



The 9th IEEJ/APERC International Energy Symposium - Complexity of Achieving Energy Transition under Multiple Pathways-

The G7 Hiroshima Leaders' Communique articulated "while acknowledging various pathways according to each country's energy situation, industrial and social structures, and geographical conditions, we highlight that these should lead to our common goal of net zero by 2050." This was reflected in the document as Japan, Chair of the G7 Hiroshima, led the other G7 leaders to agree with its belief that multiple pathways to energy transition must be fully reserved for each country along with its circumstances as a common understanding among all the G7 leaders.

No matter what pathway each state chooses to follow, however, no one will be able to make steady progress toward energy transition without technological innovations that dramatically change the way in which each society utilizes energy. In order for clean technologies, such as renewables, energy storage, electrolyser, supply of hydrogen, ammonia, and synthetic fuel, CCUS, and so forth, to achieve commercial proliferation, their efficiency, sustainability, safety, and other technological standards should be swiftly enhanced to another level.

Furthermore, the very prerequisite for integration of clean technologies into society is a stable and resilient supply of critical materials and other raw materials indispensable for those technologies. But we witnessed many countries and regions struggle to secure fossil fuels during the First Oil Crisis that occurred about 50 years ago and recently again during Russia's invasion of Ukraine. As those lessons that we have learnt from the past struggling tell us, energy security cannot be ignored, even under energy transition.

On the other hand, there is a limit to how much decarbonized energy alone can meet massive increase in energy demand of emerging economies, especially Asia, which is expected to be a center of economic growth in the future. Therefore, fossil fuels, which have underpinned the current energy supply system, need to be considered for the way ahead to net zero by 2050. For the purpose of achieving carbon neutrality, it is critical to effectively deploy negative emission technologies as well as carbon offset schemes when fossil fuels continue to be used.

In this symposium, APERC and IEEJ will offer viewpoints on tackling the challenges described above under multiple pathways to carbon neutrality goal through discussions among prominent experts from various nationalities and backgrounds regarding the following topics:

- Technology enablers for energy transition strategy
- Sustainable supplies and use of critical materials for clean technologies
- Deployment of negative emission technologies and carbon offset schemes
- 1. Date/Time: April 19th, 2023 (Friday) 10:00-16:35 (in Japan Standard Time [JST])
- 2. Seminar type: Hybrid (In Person/Online (ZOOM) meeting)
 Venue: Grand Prince Hotel Takanawa Prince Room (3-13-1 Takanawa, Minato-ku, Tokyo, Japan)
- 3. Language: English/Japanese (Simultaneous interpretation)
- 4. Participant: Supporting Members only





Program (in Japan Standard Time) <<u>Japanese></u>

10:00-10:05	Opening Remarks	Mr. Tatsuya Terazawa, Chairman and CEO, IEEJ	
10:05-11:35	Session 1 "Technology enablers for energy transition strategy" ➤ How should R&D and scale-up investments of technology enablers for energy transition strategy be accelerated? ➤ What roles should business entities, governments, and other players fulfill in promoting scalable technologies for energy transition?		
	Moderator	Mr. Toshiyuki Sakamoto, Board Member, Director, IEEJ	
	Presenter	(Europe)	
	and	(US)	
	Panelist	(Japan)	
(10:05-10:50)	Presentation	(15min/person × 3 people)	
(10:50-11:35)	Panel Discussion & Q&A (45min)		

11:35-13:00 Lunch Break

13:00-14:30	 Session 2 "Sustainable supplies and use of critical materials for clean technologies" How can bolstering a supply chain of critical materials be attained? What conditions can solidify a sustainable and efficient use of critical minerals under various pathways to carbon neutrality? 		
	Moderator	Mr. Glen Sweetnam, Senior Vice President, APERC	
	Presenter	(Europe)	
	and	(MENA)	
	Panelist	(Japan)	
(13:00-13:45)	Presentation	(15min/person × 3 people)	
(13:45-14:30)	Panel Discussion & Q&A (45min)		

14:30-15:00 Coffee Break

15:00-16:30	 Session 3 "Deployment of negative emission technologies and carbon offset schemes" What are bottlenecks for rollout of negative emission technologies and carbon offset schemes? How can barriers for social acceptance of negative emission technologies and carbon offset schemes be identified and addressed? 		
	Moderator	Mr. Yoshikazu Kobayashi, Manager, Research Strategy Group, Research Strategy Unit,	
		IEEJ	
	Presenter	(US)	
	and	(Canada)	
	Panelist	(Japan)	
(15:00-15:45)	Presentation	(15min/person × 3 people)	
(15:45-16:30)	Panel Discussion& Q&A (45min)		
16:30-16:35	Closing	Dr. Kazutomo Irie, President, APERC	
	Remarks		

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