



Summit of the Future Action Days Side Event

Generation Fusion: Powering Sustainable Futures

20 September 2024 from 2-4 pm ET, British Consulate General New York

Organized by: Energy for the Common Good, IAEA, USA, UK and Jordan

Background on the event

Fusion is the process of combining small nuclei to form larger nuclei, releasing enormous amounts of energy in the reaction. It is the energy source that powers the sun and the stars. Here on Earth, the urgent need for long-term solutions to climate change and energy security has heightened interest among scientists, leaders, policymakers, investors, and the public in the pursuit of fusion energy. Fusion energy has great potential as a safe, abundant, zero-carbon-emissions source of electricity. Fusion also has the potential to provide a source of thermal energy and power for green hydrogen production, industrial heat, carbon capture, and desalination. Recent breakthroughs in fusion science and technology worldwide, along with rapid acceleration of activities and private sector investments, underscore a critical turning point for the fusion sector. Simultaneously, advancements in science, technology and innovation while building public trust are crucial to unlocking fusion's ability to contribute to the achievement of the UN Sustainable Development Goals 7, 9, 13 and 17. Developing this critical new energy sector must involve those who will experience its impact. "Generation Fusion: Powering Sustainable Futures" highlighted recent efforts driving fusion development and celebrated the youth winner of the Fusion Energy Solutions Taskforce, which aims to shape the future of fusion energy through crowdsourced solutions. A panel of experts from the USA, Jordan, IAEA and youth leaders discussed their perspectives on the role of public engagement, education, and global collaboration to maximize fusion's full potential.

Key Issues Discussed:

- Mobilizing and Inspiring Global Youth: There is a need for strategic initiatives to effectively inspire and motivate young people worldwide to pursue careers in fusion energy and actively contribute to its development.
- Interdisciplinary Educational Programs: Fusion energy's interdisciplinary nature demands the creation of comprehensive educational programs that equip students with the necessary skills for careers in clean energy and fusion.
- International Organizations' Role: Global networks and international organizations are critical in facilitating youth participation and engagement in

fusion energy. To engage youth from the Global South and regions most vulnerable to climate change, there must be targeted efforts that consider the unique drivers for engagement - localized climate impact, access to resources, and opportunities for involvement in clean energy initiatives.

- Growing Engagement and Equity: Enhancing equity in science and technology education is essential for leveling the playing field globally. This includes creating accessible opportunities for youth from diverse backgrounds to contribute to fusion energy's future.
- Fostering Cross-Generational and Cross-Cultural Dialogues: Building knowledge-sharing platforms that foster dialogue across age groups, cultures, and economic backgrounds is critical. These dialogues should aim to promote mutual respect and understanding while supporting collaboration in the development of fusion energy solutions.

Key recommendations for action:

- Outreach to primary and secondary education is essential. This involves sparking youth curiosity while also engaging educators and administrators and showing them the exciting possibilities of careers in fusion energy.
- There is a large knowledge gap for fusion. Many people are unaware of fusion energy and its long-term benefits. By addressing these gaps, we create a supportive environment for youth to explore this field.
- Making fusion energy relatable and fun is a way to capture the interest of both children and their parents. Schools, community centers and local venues are perfect space for this kind of outreach.
- We need to think creatively. Crowdsourcing initiatives, like the Fusion Energy Solutions Taskforce and using cutting-edge topics such as AI/ML and robotics, can engage younger generations and link these interested to fusion energy.
- Youth engagement is the next critical step. Just as gender parity is proven vital to progress, integrating young professionals into workforce development is crucial for the sustainability and diversity of the fusion energy industry and the infusion of fresh ideas into the ecosystem.
- All of the suggestions and those not yet identified require financial support.

While this summary of the event emphasizes youth engagement, there is need for intergenerational guidance and mentorship that includes adult professionals. Balancing the empowerment of youth with the insights and leadership of professionals is crucial for the success of fusion. This intergenerational partnership ensures that both perspectives -youth and experienced professionals- are acknowledged and valued.

Webpage to find more information:

<https://fusionenergysolutionstaskforce.org/un-summit-of-the-future>