

International Workshop on Quality Road Infrastructure

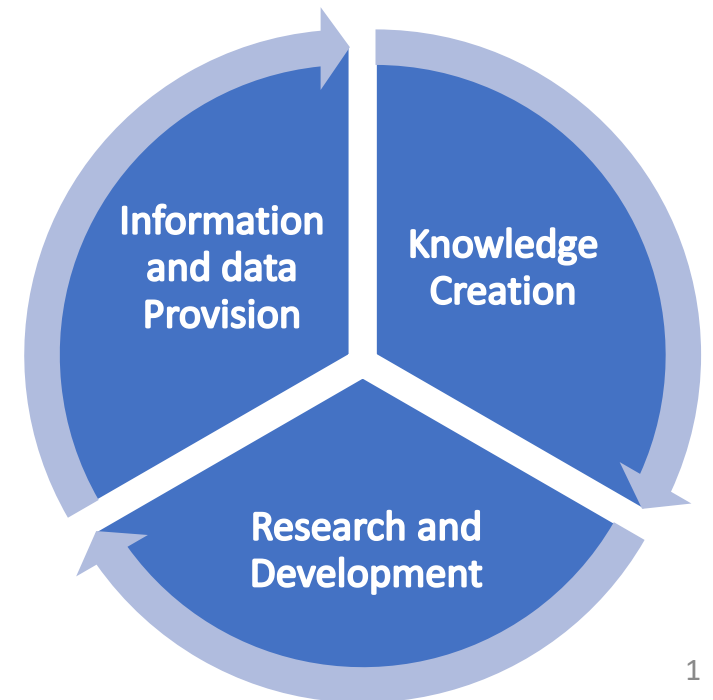
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United Nations University, Tokyo, Japan

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Outline presentation

1. Introduction to the Workshop and Environmentally Sustainable Transport (EST)

- Workshop Objectives
- EST and Aichi 2030 Declaration
- EST goals and Workshop Objectives
- Tracking Aichi 2030 Declaration

2. Good Practice of Low Carbon Infrastructure

- Cement Industry in Japan
- Innovative Cement Technologies for Low Carbon Society (Japan Cement Association)
- Carbon Recycled Concrete (Taisei Construction Ltd.)

3. Other topics related to the Workshop

- Mainstream sustainable transport in the SDGs
- Contribute to National Development

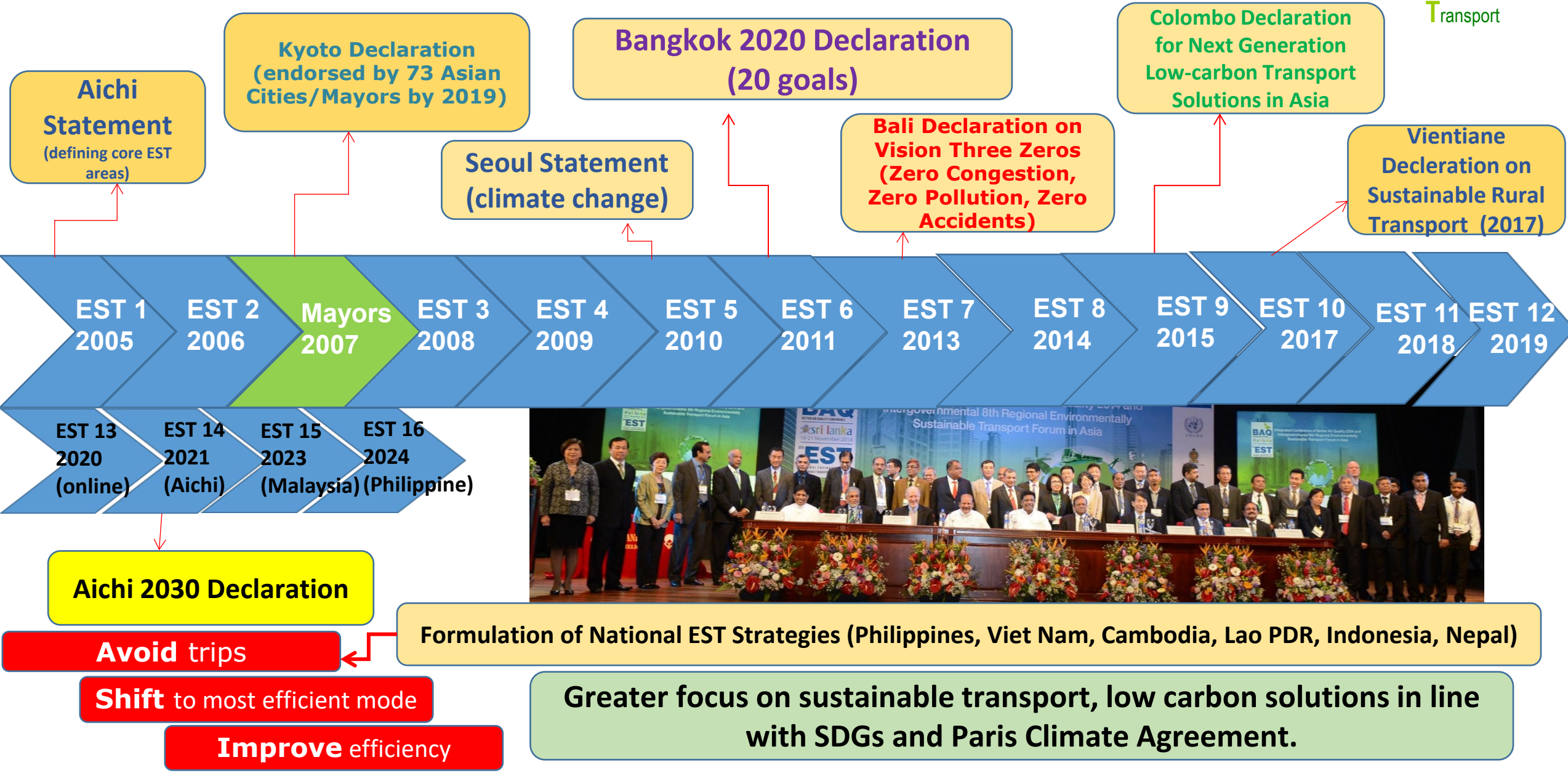
Workshop Objectives

- To enhance knowledge on climate change mitigation and adaptation measures in the road sector, with a focus on disaster prevention and mitigation;
- To deepen understanding of advanced technologies in road infrastructure, including low-carbon materials, de-carbonization technologies, and structure durability;
- To broaden knowledge on road maintenance and management strategies, such as inspections and aging management technologies, and
- To provide a platform for policymakers, planners, engineers, and government officials to exchange insights, experiences, and best practices on using advanced technologies to build high-quality, resilient, and sustainable road networks.



EST Initiatives

Environmentally
Sustainable
Transport



1-3. Goals under Aichi 2030 Declaration

AICHI 2030 DECLARATION (2021-2030)

ADOPTED BY THE MEMBER COUNTRIES ON 20 OCT 2021 AT THE
14TH REGIONAL EST FORUM IN ASIA

Aichi 2030 Declaration (2021-2030) for Achieving Universally Accessible, Safe, Affordable, Efficient, Resilient, Clean and Low-carbon Passenger & Freight Transport in Asia

- **Goal 1 - Environment sustainability**
- **Goal 2 – Road safety**
- **Goal 3 - Economic sustainability**
- **Goal 4 - Rural access**
- **Goal 5 - Urban access**
- **Goal 6 - National access and connectivity**



1-4. EST Goals related to the Workshop

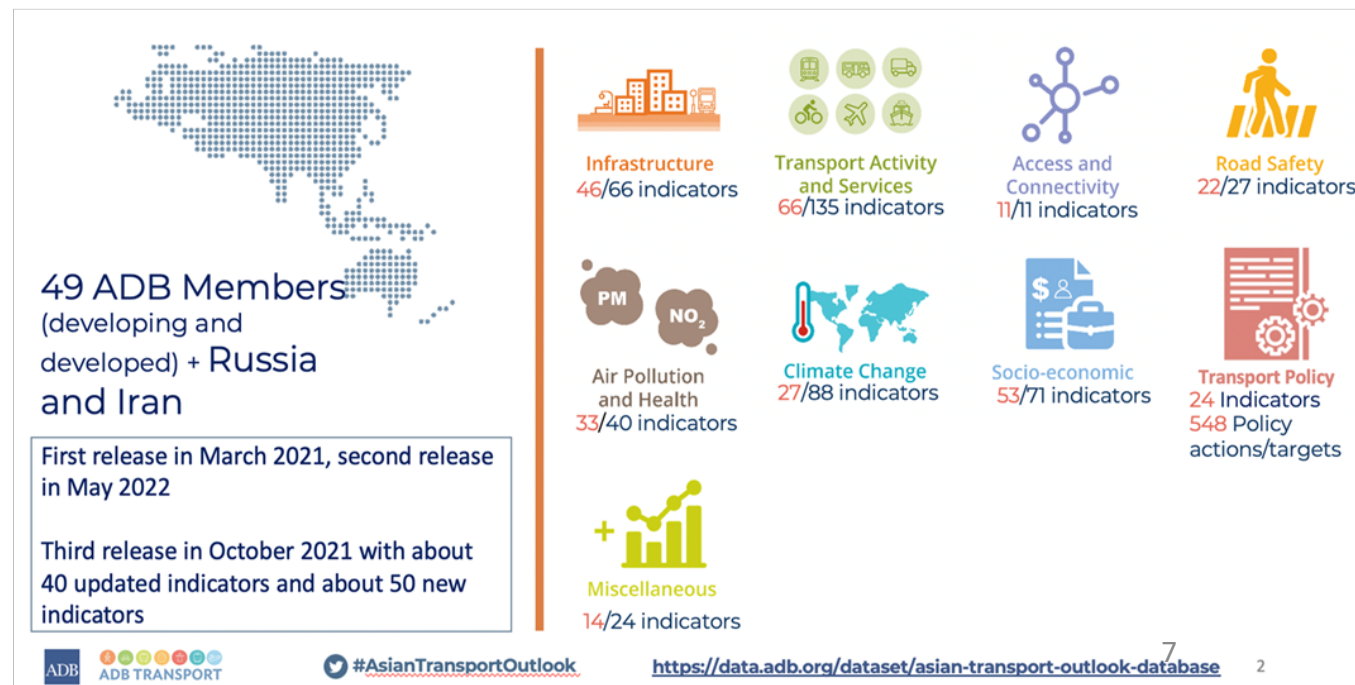
- **Goal 1 Environment sustainability:** By 2030, **improve the environmental sustainability of transport** in Asia for the following areas:
 - ✓ **Goal 1a – Low-Carbon (climate change mitigation):** By 2030, **aim to peak transport CO2 emissions and initiate reductions in transport related CO2 emissions**, or shortly thereafter (Based on SDG 7.2, 9.1, 13.2, Paris Agreement with the intention to move towards decarbonization of the transport sector by 2050ent);
 - ✓ **Goal 1b – Resilience:** By 2030, **increase resilience and adaptive capacity of transport system to climate-related hazards** and pandemics such as COVID-19. (Based on SDG 13, Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015-2030);
 - ✓ **Goal 1c – Air pollution:** By 2030, reduce air pollution and contamination caused by traffic, including PM2.5, other air pollutants and noise. (Based on SDG 3.9, 11.6).
- **Goal 3 - Economic sustainability:** By 2030, **realize sustainable economic and employment growth by leveraging science, technology and innovation and green investments in quality passenger and freight transport infrastructure** and services in a manner that fully incorporates environmental and social impacts throughout the lifecycle of the transport infrastructure and services, (Based on SDG 8.4, SDG 9.1, 12.1 and 12.c).

Tracking the Aichi 2030 Declaration - Complementary Relationship between Aichi 2030 Declaration & Asian Transport Outlook

*Aichi 2030
Declaration
(2021—2030)*

*Asian
Transport
Outlook*

- Tracking the implementation of goals of the Aichi 2030 Declaration using a set of agreed indicators (Annex 2) which are in line with the agreed upon SDG indicators (mainly SDG Tier 1 & Tier 2).
- ATO provided a Baseline report for the Aichi 2030 Declaration (regional status with country data in Annex)
- The data for reporting on indicators will be from the ATO, which will serve as a reference for tracking implementation of the Declaration.
- Tracking of national policies, institutional arrangements and funding in support of the Declaration.
- EST member countries will be requested to submit annual progress reports inline with standardized reporting guidelines (capacity building training workshop).
- The information provided through the country reports will be combined with relevant policy information collected through the ATO.



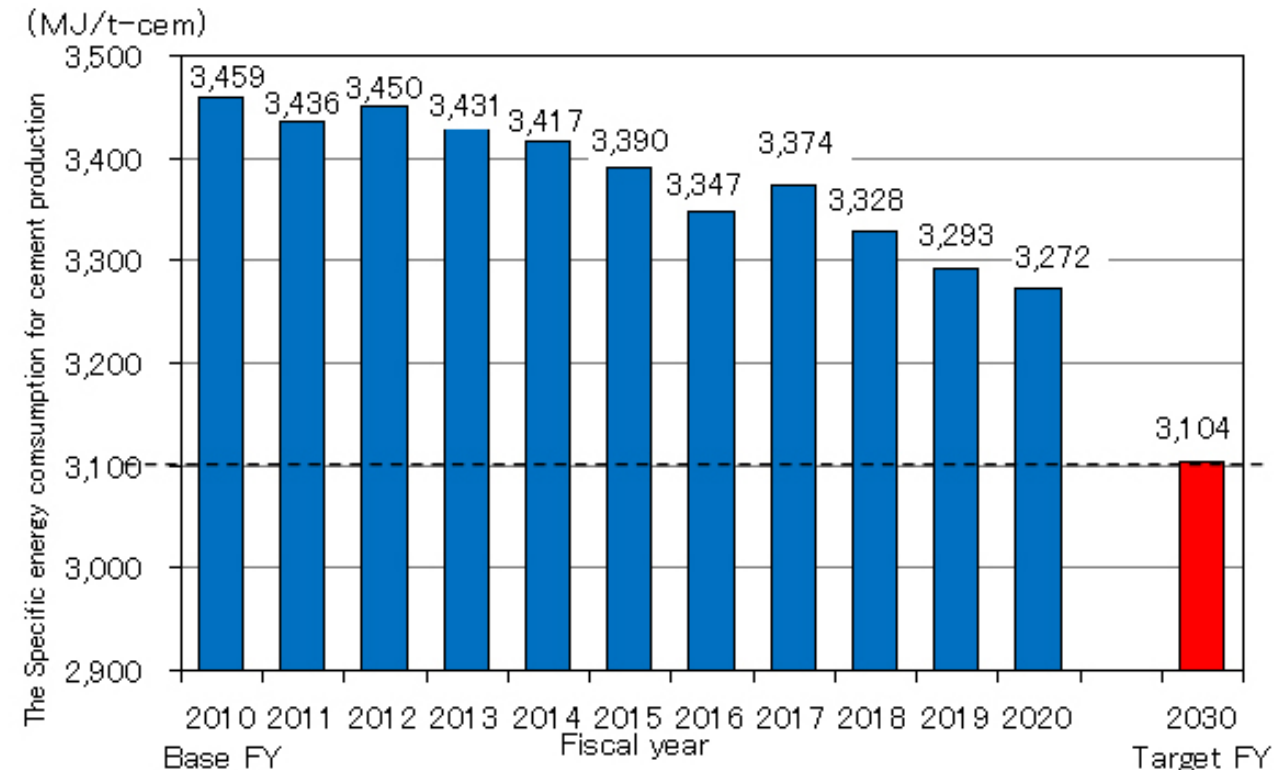
2-1. Good Practice by Japan Cement Association

Commitment to a Low-Carbon Society by Japan Cement Association

- Japanese cement industry is continuously challenging an improvement on the energy efficiency through “Commitment to a Low Carbon Society (the Japan Business Federation)”. The target of this plan is to reduce an overall energy consumption for cement production from 3,459 (MJ/ton-cem) in FY 2010 to 3,104 in FY 2030.

Definition of “Energy consumption for cement production”

$$\begin{array}{l} \text{“Energy consumption for cement production”} = \\ \text{[thermal energy for cement production**]} \\ + \\ \text{[thermal energy for on-site power generation**]} \\ + \\ \text{[purchased electric power]} \end{array}$$

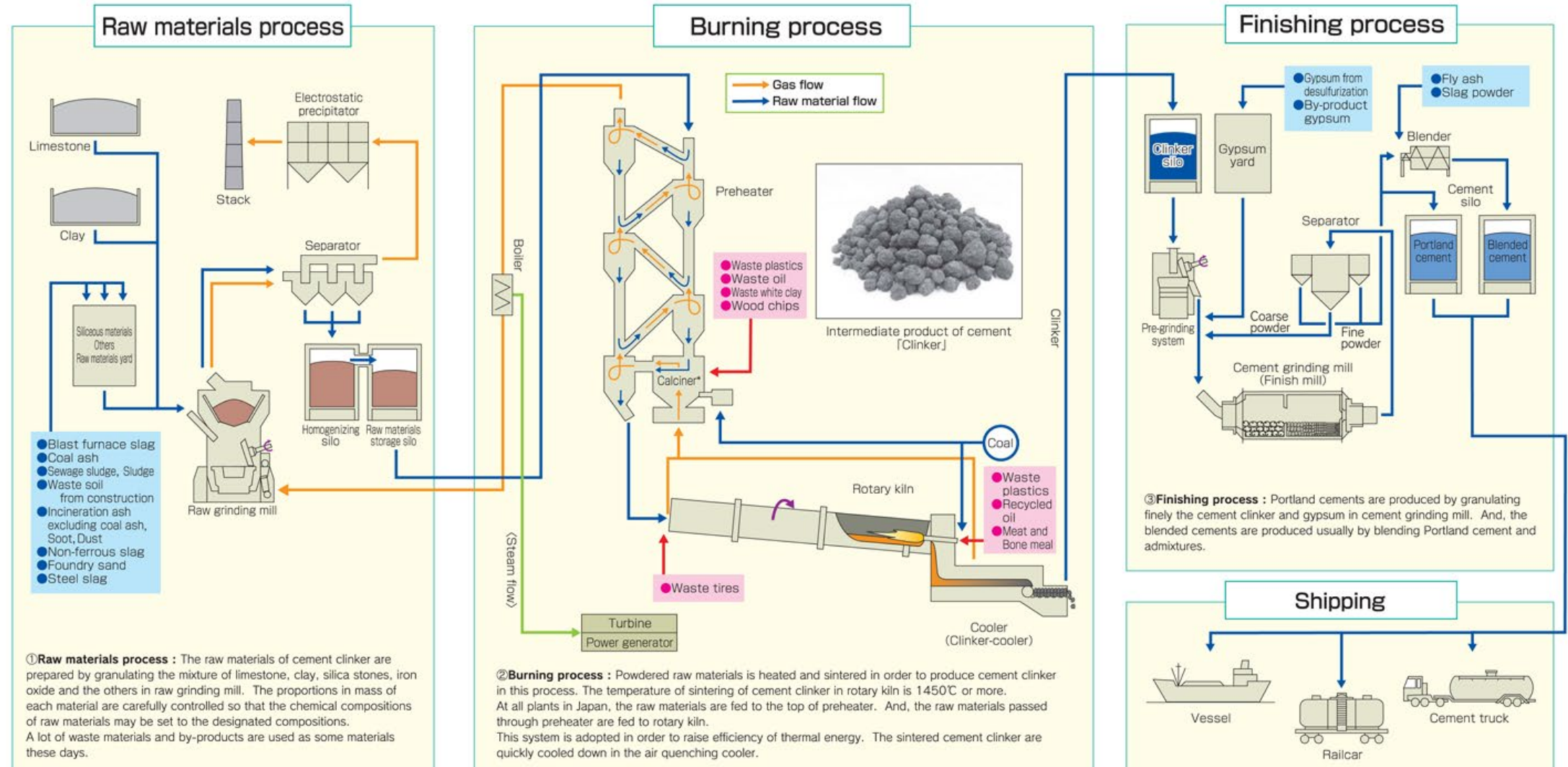


(Source) https://www.jcassoc.or.jp/cement/2eng/e_01.html

Figure 7 The specific energy consumption for cement production

2-2. Innovative Cement Technologies for Low Carbon Society

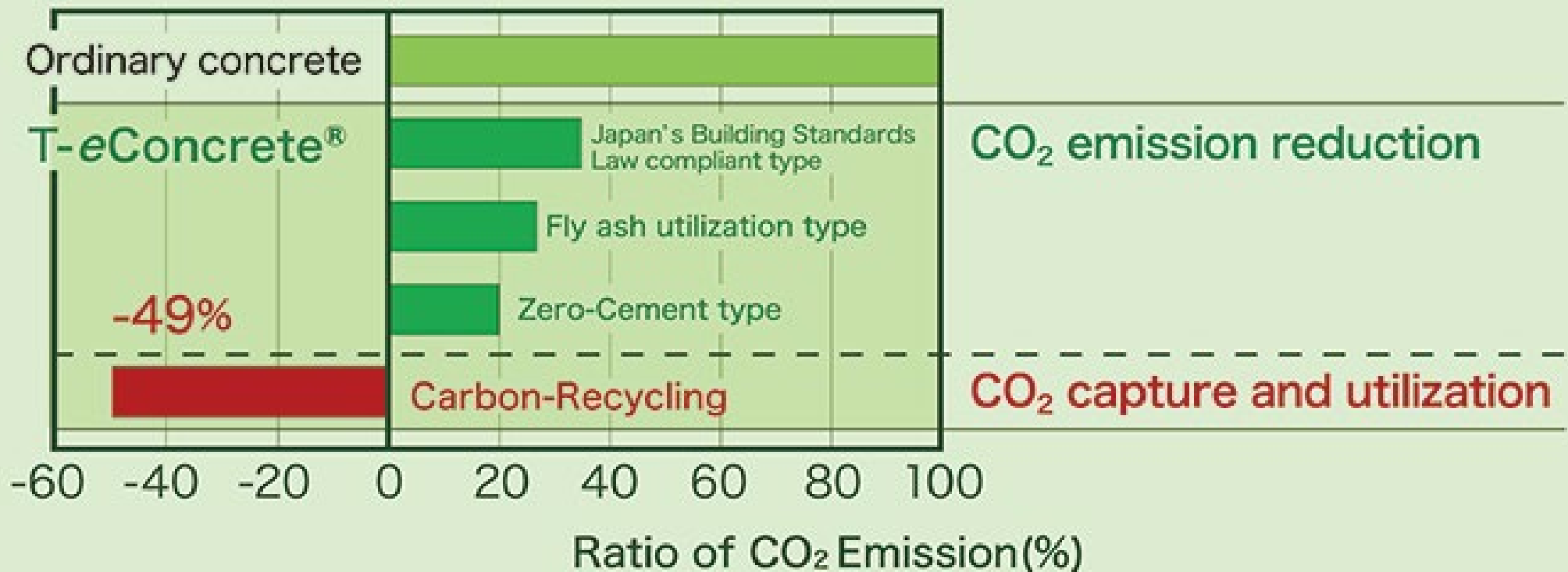
Efficient use of thermal energy consumption for cement production by Japan Cement Association is in the following 3 stages.



(Source) https://www.jcassoc.or.jp/cement/2eng/e_01.html

2-3. Concrete Technologies (Taisei Construction Ltd.)

T-eConcrete® limits the amount of cement used, maintains the same strength and workability as ordinary concrete and is also able to reduce CO₂ emissions. And Carbon-Recycling Concrete has been developed with calcium carbonate manufactured by absorbing CO₂ from exhaust gas.



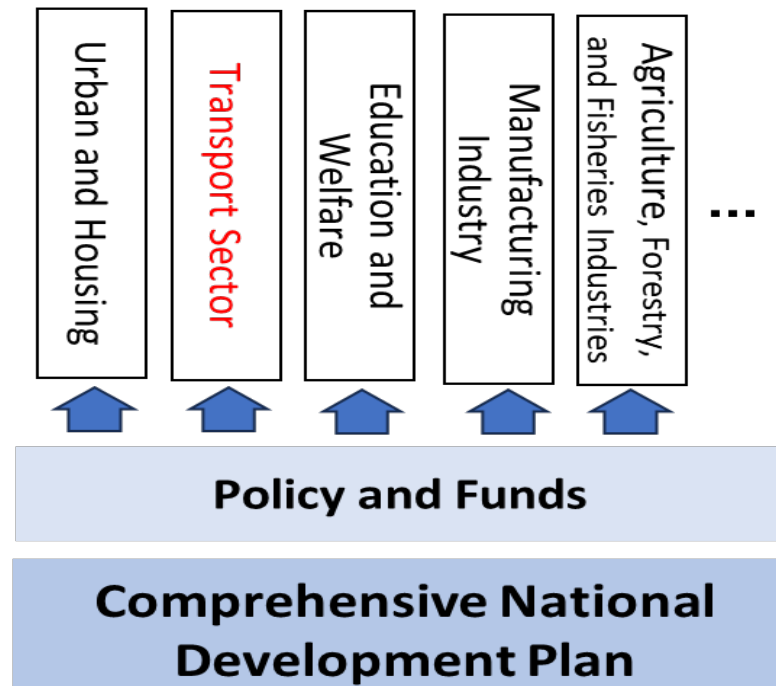
Mainstream Sustainable Transport in the 2030 Agenda for Sustainable Development Goals: Transport is essential for progress on all the SDGs..

- Better accessibility to essential utilities ([SDG 1](#))
- Efficient supply chain and logistic reducing food grain loss ([SDG 2](#))
- Safe, clean and low-carbon transport solutions ([SDG 3](#))
- Improved transport access to schools & universities ([SDG 4](#))
- Better access to job, healthcare, childcare, women empowerment ([SDG 5](#))
- Clean inland water transport towards better water quality and protection of water-related ecosystems ([SDG 6](#))
- Fuel economy, clean and low carbon transport system and technologies transport ([SDG 7](#))
- Accessibility to employment, job, training, sustainable tourism, trade ([SDG 8](#))
- High-quality, resilient, sustainable transport infrastructures and services towards economy, well-being, equitable access ([SDG 9](#))
- Sustainable transport for all sections of society including vulnerable groups, regionwide economic integration covering SIDS, land-locked and least developed countries ([SDG 10](#))
- Efficient and reliable urban mobility for all, including vulnerables ([SDG 11](#))
- Fuel economy, energy efficiency, NMT, efficient supply chain towards minimizing food losses & post-harvest losses ([SDG 12](#))
- Sustainable and low carbon transport solutions, NMT, fuel economy, energy efficiency ([SDG 13](#))
- Sustainable maritime transport to reduce marine pollution ([SDG 14](#))
- Sustainable transport infrastructure development without affecting terrestrial ecosystems (forests, wetlands, mountains, etc.) and their services ([SDG 15](#))
- Effective, accountable and transparent transport institutions ([SDG 16](#))
- Enhanced collaboration and partnership among transport stakeholders ([SDG 17](#))



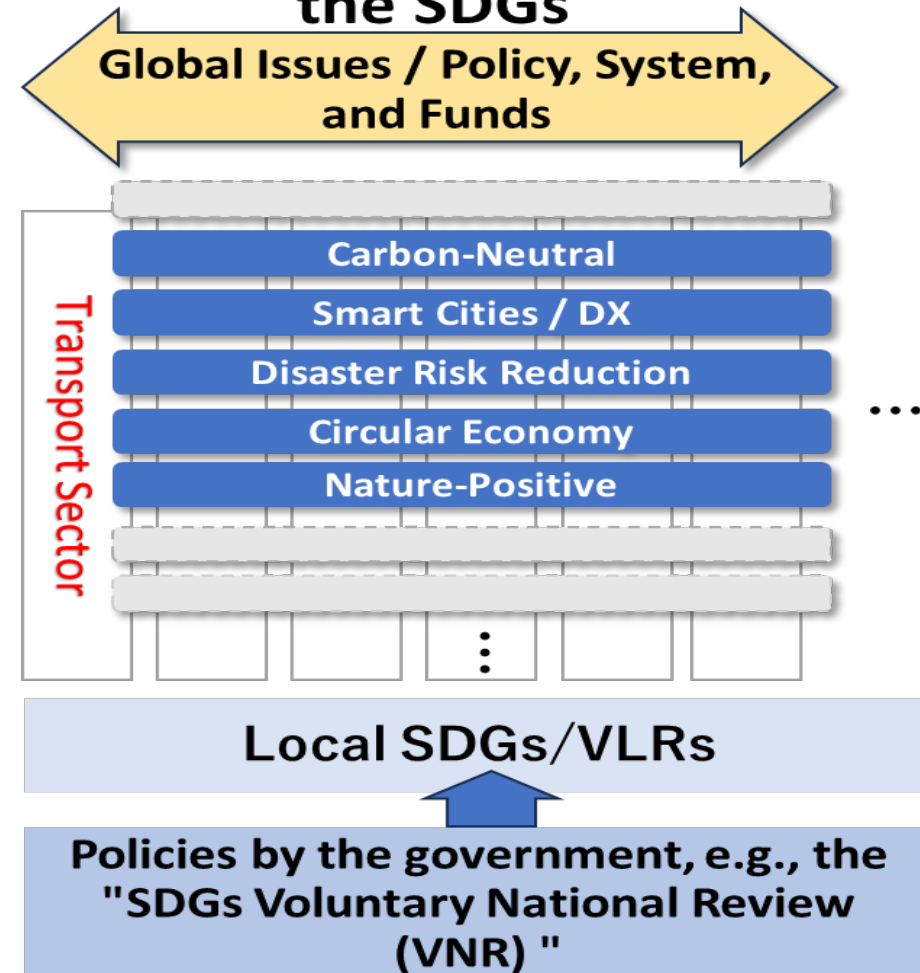
Integrating Sustainable Transport Strategies into overall National Development Plans

Development model in Japan during 1970's - 1980's



The long-term development plans for cities, roads, and social infrastructures were formulated under the Comprehensive National Land Development Act (1962-)

Approach to achieving the SDGs



Thank
You

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Information Center
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