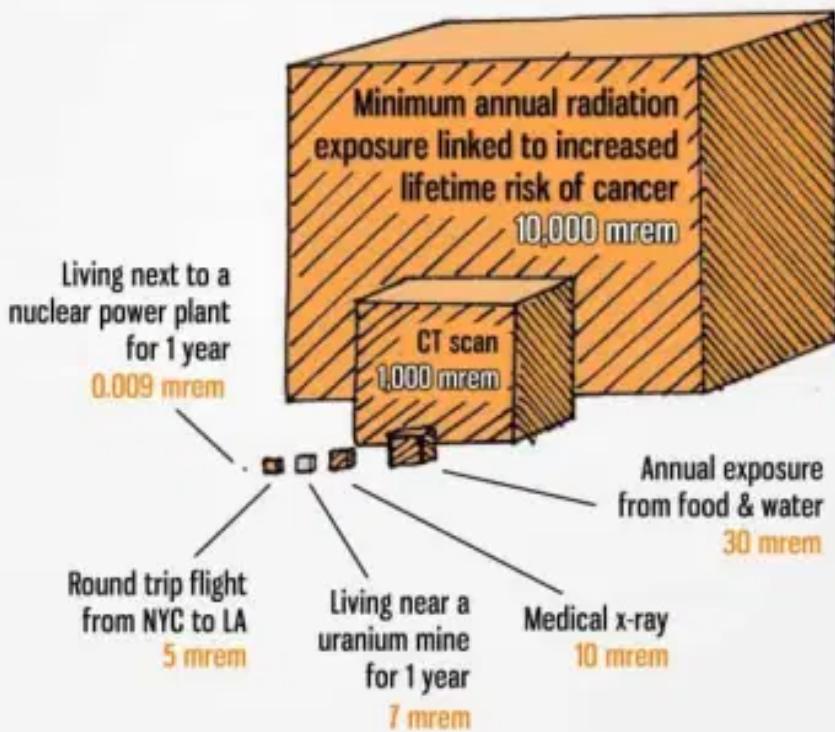
SOURCE: IAEA



NU The
Future
is NU.
Canadian Nuclear Association

SOURCE: [HTTPS://IN.PINTEREST.COM/](https://in.pinterest.com/)

RADIATION IN PERSPECTIVE



nUeBe extends a warm welcome to our newest member

Aditya Chincholkar



Aditya has Dual Masters (M.Tech + M.Sc) from Pandit Deendayal Petroleum University (PDPU), India and IMT Atlantique, France, with specialisation in Nuclear Waste Management. He is interested in carrying out research in Nuclear waste disposal, Decontamination and Decommissioning of Nuclear facilities and associated problems. He was the President of the Institute of Nuclear Materials Management (INMM) PDPU Student Chapter between 2017-18 and was responsible for the institutional membership of PDPU in the World Council of Isotopes (WCI). He has visited important nuclear facilities in India and France, and has been an active participant in conferences, symposiums and summer schools on nuclear technology. He is currently a visiting faculty at Mody University, India where he passionately teaches courses on Nuclear Technology.

Aditya has joined the nUeBe team as a Content Writer.

Meet the Team

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