

GENIV International
Forum

Expertise | Collaboration | Excellence

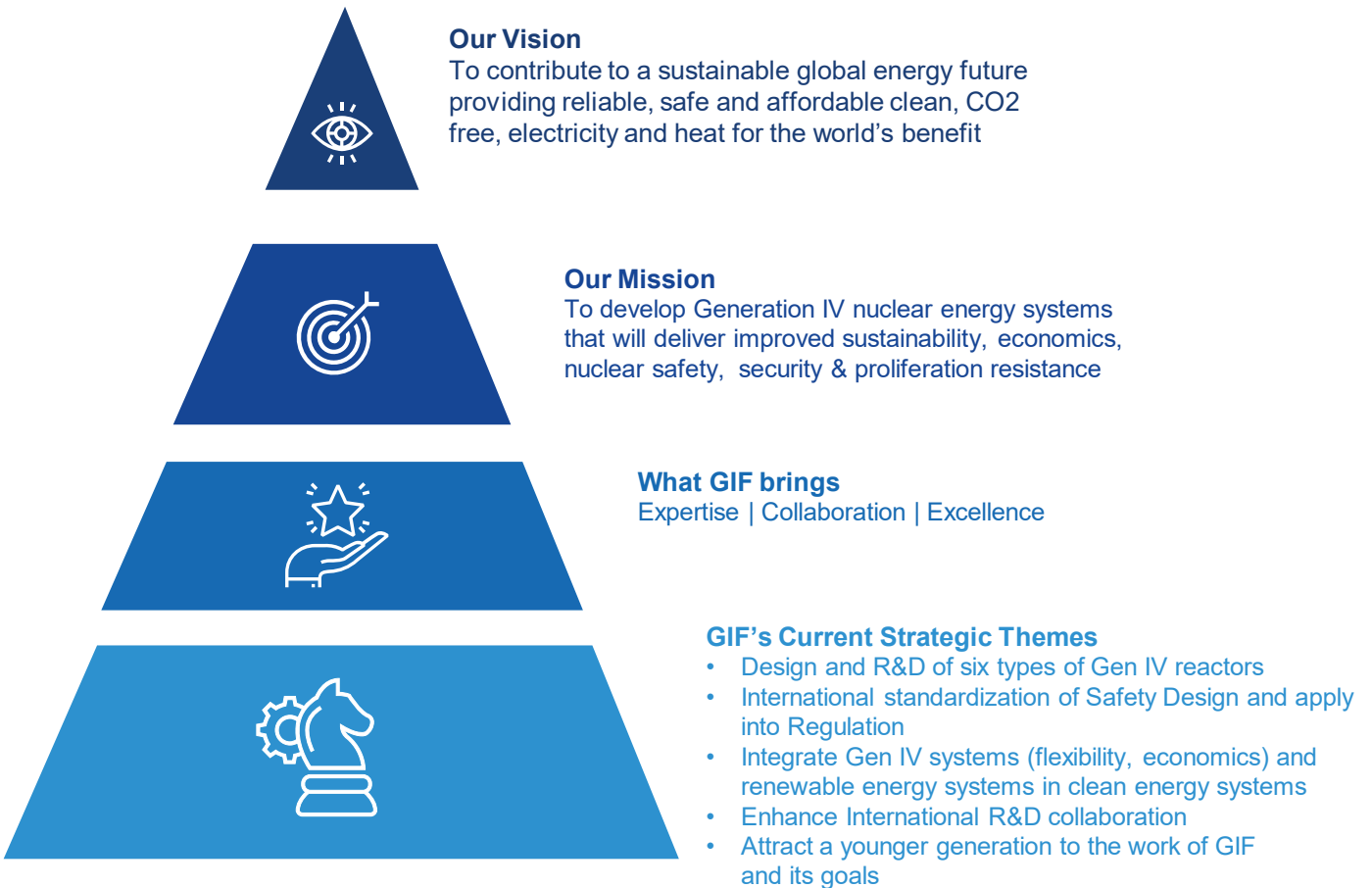


Developing nuclear energy systems for the future

A Clear Direction

The Generation IV International Forum, known as ‘The GIF’, was launched in 2000. It has the goal of developing advanced nuclear systems with improved sustainability, economics, nuclear safety, security & proliferation resistance.

In today’s world with its many challenges, Generation IV systems are needed more than ever. Alongside other low-carbon technologies, advanced nuclear systems will contribute to a sustainable energy future, by providing reliable, safe and affordable clean electricity and heat.



Mr Hideki Kamide, current GIF Chair said: *‘We have roadmaps to develop Gen IV advanced nuclear systems and methodologies to assess their compliance to the GIF goals.*

‘We will also need to show how these advanced nuclear technologies can integrate into and support future clean energy systems and GIF will continue to be at the centre for international research and development collaboration in our fields of excellence.

‘Moreover, we have a responsibility to attract the next generation to the goals of GIF and support us in our work to create sustainable, safe, clean, reliable, flexible and affordable sources of nuclear energy for the future.’

More about the Generation IV International Forum:
Further details about GIF activities can be found on: <https://www.gen-4.org>

Sustainable, safe, clean, reliable, flexible and affordable sources of nuclear energy for the future

Built on international co-operation



The GIF is a co-operative international endeavour set up to carry out the research and development (R&D) needed to establish the feasibility and performance capabilities of the next generation nuclear energy systems.

The GIF has 14 members which are signatories of its founding document, the GIF Charter.

Research & Development co-operation is carried out by 12 of its members, who are signatories to or have acceded to an international treaty overseeing the work of GIF, known as the 'Framework Agreement'.

International cooperation is essential for timely progress in the development of Generation IV systems. This cooperation within the GIF makes it possible to pursue multiple systems and technical options concurrently and to avoid any premature down selection due to the lack of adequate resources at national level.

Six nuclear energy systems selected

As part of its overall goals, the GIF has identified and selected six nuclear energy systems for further development.

These include the:

- **Gas-cooled Fast Reactor (GFR)**
- **Lead-cooled Fast Reactor (LFR)**
- **Molten Salt Reactor (MSR)**
- **Supercritical Water-cooled Reactor (SCWR)**
- **Sodium-cooled Fast Reactor (SFR)**
- **Very High Temperature Reactor (VHTR).**

The selected systems are based on a variety of reactor, energy conversion and fuel cycle technologies. Their designs include thermal and fast neutron spectra cores, closed and open fuel cycles. The reactors range in size from very small to very large. Depending on their respective degree of technical maturity, the first Generation IV systems are expected to be deployed commercially around 2030-2040. For more details of the six nuclear energy systems do visit our website:

<https://www.gen-4.org>



Part of a flexible global solution

According to the International Energy Agency, 'flexibility' will be the cornerstone of tomorrow's energy systems. This can come from various generation technologies, grid infrastructures and storage systems. Nuclear systems, and advanced reactors such as Gen IV systems, can contribute to this required flexibility, in terms of:

- **operational flexibility (load following, heat storage),**
- **deployment flexibility (scale, siting) or**
- **product flexibility (electricity and non-electric applications, such as process heat, hydrogen production or desalination).**

The adaptability of Gen IV nuclear energy systems is being actively discussed across symposiums and workshops around the world such as the CEM Nuclear Innovation: Clean Energy Future (NICE Future) and widely gaining consensus.

Cooperation IAEA and OECD/NEA

Since GIF's inception in 2000, it has cooperated with the IAEA, exploring areas of technical dialogue, coordination and cooperation in yearly meetings. Initially, most of the joint activities focused on methodologies and benchmarking, but now include many other areas of cooperation, including safety design criteria and research infrastructures.

Since 2005, the GIF has benefitted from the NEA providing its Technical Secretariat services and co-operating through NEA work in the area of nuclear economics, reactor and fuel cycle technologies, and safety research.

Engagement and Outreach

What does GIF want to say about this element? The GIF has organized a webinar series which features lectures from experts on the six Gen IV systems, advanced fuel cycles, experience from operating prototypes.

The webinar series includes today more than 28 webinars. https://www.gen-4.org/gif/jcms/c_82831/webinars

The 4th GIF Symposium in October 2018 gathered more than 300 participants, including a majority of young researchers.



GIF Leadership

The leadership team of GIF consists of:



Hideki Kamide
Chair of the GIF Policy Group

Hideki Kamide was elected Chair of the GIF Policy Group for the period 2019-2021, succeeding Francois Gauché in this role. He was previously Vice Chair of the Policy Group. He is the Deputy Director General of the Sector for Fast Reactor and Advanced Reactor Research and Development at the Japan Atomic Energy Agency



Jong-Hyuk Baek
Vice Chair of the GIF Policy Group

Jong-Hyuk Baek serves as Vice Chair of the GIF Policy Group, supporting the Chair in particular in the area of Research Collaborations. He is the Senior Vice President and CTO (Chief Technology Officer) for Innovative Nuclear Reactor Systems at Korea Atomic Energy Research Institut



Alice Caponiti
Vice Chair of the GIF Policy Group

Alice Caponiti serves as Vice Chair of the GIF Policy Group, supporting the Chair in the area of regulatory issues. She is currently Director for Nuclear Energy Technologies in the Office of Nuclear Energy at the U.S. Department of Energy. Prior to this, she served as a United States representative on the Policy Group since 2017.



Sylvestre Pivet
Vice Chair of the GIF Policy Group

Sylvestre Pivet serves as Vice Chair of the GIF Policy Group, supporting the Chair in the area of market issues. He has been a member of the Policy Group representing France since 2015. He is currently the director of the Innovation and Nuclear Support Division. This division manages the R&D programs led by the CEA in the field of civilian nuclear energy, covering fuel cycle, advanced and operating reactors and simulation. He is also deputy director of the Nuclear Energy Division since 2017.



Nobuchika Kawasaki
GIF Policy Director

Nobuchika Kawasaki became the GIF Policy Director on 1 January 2019, succeeding François Storrer. He is the Assistant Principle Researcher for Foreign Affairs at the Japan Atomic Energy Agency. He has strong experience in fast reactor technology and is very knowledgeable on GIF activities after having served on the OECD/NEA Technical Secretariat Team between July 2016 - July 2018.



Gilles Rodriguez
GIF Technical Director

Gilles Rodriguez serves as the GIF Technical Director. He is a Senior Expert Engineer at the French Alternative Energies and Atomic Energy Commission and has been the Deputy Head of the ASTRID Project Team since 2016. He has broad experience in Generation IV Research and Development, which encompasses fast reactors, liquid metal coolants, safety, hydrogen production and advanced power conversion cycles.



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