

Foreword from the Chair



It is a privilege to compose this foreword for the Generation IV International Forum (GIF) 2021 Annual Report, which outlines last year's progress in Generation-IV (Gen-IV) reactor systems' collaboration and developments. GIF completed its second decade as the sole international organization dedicated to collaborative research and development (R&D) on Gen-IV systems. Since 2001, GIF has been promoting international R&D collaboration for six types of Gen-IV reactor systems using sodium, lead, gas, molten salt and supercritical water coolants. These systems follow the common development goals established by GIF: safety and economics, together with sustainability and proliferation resistance and physical protection.

The year 2021 also marked the end of Chair Hideki Kamide's highly successful three-year term. I would like to express my sincere gratitude for the great leadership that Chair Kamide provided during his term. Under his management, we have seen significant progress made within our planned projects even during the difficult times caused by the Coronavirus-19 (COVID-19) pandemic around the world.

During 2021, one of the significant activities and efforts that GIF addressed was substantive engagement with the private sector through a series of workshops. As we work towards commercialization, this engagement will become even more important. We also deepened GIF's role in climate change initiatives, including the Clean Energy Ministerial. Nuclear energy can be a major tool to meet the ambitious initiatives that each country has set. With plans to expand the use of advanced nuclear energy, we have elevated GIF's education and training efforts from a task force to a working group to ensure that our future workforce will be ready to support the vast technical needs of our Gen IV systems.

We also made significant strides in advancing the safety framework of Gen-IV systems, including strengthened collaborations with the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency's (NEA) Working Group on the Safety of Advanced Reactors (WGSAR) to ensure consistency of approaches and to avoid duplication of work. A well-coordinated framework will ensure that our Gen-IV systems include safety as part of the design. To streamline the ability to share nuclear technology with nations as they develop their nuclear energy infrastructure, we have made substantial updates to the proliferation resistance and physical protection white papers for the six Gen-IV systems. Further expanding on the potential uses of nuclear energy, we also launched a new initiative on the non-electric applications of nuclear heat. Finally, we completed a much-needed refresh of the GIF brand and communication products.

With continued global leadership and support through the GIF framework, we can realize the goals of ensuring that sustainable nuclear energy is available in the future and that commercial deployment of advanced systems is started in 2030. Looking forward, GIF will advance this vision by continuing to strengthen Gen-IV system features to combat climate change, with a focus on flexible operations and non-electric applications. We will support transition from R&D to demonstration and deployment by ensuring technical readiness, regulatory readiness and improved economics. GIF relevance to industry will be strengthened by furthering industry engagement and the guiding expertise of the GIF Senior Industry Advisory Panel; and looking to the future, we will continue to support the Gen-IV talent pipeline.

As I assume the role of GIF Chair, I look with great optimism at the potential of nuclear energy and its role in addressing our changing energy needs. I hope that this year's annual report will be a great resource in your efforts to coordinate upcoming plans for nuclear energy development.

Alice Caponiti
GIF Chair