

International Symposium on  
“Present Status and Future Perspective for Reducing Radioactive Wastes  
~ Challenge for the Relief in the Next-generation ~,”  
February 17, 2016

**Panel Discussion  
(15:30 - 17:30)**

**Theme:**

**Reflection of R&D Results on Reduction of  
Volume and Radiotoxicity of Radioactive Wastes  
in Future Nuclear Fuel Cycles and  
Expectations for International Cooperation**

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Participants in Panel Discussion**

**Moderator:**

**Yutaka Sagayama**, Assistant to the President, Japan Atomic Energy Agency (JAEA)

**Panelists (7 specialists):**

**Zhan Wenlong**, Vice President, Chinese Academy of Sciences, CHINA

**Sylvestre Pivet**, Director, Innovation and Nuclear Support Division, French Atomic and Alternative Energies Agency, FRANCE

**Krishnamurthy Ananthasivan**, Head, Advanced Fuels Studies Section, Chemistry Group, Indira Gandhi Centre for Atomic Research, INDIA

**John Herczeg**, Deputy Assistant Secretary, Fuel Cycle Technologies, Office of Nuclear Energy, U.S. Department of Energy, USA

**Reiko Fujita**, Program Manager, IMPACT Program, Japan Science and Technology Agency, JAPAN

**Hideki Kamide**, Director General, Advanced Fast Reactor Cycle System Research and Development Center, Sector of Fast Reactor Research and Development, JAEA, JAPAN

**Kazufumi Tsujimoto**, Group Leader, Nuclear Transmutation System Development Group, Partitioning and Transmutation Technology Division, Nuclear Science and Engineering Center, Sector of Nuclear Science Research, JAEA, JAPAN

## Points of Panel Discussion

- The treatment and disposal of spent fuel and radioactive wastes generated by using nuclear energy are a common global challenge.
- Discussion of the panel theme is divided into the following two subthemes:
  - 1. Reflection of R&D Results on Reduction of Volume and Radiotoxicity of Radioactive Wastes in Future Nuclear Fuel Cycle**
    - The recognition of the necessity and importance of R&D toward reduction of volume and radiotoxicity of radioactive wastes in each country
    - Development goals and schedules of R&D activities in each country, their current status, drivers and challenges for promoting R&D, prioritizing and the way to resolve the challenges
    - When and how to reflect the expected results in future nuclear fuel cycles
  - 2. Expectations for International Cooperation including human resource development**
    - The current state and future prospects of international cooperation (areas, forms) in each country
    - Expectations for the international cooperation
    - Human resource development

## Agenda of Panel Discussions

- Brief review of the panel discussions at the last international symposium “Present Status and Future Perspective for Reducing Radioactive Wastes ~ Aiming for Zero-Release~”.
- Presentation by Dr. Reiko Fujita entitled on “Reduction and Resource Recycle of High-Level Radioactive Wastes with Nuclear Transmutation” (10 min.)
- Debates on the following two-sub themes in order.
  1. **Reflection of R&D results in future nuclear fuel cycles for reduction of volume and radiotoxicity of radioactive waste (40 min.)**
  2. **Expectations for international cooperation including human resource development (20 min.)**
- Q&A session with audience (25 min.)
- Comments on the panel as a whole from each panelist (15 min., 2min./person)  
(If time is pressed, the moderator will appoint panelists with additional comments)
- The moderator will summarize the discussion. (5 min.)

**Brief review of the panel discussions at the last international symposium**

- **Panel discussion-1 “Future Perspectives on the Use of Nuclear Energy and Harmonization with Environment”**
  - The importance of active discussions including dialogues with public on high-level radioactive waste disposal corresponding to the public interest increasing after the TEPCO’s Fukushima Daiichi Nuclear Power Station accident
  - The necessity of the paradigm shift, continued investment for maturing technologies, and long-term planning for selecting technologies for metal or oxide fuels
  
- **Panel discussion-2 “Future R&D and International Cooperation”**
  - The significance of partitioning and transmutation technology considering the effect on the diversification of options, social acceptability and reduction of disposal site areas, etc. despite the small effect of MA recovery in terms of safety evaluation
  - Current perspective of R&Ds and the realization of technology in a reasonable timeframe
  - The importance of human resource development
  - The necessity of substantial international cooperation for efficient development (both panels)

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## Panel Discussion

### Subtheme 1:

Reflection of R&D results in future nuclear fuel  
cycles for reduction of volume and radiotoxicity of  
radioactive waste

**(40 min.)**

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## **Panel Discussion**

**Subtheme 2:  
Expectations for international cooperation  
including human resource development  
(20 min.)**

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