THE ROLE OF CIVIL SOCIETY IN SHAPING A MORE SECURE FUTURE FOR ALL

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Abstract

Nuclear Security is integral to the long-term application and expansion of the peaceful uses of nuclear energy, science and technology. In the last two decades various developments have contributed to peaceful uses and nuclear security being viewed as competing priorities among some Member States of the IAEA. Key to overcoming these views is better awareness and understanding by decision makers at a political, governmental and industry level of what these technologies are and how their benefits can be better realised in a safe, secure and sustainable way. Non-governmental organizations such as the VCDNP and others are well positioned to provide a platform for dialogue between stakeholders in an environment that enables frank and open discussion and facilitates better understanding of challenges and priorities in both nuclear security and expanded access to peaceful uses; undertake research and analysis offering actionable policy recommendations for decision-makers; and provide capacity-building programs for a variety of stakeholders, including policy makers, regulators, industry and technical representatives. This paper provides an overview of civil society, in particular the efforts by non-governmental organisations to facilitate a better understanding of nuclear security and its nexus with peaceful uses for the purpose of creating an enabling environment for peaceful uses and contributing to the UN Sustainable Development Goals. Further initiatives to improve the role of civil society to contribute to a more secure future for all are explored.

1. INTRODUCTION

Opening the 2002 World Summit on Sustainable Development, South African President Thabo Mbeki urged the international community to strive for a shared prosperity, saying that "a global human society based on poverty for many and prosperity for a few, characterized by islands of wealth, surrounded by a sea of poverty, is unsustainable".[1] In the contemporary global landscape, the peaceful uses of nuclear energy, science, and technology (hereafter 'peaceful uses') is a pivotal element in steering the world towards a more secure, sustainable, and equitable future.

Peaceful uses are the application of nuclear energy, science, and technology in the non-power sector, for example in health, food, agriculture, environment, water management, and industry, and in the power sector, for example in electricity generation, water desalination, and hydrogen production. Peaceful uses, legally identified as an inalienable right and one of the three pillars of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), has broad support among States regardless of whether or not they are parties to the NPT.

To optimize the contribution of peaceful uses to the attainment of the UN Sustainable Development Goals (SDGs) and the realization of global warming mitigation and adaptation goals, it is paramount that nuclear technology is implemented more effectively and sustainably and that access to the technology is expanded, especially in Lower and Middle-Income Countries (LMIC). The vision of a secure future encompasses not only the protection of people and the environment from the adverse effects of ionising radiation but also the eradication of hunger and poverty, and the assurance of equitable access to healthcare for all. Peaceful uses stands out as a significant player in achieving such a future, particularly through its capacity to address energy poverty and support a just energy transition.

IAEA-CN-321-701

Nuclear safety, security, and safeguards are inseparable from the implementation and expansion of peaceful uses. Every state must possess the ability to safeguard nuclear and other radioactive materials, to protect persons, property, society, and the environment from both intentional and accidental harmful effects of ionizing radiation. Furthermore, a nation's capability to prevent, detect, and respond to nuclear terrorism acts not only secures its own citizens but also enhances the security of neighbouring countries, thereby reinforcing the global nuclear security framework. The discourse around peaceful uses often oscillates between its potential for substantial contributions to, inter alia, the energy, medical, and agricultural sectors, and the imperative need for stringent security measures to prevent its misuse. The harmonizing of nuclear safety, security and safeguards objectives with the expansion of peaceful uses is therefore not merely beneficial but is essential for the attainment of the SDGs and the realization of climate goals.

Civil society is in a unique position to mediate these priorities and foster an environment where both can thrive in synergy. This paper summarises the challenges in harmonising nuclear security and peaceful uses, considers the imperative of expanding access to peaceful uses and how civil society, particularly nongovernmental organizations (NGOs) including think tanks and philanthropic organisations, can play a role in fostering a supportive environment for peaceful uses and nuclear security to shape a more secure future for all.

2. CHALLENGES FOR NUCLEAR SECURITY AND PEACEFUL USES

The intertwining paths of nuclear security and the peaceful uses of nuclear technology present a complex landscape marked by significant challenges that have emerged in recent decades. These challenges stem from a variety of sources, including negative perceptions about peaceful uses and risks related to nuclear and other radioactive material, increased security measures, resource constraints, and regulatory disparities which collectively impact the global capacity to effectively harness nuclear energy and applications for peaceful purposes. These challenges have contributed to the perception of nuclear security and peaceful uses as competing priorities among Member States of the International Atomic Energy Agency (IAEA) and have impacted global nuclear governance and access to nuclear technology. A delicate balance is required at policy level and at the level of implementation between enhancing nuclear security measures and supporting the expansion of peaceful nuclear applications.

2.1. Budget constraints and funding priorities

One of the foremost challenges lies in the inadequate availability of financial resources and the way resources are allocated within the IAEA. Member States have expressed divergent views on funding priorities, with contributors to the Nuclear Security Fund, largely comprising countries of the Global North, advocating for increased allocations to nuclear security from the IAEA Regular Programme and Budget. Conversely, the Group of 77 (G77), representing developing countries or countries of the Global South, prioritises the IAEA's activities related to nuclear applications and technical cooperation and insists that funding for nuclear security activities must remain extra-budgetary. This contention reflects deeper issues of resource allocation and prioritization. Countries of the Global South define their security largely in terms of meeting their socio-economic development needs, whereas the countries of the Global North approach security from the perspective of preventing nuclear terrorism. The IAEA's technical cooperation programme is the principal vehicle to facilitate the transfer of technology and know-how to its Member States who rely on this support to access the benefits of peaceful uses. While the demand for IAEA's services and support continues to grow, the organization's budget has stagnated in real terms, exacerbating the challenge of meeting the diverse needs of its Member States. More funding is required for the IAEA and peaceful uses in general and continued efforts are required to build a narrative in which nuclear security is integral to peaceful uses.

2.2. Legislative and funding incentives

A notable obstacle in harnessing peaceful uses lies in the motivation—or lack thereof—among senior decision-makers and legislators. There are many contributing factors, one being that the country may have minimal or no nuclear activities. In lower income countries in particular, decision-makers may have to prioritise among the many challenges that require their attention. Another well-known factor is the negative perceptions

related to "all things nuclear" by those not involved in the research or application of these technologies. The incentive to adopt relevant legislation and allocate necessary funds for its implementation is diminished in these contexts. The lack of awareness of the benefits of peaceful uses can also result in their exclusion from national development frameworks, education and scientific agendas and long-term financial planning. This lack of legislative and financial commitment hinders the establishment of a robust framework for the development and application of nuclear technologies for peaceful purposes.

From a global investment perspective, very little if any of the substantial funding available for development assistance and climate change is allocated to peaceful uses. As an example climate philanthropy in the United States amounts to approximately \$8 billion per annum, none of which is put towards nuclear power or the applications of nuclear technology that contribute to climate mitigation.[2] In 2022 official development assistance (ODA) by member countries of the Development Assistance Committee amounted to USD 204.0 billion.[3] While 100 per cent of IAEA Member States' contributions to the IAEA Technical Cooperation Fund are ODA eligible, this is not a source of the IAEA's funds.[4] The lack of awareness about the benefits of peaceful uses and an unwillingness to integrate these technologies into development frameworks ultimately contribute to a global disparity in the ability to access and benefit from nuclear energy, science and technology.

2.3. Impact of security measures on radioactive source availability

The aftermath of the terror attack in the United States in September 2001 saw a significant tightening of nuclear security measures, particularly concerning the shipment of radioactive material. These heightened security protocols inadvertently hindered the transport of life-saving radioisotopes to developing countries. The IAEA took steps to address the worst of the crisis but despite the industry's compliance with national and international regulatory requirements and good transportation practices, denials and delays of radioactive materials remain a problem. The availability of radioactive sources has dwindled, primarily due to a decreasing number of shipping companies willing to transport these materials, citing perceived risks and difficulties related to lack of harmonisation of regulations between countries. This has contributed to increasing costs of radioactive sources added to which are the costs of their management and disposal. At the same time there has been a concerted effort to reduce the use of radioactive sources and to replace these sources with electricity based radiation technology. In many countries and for a number of essential applications, radioactive sources are still the most practical or the only option to delivering applications that improve healthcare and agricultural development. More research is required to adapt electricity based radiation to the needs and conditions of LMICs.

3. POTENTIAL SOLUTIONS TO OVERCOME CHALLENGES AND RECONCILE THE GOALS OF NUCLEAR SECURITY AND PEACEFUL USES

In addressing the challenges discussed above, it becomes evident that a multifaceted approach of innovative and collaborative solutions is required to reconcile the objectives of nuclear security and the expansion of peaceful nuclear uses. The solutions must aim not only to overcome the existing obstacles but also to lay a foundation in which peaceful uses can contribute to creating a better and more secure future for all.

3.1. Promoting the benefits of peaceful uses

A fundamental step towards reconciling the goals of nuclear security and the expansion of peaceful uses is to elevate the awareness and understanding of the latter's benefits. This involves a concerted effort to communicate how nuclear technology can be harnessed to address critical global challenges, such as energy poverty, healthcare, food and water security and climate change. Highlighting successful case studies and demonstrating the potential of peaceful uses to contribute to the SDGs can shift perceptions and build a more supportive environment for both nuclear security and peaceful uses.

3.2. Conducting high-level outreach

Targeted outreach to national decision-makers in countries with limited or no nuclear material or activities is essential to building support for peaceful uses. This includes creating awareness about the advantages of acceding to and implementing internationally recognized legal frameworks, such as the Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment, as well as adopting non-binding instruments like the Code of Conduct on the Safety and Security of Radioactive Sources. Raising awareness at this level can encourage the adoption of policies and legislation that support the safe and secure use of nuclear technologies for peaceful purposes.

3.3. Promoting balance between regulation of and access to peaceful uses

The approach of the non-proliferation and security communities to peaceful uses to date has been motivated by threat and risk reduction, which has inadvertently played a role in strengthening negative perceptions about peaceful uses. Recasting the conversation on peaceful uses to focus on the benefits of these technologies is essential to improving their adoption and maximising their potential to contribute to solving the seemingly intractable challenges facing humanity. A delicate balance is required between developing and implementing measures that further the protection of nuclear and other radioactive material and creating an environment that is conducive to the expansion of peaceful uses particularly in LMICs.

3.4. Fostering new partnerships for expanded access to peaceful uses

Expanding the network of support for peaceful nuclear applications requires the establishment of new partnerships. Engaging with non-traditional partners such as the development assistance and climate change community, international financial institutions, and philanthropic organizations can significantly enhance the resources available for supporting countries in their peaceful nuclear endeavours. Additionally, mainstreaming nuclear applications into broader development frameworks can ensure that nuclear energy, science and technology are effectively utilized in addressing developmental challenges. This approach not only increases the visibility and perceived value of peaceful uses but also opens up new avenues for funding and collaboration.

By implementing these solutions, the international community can make significant strides towards creating a conducive environment for the expansion of peaceful uses. Enabling the increased use of nuclear technology for non-power applications will improve regulatory competencies thereby advancing nuclear security objectives and improving healthcare, food security and agriculture development. An additional benefit of developing its infrastructure for non-power applications is that a country, by expanding and extending this infrastructure could shorten the timeframe for the introduction of nuclear power.[5]

4. THE ROLE OF NON-GOVERNMENTAL ORGANISATIONS IN CREATING A CONDUCIVE ENVIRONMENT FOR PEACEFUL USES AND ENHANCING NUCLEAR SECURITY

NGOs play a pivotal role in improving communication between diverse stakeholders, developing capacity and conducting independent research and analysis to guide policy making. The majority of NGOs in the nuclear security space have been focusing on reducing risks associated with nuclear terrorism and to deter the diversion of nuclear material into weapons. Increasingly however NGOs are realising the importance of closing the gap between nuclear security and peaceful uses. The following is a brief overview of some of the key NGOs and think tanks working in this space and addressing some of the challenges mentioned above.

The Nuclear Threat Initiative (NTI) describes its mission as a "nonpartisan global security organisations focused on reducing nuclear and biological threats imperilling humanity". The NTI has established a global dialogue platform on nuclear security priorities convening stakeholders from various sectors. By providing a space for open exchange, NTI encourages the sharing of perspectives and experiences that can lead to innovative solutions to shared challenges. This platform not only enhances understanding among stakeholders but also promotes collaborative efforts to strengthen nuclear security. Recent meetings of the global dialogue have considered how the narrative on nuclear security and peaceful uses can be changed to counter the perception that nuclear security hinders access to peaceful uses. [6]

The World Institute for Nuclear Security (WINS) mission is defined as "a professional institute committed to building an international community of nuclear security professionals who are demonstrably competent and willing to work together to strengthen the security of nuclear and other radioactive materials". It is renowned for its work in offering best practice guidance and educational programs through the WINS Academy. The academy

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is designed to enhance the competence and professionalism of those working in nuclear security, ensuring that nuclear industry and regulators adhere to the highest standards of safety and security. WINS also facilitates dialogues on the use of alternative technologies between industry, nuclear security practitioners and policy makers to assess the gaps and benefits of the technologies with the view to improving their effectiveness and adoption. [7]

The Vienna Center for Disarmament and Non-Proliferation (VCDNP) "promotes international peace and security by conducting research, facilitating dialogue, and building capacity on nuclear non-proliferation and disarmament". It stands out for its comprehensive approach to addressing the dual challenges of nuclear security and expanding access to peaceful uses. The VCDNP works closely with the diplomatic community in Vienna and international organisations, including the International Atomic Energy Agency (IAEA), to maximise its impact on global nuclear non-proliferation, security and peaceful uses. The following is an overview of the work of the VCDNP to address some of the challenges to reconcile the goals of nuclear security and peaceful uses. [8]

4.1. VCDNP: Fostering dialogue and improving stakeholder engagement

Through results-oriented dialogue, impact-driven research and capacity building activities, the VCDNP promotes international peace and security as a platform for independent analysis in the field of nuclear disarmament and non-proliferation. The VCDNP has leveraged this platform to extend its scope of work over the last six years to the secure and sustainable applications of nuclear energy, science and technology for peaceful purposes within the context of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

4.1.1. Capacity building for diplomats and practitioners

The VCDNP's education and training activities have been at the core of its mission since its founding. Since the Center opened, it has trained over 900 diplomats and practitioners in nuclear governance issues. Its flagship intensive training course for diplomats and practitioners in the nuclear field takes place biannually and covers a broad spectrum of issues in nuclear non-proliferation and disarmament, nuclear security and peaceful uses. The VCDNP has held 26 courses between 2011 and 2024.

A specialised course conducted by the VCDNP, at the suggestion of several ambassadors based in Vienna, is a three-day mini-course for newly arrived Vienna-based ambassadors. The programme offers a condensed course exclusively at the ambassadorial level taking note of ambassadors' busy schedules. The course is an opportunity to brief incoming ambassadors on the nuclear topics that are part of their Vienna profile, including on nuclear security.

A specialized course on nuclear security has been added to the Center's programmes and provides a comprehensive overview of the subject, including key nuclear security concepts, international instruments and organizations, political and legal frameworks, and opportunities and challenges in addressing nuclear security. The course is also geared towards diplomats and practitioners, including regulators involved in policy decision-making.

The interface between peaceful uses and nuclear security is discussed in all of these courses to create awareness of both the existing challenges and benefits of their mutual reinforcement as well as promote the benefits of peaceful uses for sustainable development.

4.1.2. Impact-driven research

Guided by its engagement with stakeholders in the peaceful uses and nuclear security domain including the IAEA, policy makers and regulators, VCDNP researchers have studied the challenges and recommended solutions, also drawing on their own experience. The VCNDP's research in this field has informed its activities, including providing policy guidance and convening multi-stakeholder dialogues in Vienna, the UK, South Africa and online with Latin American and South-East Asian countries.

Policy recommendations

In 2021, the VCDNP established a Task Force on Peaceful Uses dedicated to exploring and promoting the peaceful applications of nuclear technology in a secure and responsible manner. The Task Force put forward recommendations to the IAEA and its Member States and to the States Parties of the NPT on approaches that

could lead to increased access to nuclear science and technology for peaceful uses and contribute to achieving the UN Sustainable Development Goals, while maintaining non-proliferation and nuclear security objectives. The work of the Task Force was presented at the Tenth NPT Review Conference and a number of key recommendations were included in the draft outcome document of the conference. [9]

The policy recommendations provided by the VCDNP on the challenges highlighted at the beginning of this paper include recommendation to the EU on how it could meet its goal of strengthening global security under the NPT by providing financial support to the IAEA's technical cooperation activities. [4] In papers delivered to the International Conference on Safety and Security of Radioactive Sources in June 2022 and the 2nd IAEA International Conference on Climate Change and the Role of Nuclear Power in October 2023, VCDNP researchers recommended a graded approach to the development of regulatory systems [10] and increasing investment in non-power applications to create an enabling environment for expanded access to peaceful uses, including nuclear power. [5]

Case studies

The VCDNP publishes case studies featuring specific applications and countries that have benefited from peaceful uses. These case studies provide lessons learned on how the secure and responsible application of nuclear technology can improve health care, agriculture and industrial development. One such case study on Bangladesh's use of radiation to develop drought resistant rice varieties, highlighted the difficulties experienced by the Bangladesh Institute for Nuclear Applications (BINA) in replacing depleted radioactive sources.[11] As a direct result of this case study and a related panel discussion convened by the VCNDP, Texas A&M University partnered with BINA to perform a technical and financial feasibility study for the adoption of eBeam and xRay technologies in Bangladesh and performed eBeam mutation experiments on rice. The purpose of this collaboration is to replace depleted radioactive sources with effective alternative radiation technology that will ensure the sustained use of peaceful uses to climate-proof agriculture in Bangladesh.

4.1.3. Results-oriented dialogue

Another important pillar of the VCDNP's work is to serve as a convener of stakeholders in open and results-oriented dialogue without the politically driven statements that can sometimes dominate intergovernmental international fora. These discussions provide an opportunity to reach across traditional divides and break silos to have meaningful exchanges on nuclear issues. This line of work is especially impactful in a setting where stakeholders can have confidence that discussions are not-for-attribution and are off-the-record.

Multistakeholder dialogue to promote the benefits of peaceful uses and the nexus with nuclear security

The VCDNP implements a project aimed at promoting a better understanding among IAEA Member State representatives in Vienna on nuclear security, enhancing awareness of the interplay between nuclear security and peaceful uses, and emphasising the mutually reinforcing nature of technical cooperation and nuclear governance. This project addresses the perception among IAEA Member States that peaceful uses and nuclear security are competing priorities. It also provides increased opportunities for constructive engagement between Member States and the IAEA on nuclear governance issues. VCDNP has convened 14 panel discussions, and workshops since 2018, has conducted public webinars and published numerous case studies, reports and fact sheets to this end. As an extension of this work, the VCDNP collaborated with Wilton Park, an Executive Agency of the UK Foreign, Commonwealth & Development Office, to convene a cross-sectoral group of policy makers and technical experts from capitals, together with industry in 2019 and 2023 on the interface between peaceful uses and nuclear security. These workshops reflected on progress and remaining challenges in this area and encouraged stakeholders to continue to support the mutual reinforcement of peaceful uses and nuclear security in their spheres of influence.

This ongoing project has led to the Center becoming a recognised contributor on peaceful uses and nuclear security. These activities have facilitated a better understanding among IAEA Member States on nuclear security being integral to peaceful uses instead of a competing priority and has directed more attention to the peaceful uses pillar of the NPT.

- High-level outreach on the universalisation of legal instruments for nuclear security

In April 2024 the VCDNP hosted a workshop for high level policymakers and members of parliament, focused on States that have not yet joined the Convention on the Physical Protection of Nuclear Material and/or its Amendment (CPPNM/A). The benefits of adherence and effective implementation of the provisions of the Convention for peaceful uses and global security were the focus of the workshop. In addition to discussing the continuing threats, implementation challenges, international assistance in nuclear security area, the workshop included a session on a variety of nuclear science and technology applications and their role in achieving SDGs and a visit to the IAEA's laboratories featuring various nuclear applications at Seibersdorf.

- Multistakeholder consultations on the nexus of peaceful uses, development and climate change

In May 2024 the VCDNP convened a workshop in South Africa in collaboration with other partners including Wilton Park and the African Commission for Nuclear Energy (AFCONE), focusing on scaling-up peaceful uses in Africa to accelerate sustainable development. African policy makers and regulators met with advanced reactor developers, international experts and members of the development assistance and climate community. The participants considered the benefits of peaceful uses and what needs to be done to deploy advanced reactors successfully and sustainably in Africa. This included the sharing of experiences on establishing regulatory and legislative frameworks and discussions on ways to address challenges and the benefits of investing in infrastructure for non-power applications as a precursor to nuclear power. One of the key challenges that were discussed was the need for increased investment in peaceful uses by international financial institutions, development assistance agencies and philanthropies.

5. THE ROLE OF PHILANTROPIC ORGANISATIONS IN CREATING A CONDUCIVE ENVIRONMENT FOR PEACEFUL USES ENHANCING NUCLEAR SECURITY

A number of philanthropic foundations have to date funded advocacy, policy research and development aimed at nuclear threat and risk reduction including reducing nuclear arsenals, preventing nuclear proliferation and securing nuclear and other radioactive materials from terrorists. Philanthropies that have been active in this sphere include the Carnegie Corporation of New York, the MacArthur Foundation, the Ploughshares Fund, Sloan Foundation, Skoll Global, the Stanton Foundation, contributing approximately \$30 million (USD) in total in 2012.[12]

The top five climate philanthropies are the Bezos Earth Fund, the Bill and Melinda Gates Foundation, ClimateWorks Foundation, the Rockefeller Foundation and the Packard Foundation. These foundations support organisations, initiatives and technologies with the goal of achieving net-zero carbon emissions by 2050.[13] As mentioned earlier in this paper an estimated \$8 billion (USD) per annum is spent by climate philanthropy to this end.[2] According to an Organisation for Economic Cooperation and Development (OECD) report, private philanthropy for sustainable development in 2020 alone amounted to about \$10 billion (USD). [14] Many climate philanthropies also support sustainable development. However, the contribution of peaceful uses to achieving sustainable development and contributing to climate mitigation is not recognised by climate and development assistance philanthropies.

6. TOWARDS A MORE SECURE FUTURE

Shaping a more secure future for all requires changing the narrative from nuclear threat to nuclear necessity. Without the expansion of nuclear technology for cancer diagnosis and treatment to more countries in the Global South where there is no or limited access to such treatment, millions of people will continue to die of preventable cancers. Without fully harnessing the advantages of nuclear techniques and other advanced technologies for agriculture development and natural resource management, crop and livestock productivity will continue to suffer from the effects of climate change and food security will continue its decline. Without the inclusion of nuclear power in energy development frameworks and access by developing countries to advanced reactor technologies, there is unlikely to be a just energy transition to lift billions of people out of poverty.

In the quest to harmonize the objectives of nuclear security with the expansion of peaceful nuclear technologies, the instrumental role of NGOs cannot be overstated. NGOs play an important part in research, dialogue and capacity building to promote the safe, secure and responsible use of nuclear energy and technology. In addition, they are in a unique position to lead the way in the non-proliferation and nuclear security community to create a new narrative on the necessity of scaling up peaceful uses to contribute to global development and climate goals. In their interface with the public, through their research and policy guidance, and in the convening of stakeholders, these NGOs, and the philanthropies and governments that support them could and should change the narrative on nuclear.

There is growing recognition that the goal of net-zero carbon emissions by 2050 will not be achieved without adding nuclear power to the energy mix. To this end 20 nations pledged to triple nuclear energy capacity at the COP28 United Nations Climate Change Conference in 2023. To address energy poverty at the same time, the expansion of nuclear power must be extended to the Global South where the lack of energy or insufficient energy is the most critical challenge to sustainable development. Advanced nuclear reactors, including small modular and micro reactors, have the potential to bring nuclear power within the reach of LMICs. Successful and sustainable deployment of these technologies will require extensive investment in regulatory and legislative infrastructure and human resource development over the next 10 to 15 years. Member States' requests for support from the IAEA will increase exponentially.

Advocacy and financing tools to accelerate an inclusive energy transition are currently focused on renewable energy options. Support for peaceful uses by Official Development Assistance funders and climate and sustainable development philanthropies is negligible. Apart from the extensive advocacy needed to promote the benefits of nuclear power and non-power applications, and the financial tools to deploy advanced technologies, more funding will be required for the IAEA to meet the needs of its Member States. In this respect, NGOs can be instrumental in forging new partnerships with climate and development communities to support these efforts around a common goal of securing the future of the planet and all that live on it. In turn, philanthropies are free from the perceived political agenda inherent in the engagement between countries of the Global North and the Global South and as such are uniquely positioned to support NGOs in this work.

Ensuring that NGOs have access to important multilateral fora, such as ICONS, is crucial for the integration of civil society perspectives into global nuclear governance. Their participation in such meetings allows for a more inclusive dialogue, enriching the discussions with diverse viewpoints and facilitating the development of more comprehensive and effective solutions to nuclear security and peaceful use challenges.

In conclusion, bold leadership by civil society and new partnerships are required to shape a better future for all where the full potential of nuclear power and non-power applications is harnessed safely, securely, responsibly and sustainably.

REFERENCES

- [1] United Nations, Meetings Coverage And Press Releases, Society of Wealthy Islands Surrounded by Sea of Poverty Unsustainable, Says South Africa's President, Opening Johannesburg World Summit, Johannesburg (2002) <u>https://www.un.org/press/en/2002/envdev669.doc.htm</u>
- [2] Indiana University Lilly Family School of Philanthropy, Mapping Nonprofit Spending on Climate Change, Indiana University Lilly Family School of Philanthropy, 2023.
- [3] Organisation for Economic Co-operation and Development, Official development assistance (ODA) (2022) <u>https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm</u>
- [4] I. KIRSTEN, M.ZARKA, Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?, Non-Proliferation and Disarmament Papers No 79, EU Non-Proliferation and Disarmament Consortium, 2022.
- [5] A.K.STOTT, I.KIRSTEN, "Can increasing Peaceful Uses of Non-Power Nuclear Science and Technology Applications in Developing Countries create an Enabling Environment for Nuclear Power in these Countries?", paper presented at the IAEA Second International Conference on Climate Change and the role of Nuclear Power: Atoms4NetZero, Vienna, 2023. https://vcdnp.org/expanding-non-power-peaceful-use-applications/

- [6] Nuclear Threat Initiative, About https://www.nti.org/about/
- [7] World Institute for Nuclear Security, About Us. https://www.wins.org/about-us/
- [8] Vienna Center for Disarmament and Non-Proliferation, About Us <u>https://vcdnp.org/</u>
- [9] VCDNP Task Force on Peaceful Uses: Report and Recommendations, VCDNP, Vienna 2021
- [10] I.KIRSTEN, A. NILSSON, N. TITUS, "Creating an environment for expanded access to peaceful uses: fostering supportive nuclear safety and security cultures" CN295/331, paper presented at the IAEA International Conference on Safety and Security of Radioactive Sources: Accomplishments and Future Endeavours, Vienna, 2022. <u>https://vcdnp.org/wp-content/uploads/2017/01/Creating-and-Environment-for-Expanded-Access-to-Peaceful-Usesfinal.pdf</u>
- [11] I.KIRSTEN, "The Contribution of Innovative Nuclear Technology to Sustainable Agriculture", VCDNP case study (2020) <u>https://vcdnp.org/the-contribution-of-innovative-nuclear-technology-to-sustainable-agriculture/</u>
- [12] Open Philanthropy, Nuclear Weapons Policy (2015) https://www.openphilanthropy.org/research/nuclear-weapons-policy/#id-3-who-else-is-working-on-this
- [13] Scale Climate Action, Climate Philanthropy: What Is Climate Philanthropy and Why It Matters (2023) https://scaleclimateaction.org/climate/climate-philanthropy-what-is-climate-philanthropy-and-why-it-matters/
- [14] OECD, Private philanthropy for sustainable development, 2018-20, (2023) https://www.oecd.org/dac/private-philanthropy-sustainable-development.pdf