MRI International Webinar

Strategic Approaches to Strengthening Supply Chains

Enhancing Competitiveness through Regional Collaboration and Circular Economy

Summary of Discussion

Mitsubishi Research Institute

Center for Policy and the Economy

Overview of Webinar (1/2)

Date and Format

Date and Time: Friday, September 26, 2025, 15:30-17:30 JST, **Format:** Online

Background

- The landscape of resource security and international competitiveness is changing rapidly. As strategic export controls on critical minerals tighten, global brands are increasingly requiring the use of recycled materials in their products, introducing unprecedented uncertainty into corporate supply chains.
- Nevertheless, these shifts represent not only risks but also new business opportunities. By promoting integrated regional cooperation with ASEAN countries and advancing resource circulation, manufacturer can convert the growing volumes of metal scrap and waste plastics into “valuable resources,” thereby establishing a sustainable supply base and securing a competitive edge.
- This webinar will focus on how ASEAN countries can collaborate to transform these waste streams into safe, competitive sources of recycled materials and remanufactured parts. Drawing inspiration from Europe’s leading circular economy practices, we will explore the combination of policy innovations, market incentives, and corporate demand commitments needed to establish a cross-border collection and regeneration ecosystem that benefits industries on both sides.

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Overview of Webinar (2/2)

Agenda

Keynote Speech:

"Japan-ASEAN Circular Flows and Demand-oriented Policy and Market Design"
Mr. FURUKI Jiro, Research Director, Center for Policy and the Economy, MRI

Presentation:

1. **"From Packs to Power: The Promise ASEAN-Japan Circular Loops for E-Mobility and Clean Power"**
   ***Ms. Wen-Yu Weng**, Executive Lead for Critical Minerals, Ellen MacArthur Foundation (EMF)*
2. **"ASEAN's Circular Economy Efforts"**
   ***Mr. IWASAKI Fusanori,** Research Fellow, Research Department, Economic Research Institute for ASEAN and East Asia (ERIA)*
3. **"Promoting Circular Economy Design for Sustainable Resource Utilization: Industry Engagement and Transition"**
   ***Dr. Witchuda Daud**, Researcher, Plastic Technology Research Team (PLTT), Advance Polymer Technology Research Group (APTRG), National Metal and Materials Technology Center (MTEC), National Science and Technology Development Agency (NSTDA)*
4. **"Overview of Circular Economy Policy"**
   ***Mr. TAKAHASHI Koji,** Director for International Resource Circulation, Resource Economy Division, GX Policy Group, Ministry of Economy, Trade and Industry (METI), Japan*

Panel Discussion:

Panelists: Ms. Wen-Yu Weng (EMF), Mr. IWASAKI Fusanori (ERIA), Dr. Witchuda Daud (NSTDA), Mr. TAKAHASHI Koji (METI)
Moderator: Mr. NOMOTO Tetsuya, Head of Research (Energy and Circular Society), MRI

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[Keynote Speech] Japan-ASEAN Circular Flows and Demand-oriented Policy and Market Design

Outline



Mr. FURUKI Jiro (MRI)

- Today's topic is circular economy collaboration between ASEAN and Japan. ASEAN is both a global manufacturing hub and a hub for cross-border waste processing. Large volumes of plastics, metals, and used products are brought in every year. At the same time, domestic e-waste is rapidly increasing due to economic growth.
- Supply risks are rising, and price fluctuations and export restrictions create uncertainty for companies. Therefore, it is essential to shift from a linear model to a service-based circular model. Extending product life, reuse, and remanufacturing are critical.
- Here, an important point is that when we consider hidden costs—such as carbon pricing and waste disposal costs—recycled materials can actually be more competitive. Circularity is not just an environmental necessity but increasingly an economic rationality.
- For example, JEPLAN's PET chemical recycling technology enables repeated use without quality deterioration. JX Advanced Metals' recycled copper, produced under a mass-balance approach, ensures traceability.
- If stable demand exists in Japan, it can connect with ASEAN's supply predictability to realize mutually beneficial circulation. Priorities for cooperation include: (1) dismantling and proper treatment, (2) domestic resource loops, and (3) refurbishment and remanufacturing.
  In conclusion, stable Japanese demand can be the engine to jointly build a circular value chain with ASEAN.

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[Presentation1] From Packs to Power: The Promise ASEAN-Japan Circular Loops for E-Mobility and Clean Power

Outline



Ms. Wen-Yu Weng (EMF)

- With the expansion of renewable energy and electrification, demand for critical minerals such as lithium and cobalt is accelerating, and by the mid-2030s supply constraints are expected to become severe. Relying solely on mining expansion is unsustainable; redesign, reuse, and high-quality recycling are indispensable.
- As the first generation of EV batteries and renewable installations reach end-of-life, whether we see this as a “waste crisis” or a “resource opportunity” is up to us. Circularity must be embedded at the design stage, through modularity, easy maintenance, and service models such as Battery as a Service (BaaS) that extend lifespan and promote recovery.
- For Japan–ASEAN collaboration, opportunities include pilot projects for digital product passports (DPPs), creation of green corridors for cross-border resource flows, and the formation of buyers’ clubs on the demand side. These demand signals are crucial to trigger investments and scaling.
- In conclusion, the circular economy is not just about environmental response but a core competitiveness strategy. Aligning design, demand commitments, and cross-border cooperation is the foundation for future growth.

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[Presentation2] ASEAN's Circular Economy Efforts

Outline



Mr.Fusanori Iwasaki (ERIA)

- In ASEAN, end-of-life vehicles (ELVs) and e-waste will surge over the next 5–10 years, with informal sectors currently dominating dismantling and recycling, creating significant environmental and health risks. Regulations exist but their enforcement remains weak.
- Meanwhile, promising public–private models are emerging. In Malaysia, the AATF scheme enables priority acquisition of accident vehicles from insurers. In the Philippines, a JICA-supported model links large-scale dismantling with taxi companies. For EV batteries and data security, formalization is becoming urgent.
- The key is combining regulatory frameworks with market signals. Certification, standards, and traceability must be paired with long-term demand commitments to ensure investment recovery. Establishing regional recycling corridors will enhance transparency of cross-border flows.
- Japanese demand and standards complement ASEAN's supply capacity and cost advantage. Through standardization, human resource development, and staged transition support, the costs of moving from informal to formal systems can be absorbed.
  In conclusion, synchronizing policy, demand, and operational capacity will enable ASEAN to provide safe and competitive secondary resources as a new growth foundation.

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[Presentation3] Promoting Circular Economy Design for Sustainable Resource Utilization: Industry Engagement and Transition

Outline



Dr. Witchuda Daud (NSTDA)

- MTEC, as Thailand’ s national materials and manufacturing R&D center, pursues both industrial competitiveness and circular economy innovation. Our work rests on three pillars: technology collaboration, capacity building, and knowledge sharing to support industrial transition.
- Circularity must be addressed from the design stage. It is not just about functional design but ensuring compatibility with standards, infrastructure, and markets. Extending lifecycles, linking products with services, and modular design for remanufacturing are essential. Recycling is never free—design choices determine both costs and value.
- ASEAN industries are midstream-centric and import-dependent, with potential in localized bio-based feedstocks and in the large but fragmented end-of-life sector. Empowering informal actors to become formal secondary resource suppliers is critical to closing the loop.
- Over the past 4–5 years, we have supported more than 22 companies and 24 projects nationwide. Many firms are moving beyond recycling issues to embrace remanufacturing and new service models. The key enabler is data—mapping inflows/outflows, defining KPIs, and conducting LCA/CFP analyses under ISO 59004 to design transition roadmaps.
- In conclusion, business as usual is no longer sufficient. By beginning with design and embedding long-term value creation, we can realize true circularity. MTEC is committed to supporting industry in this journey.

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[Presentation4] Overview of Circular Economy Policy

Outline



Koji Takahashi (METI)

- Japan has advanced 3Rs, and in the Circular Economy Vision 2020 reframed them from “environmental activities” to “economic activities.
- Japan’s legal framework includes the Basic Act for Establishing a Sound Material-Cycle Society, various product-specific recycling laws and the Act on Promotion of Resource Circulation for Plastic. The main challenges are: i)Resource constraints and procurement risks (concentrated supply, low self-sufficiency), ii) Environmental issues (disposal difficulties, CN-driven demand for low-CO_2 materials), iii) Growth opportunity (capital outflow due to rising resource prices)
- In response, METI positions CE market creation as part of its global strategy and acts across the entire lifecycle. Upstream: design for circularity, recycled material use, and sharing/subscription models. Downstream: transforming the waste industry into a resource supply industry through R&D support, demonstration, equipment investment, and information platforms.
- Promotion is based on industry–government–academia collaboration, investment support, and regulatory reform. The Circular Partners (CPs), with over 700 participants, discusses practical implementation issues. A 10 billion yen support program aids R&D and equipment investment for product life extension and recyclability, while the amended the Act on the Promotion of Effective Utilization of Resources shifts focus toward circulation-oriented policies.
- In conclusion, Japan aims to implement a growth-oriented, resource-autonomous economy through the three pillars of design, service models, and recycling.

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Summary of Panel Discussion (1/2)

Points of Discussion

- **Regulatory effectiveness**
  - Enforcement is weak; informal actors relocate to avoid oversight.
  - Integrated legal, financial, and policy actions are needed to create functioning markets.
- **Demand signals**
  - Buyers' clubs and collective commitments are essential to trigger investment.
  - Concepts such as AMCs and long-term contracts can also be applied to resource circulation.
- **Design and technology**
  - Circularity at the design stage—modularity, remanufacturing—is essential.
  - Importance of testing facilities and pilot equipment to validate circular designs and reduce practical barriers.
  - BaaS models extend product life and facilitate recovery.
- **Cooperation models**
  - Malaysia and the Philippines offer transferable public–private partnership models.
  - Stable Japanese demand can anchor ASEAN supply predictability.
  - DPP pilots in ASEAN could leverage EU experiences.

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Summary of Panel Discussion (2/2)

Points of Discussion

- **Shared recognition:**
  - The circular economy is a competitiveness strategy, not just an environmental response. Key priorities are demand-side commitments, transitioning from informal to formal systems, and design/technological innovation. Stable Japanese demand can drive ASEAN supply, accelerating circular value chains.



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