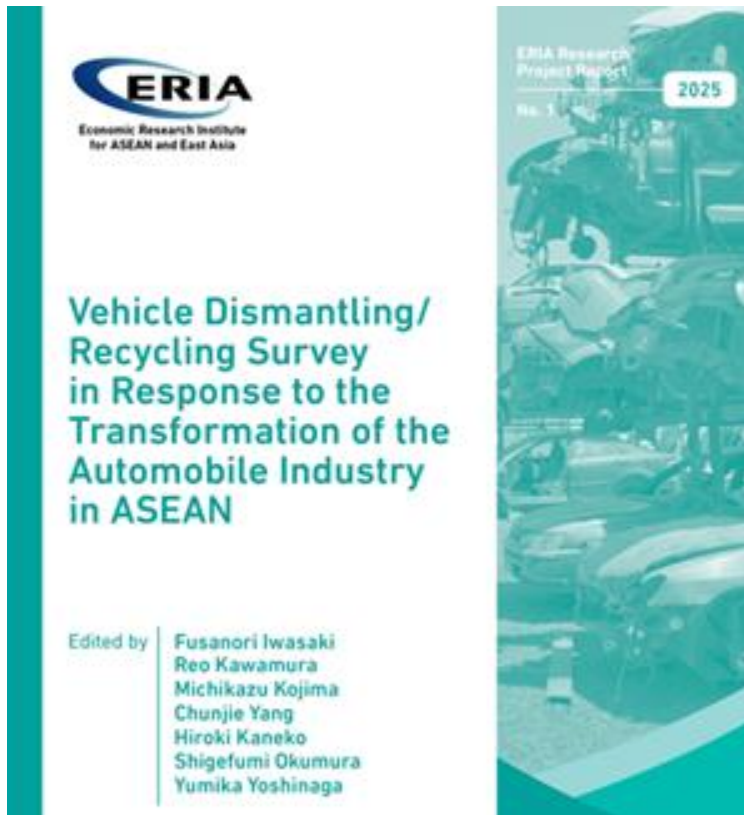


# Vehicle Recycling and Dismantling in ASEAN

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Malaysia-Japan Environment Week

Session 6: Promoting Resource Circulation of ELV including Batteries

October 15, 2025

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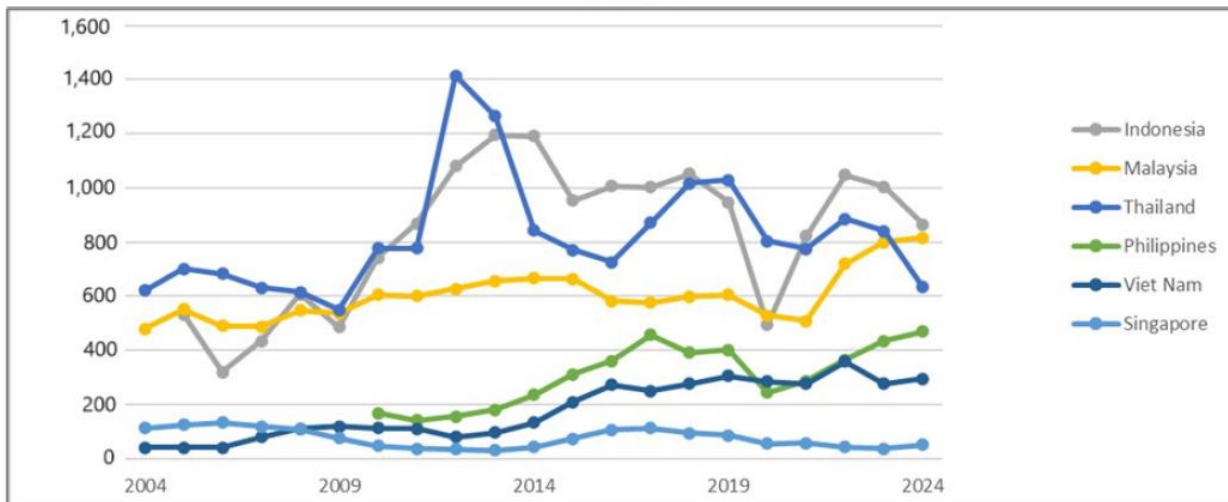
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## 1. Robust Economic Growth and Population Increase

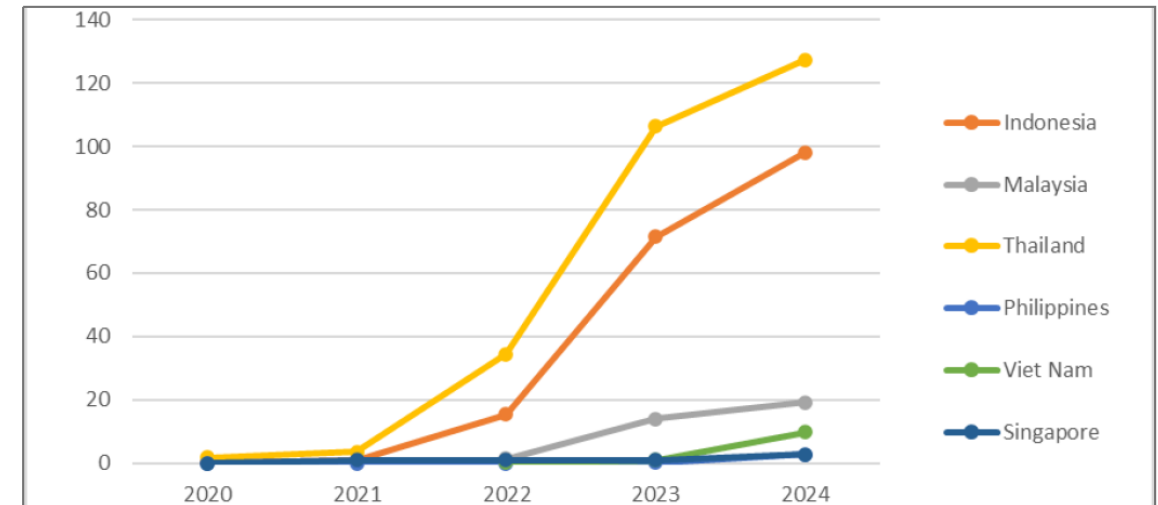
- Increase the number of automotive sales and end-of-life vehicle (ELV), both ICE and EV.
- Age limit for ICE: 20-30 years. EV (battery): About 10 years.

Figure 2.1. Automotive Vehicle Sales in Selected ASEAN Member States, 2004–2024  
('000)



Source: MarkLines, 'Search by Model/EV/etc.', [https://www.marklines.com/ja/vehicle\\_sales/search](https://www.marklines.com/ja/vehicle_sales/search) [accessed 11 March 2025].

Figure 2.2. Electric Vehicle Sales in Selected ASEAN Member States, 2020–2024  
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Source: MarkLines, 'Search by Model/EV/etc.', [https://www.marklines.com/ja/vehicle\\_sales/search](https://www.marklines.com/ja/vehicle_sales/search) [accessed 11 March 2025].

## 2. Dominance of Informal Sector

- The informal sector is involved in dismantling. These people make a living by extracting reusable parts and reselling them, but they also have the potential to directly cause negative externalities such as environmental problems and health hazards, such as by not properly disposing of CFCs and waste oil.

## 3. Hazardous for the Environment and Human Health

- Due to lack of infrastructure, equipment, lacking necessary laws and regulations, as well as increasing costs, many players for dismantling are not taking care of hazardous chemicals on their processes.

# Basic Overview: Informal Sector

- Dismantles manually, which is not efficient in terms of the number of dismantled cars per day, compared with mechanical dismantling.
- Removed parts are carefully sorted for resell.
- Some have roofs and concrete floors to prevent oil/liquid leakage.
- Some pay attention not to create noise and odor during dismantling.
- No devices for CFC collections.



(Figure 2.10 and 2.14)

# Enablers for Proper Dismantling



## 1. Regulations:

- Regulate the activities of informal sectors
- Regulate the owners: inspection system
- Regulate the maximum usage ages

## 2. Incentives:

- Proper incentives for formal dismantlers/recyclers

## 3. Market change:

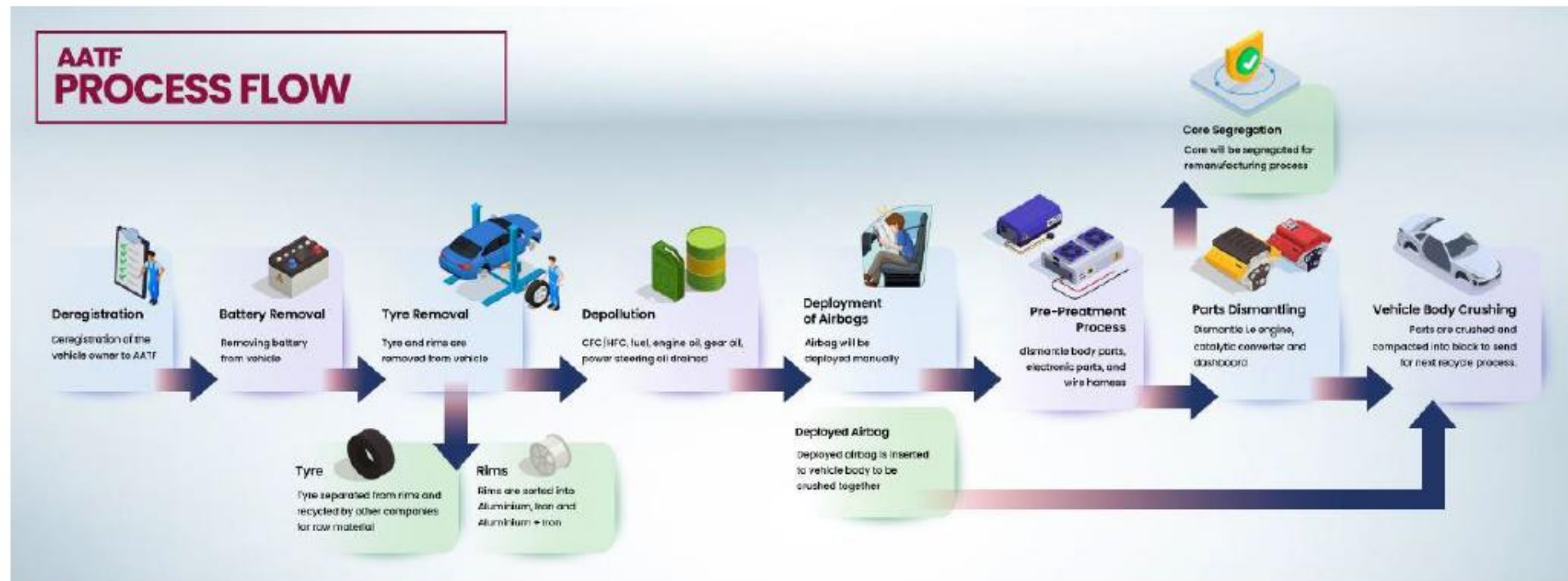
- Electrification of vehicles



# Good Practices for Regulation

## Malaysia Case (Automotive)

Figure 2.11. Authorised Automotive Treatment Facility Process



Source: MARii, 'Authorised Automotive Treatment Facility (AATF) Application', <https://marii.my/authorised-automotive-treatment-facility-aatf-application/>

# Good Practice: Car Medic (Malaysia)

- Waste oil, liquid and coolants are collected. Wastewater is treated.
- Mechanized and efficient dismantling.
- Sorted lithium-ion batteries, hazardous liquids and scheduled waste.



Remove Parts and Waste Liquid



Leaked Liquid Filtration  
(3-step system, left to right)



Dismantling Using Nibbler

Sorted Lithium Batteries



Hazardous Liquids



Sorted Waste



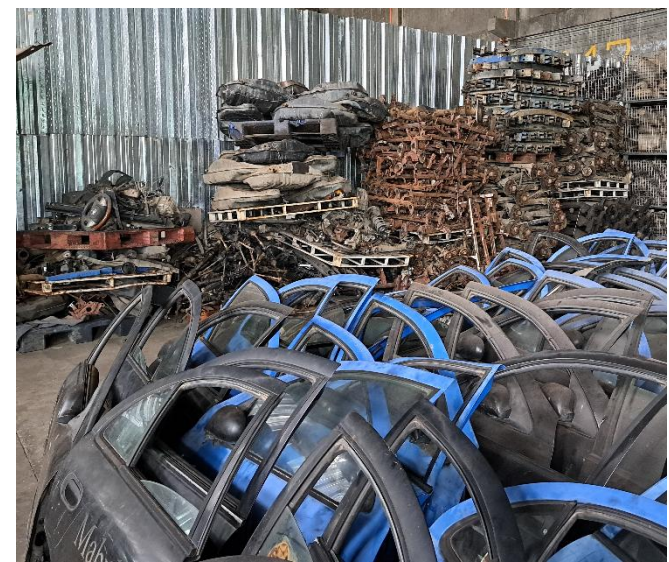
(Figure 2.12 and 2.15)



# Good Practice: En Tsumugi (Philippines)



- Waste oil, liquid and coolants are collected and properly treated.
- Manual but well-recorded and efficient dismantling.
- Well-sorted parts.



(Authors' photos)



# Do you find any difference?



(Figure 2.10)



(Author's photo)

# Electrification: EV Battery Recycling

- Disposal and recycle of EV battery require special equipment and technology, due to its specific safety risks.
- **Bangpoo Environmental Complex (Thailand)** performs the incineration process for HEV batteries. Residues are sent to Japan for further recycling to be utilized as materials of stainless metals.

Incinerator for Batteries



Battery Residue



(Figure 2.31)

# Recycle and Repurpose of EV Batteries



- **Sungeel Hitech (Malaysia)** dismantles various kinds of EV batteries to extract precious metals, which are sent to Republic of Korea to produce new EV batteries. Including this, Malaysia has three battery-recycling companies using Korean and Chinese technology.
- **VinFast (Viet Nam) and Marubeni Corporation (Japan)** are collaborating to promote EV battery recycling and repurposing. Based on MoU in 2023, they utilize VinFast EV's used batteries for energy storage systems for commercial and industrial customers.



# Enablers for Proper Dismantling



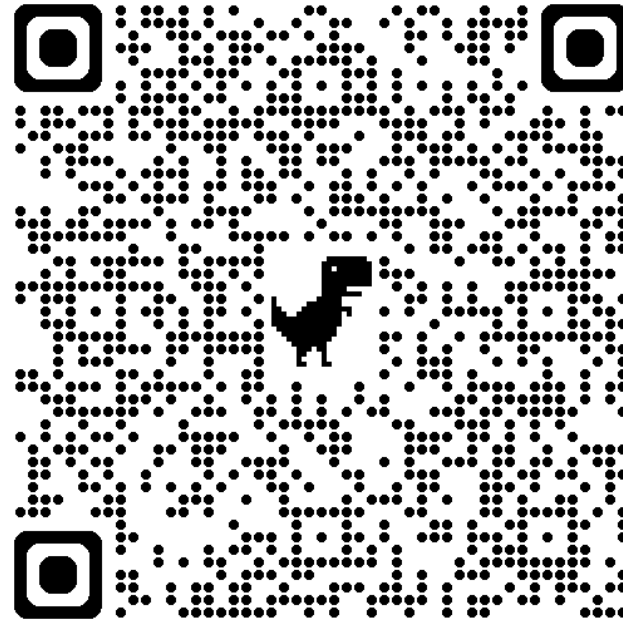
- Dismantler authorization system: Need to set some advantages.  
E.g. providing crashed vehicles from insurance companies
- Contract with commercial vehicle companies (Taxi, Truck etc.) to receive certain amount of ELVs frequently.
- Electrification: different platform is necessary.

- All AMS should establish legislation or systems on appropriate ELV dismantling and recycling in consideration of their own national circumstances in terms of the economy and capability.
  - Abundant informal sector, insufficient capacity for ELV dismantling
  - Some good business practitioners are emerging to make value-added to proper dismantling/recycling in various ways.
  - Insufficient number of proper dismantler: Incentive is the key.  
**Formal dismantlers struggle to compete with informal businesses** in terms of price and flexibilities.
  - AMS are pursuing own approaches to improve ELV dismantling.  
**Appropriate approach depends on national circumstances.**

- Abundant informal sector activities in Southeast Asia
- **Formal dismantlers struggle to compete with informal businesses** in terms of price and flexibilities.
- Some good business practitioners are emerging to make value-added to proper dismantling/recycling in various ways.
- Insufficient number of proper dismantler: Incentive is the key.



- Iwasaki, F., R. Kawamura, M. Kojima, C. Yang, H. Kaneko, S. Okumura, and Y. Yoshinaga (eds.) (2025). Vehicle Dismantling/Recycling Survey in Response to the Transformation of the Automobile Industry in ASEAN, ERIA Project Report. ([https://www.eria.org/uploads/Vehicle-Dismantling-Recycling-Survey-Automobile\\_Industry.pdf](https://www.eria.org/uploads/Vehicle-Dismantling-Recycling-Survey-Automobile_Industry.pdf)) [Photos from this publication]



(QR code to the report)

Thank you for your attention!