Summary of Online Transportation Seminar Outcomes and Future Challenges

ASEAN-Japan Energy Efficiency Partnership (AJEEP)

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ASEAN's Journey Towards CN Efforts in Logistics Transportation

From energy demand, decarbonising freight would be crucial moving forward

- Private Passenger Vehicle and **Trucks (Freight)** are two main energy consumers in the sector under ATS
- Electrification and alternative fuels development will be the key lever

Intra-ASEAN trade is the backbone of ASEAN, underscoring need to improve efficiency

- Contribute to around 20% of ASEAN Total Trade
- Singapore and Thailand as International Cargo Hub
- Varying level of logsitic performance across ASEAN Member States (LPI)
- Road dominates the mode of logistics transportation across AMS

A number of initiatives in ASEAN to improve logistics efficiency, requiring actual implementation and collaboration

- ASEAN Economic Blueprint towards greater connectivity
- Master Plan on ASEAN Connectivity 2025, Framework ASEAN Supply Chain Efficiency and Resilience
- While these frameworks provide direction, implementation requires collaboration across AMS and sectors

Translating strategies into actions

- Sustainable infrastructure, key trade corridor, digital supply chain → pilot GHG monitoring
- Modal shift, greening trucks/labelling
- Driver: integrated biofuel supply in ASEAN, ASEAN green ship strategy, SAF and H2

Next Generation BEV: Direction and Challenges

Global EV's share constantly growing, showcasing accelerated adoption

- 25% of global automotive sales in 2024
- Increase from only 4% by 2020, indicating technology maturity and cost competitiveness
- China drives the growth, BEV is slowing, PHEV is gaining traction in China. The other region plateau

Barriers to EV growth ranges from electricity prices to safety

- BEVs regular passenger → large battery capacity → require quick charging, more expensive → does not provide economic advantage in Japan
- Cases related to safety distrust consumers
- US need long distance travel more than the other region. EV owners opt to return back to ICE due to this concern. Cold snap → need for heating → reduce range

Innovation for future development is expected

- In Japan, all-solid-state battery is being developed by key manufacturers
- Enhance safety, improve charging time, resistance to high temperature
- Perovskite PV is exercised to be integrated to generate additional power
- Wireless power transfer to charge while running

CN beyond electrification

- Hydrogen and CN fuel utilization are equally important to achieve CN in transport sector

Japan's EE&C Act to decarbonize transport (commercial vehicles)

Next-gen Vehicles are key levers to decarbonize transport in Japan

- 46% of emission reduction target is expected coming from next-gen vehicles (BEV/PHEV/FC)
- Passenger vehicles: 100% EV and synthetic fuel by 2035, Trucks by 2040

Revised EE&C Act to promote CN in transport

- Act on the rational of energy use → becomes Act on the rational of energy use and conversion to non-fossil
- Business operators are required to submit mid-long term plan to convert to non-fossil energy use and periodical reporting
- Applied to **specified consignor** 30,000k t.km or more, **specified carrier passenger transport**: owns over 200 buses or 350 cabs
- Guideline : monitor % utilization target of non-fossil vehicle share (EV/PHEV/Biofuel)

Government's subsidy to drive changes

- Subsidy ranges from ½ ~ 2/3 for Next-gen vehicles and charging infrastructure, depending on budget
- LEVO, JATA, JCMA to accelerate the spread of low carbon vehicles across business operators
- Subsidy for low carbon diesel trucks → who comply with fuel efficiency standard

Moving forward

- Hydrogen and CN fuel utilization are equally important to achieve CN in transport sector
- 5 priority area/prefecture for Hydrogen society, subsidy H2
- All-solid-state to reduce the need of charging infrastructure → productivity x6

Strategy as a "Consignee" and Build a Logistics Strategic Partner Relationship

Company's goals align with sustainability

- Support health and wellness of customers, while facing challenges in distribution
- 21k km distance travelled every day for logistics requiring lot of energy

Turn the problems into strategic action

- Increase distribution values, uncertainty of prices from third-party logistics (fuel cost, driver availability, etc)
- New strategy required: open book approach (strategic partners with outsourcing partner and 3PL)
- Proactive role by consignor: order delivery ratio, delivery arrival time, lead time

Spreading the lesson

- Hokkaido Logistics Study Group to collectively find solution for distribution challenges
- 40+ companies and observers
- Study: effective use of returning empty trucks, operator certification, digital matching for joint deliveries, streamlining distribution businesses

Challenges and Way Forward in ASEAN

Technological and Infrastructure Gap
Limited EV charging and Hydrogen refueling station hinder adoption, esp for commercial vehicles

Financial and Institutional Barriers
High upfront to shift, limited financial support from government

Policy and Regulatory Challenges
Lack mandatory vehicle efficiency or non-fossil fuel target, absence standard of alt fuels, current ASEAN Framework remain on policy level, absence of obligation reporting

Market Readiness
Low awareness, concern resale value

Translating Policy Framework in Operational Mechanism
Standard, guideline, implementation

Enhance Digital Integration
Monitor LPI to align with CN goals

Fuel Economy on Trucks/Feight
Standard to promote adoption of high-efficient vehicles in business operator

Mandatory Reporting System for Business Operator
Track progress of consignor on improving efficiency

Align with the latest technology
Transfer technology and approach from best practices (all-solid-state, perovskite PV, shipment strategy)

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Thank You