

Toyota Environmental Challenge 2050

Toyota's commitment to Environment & Sustainable Society

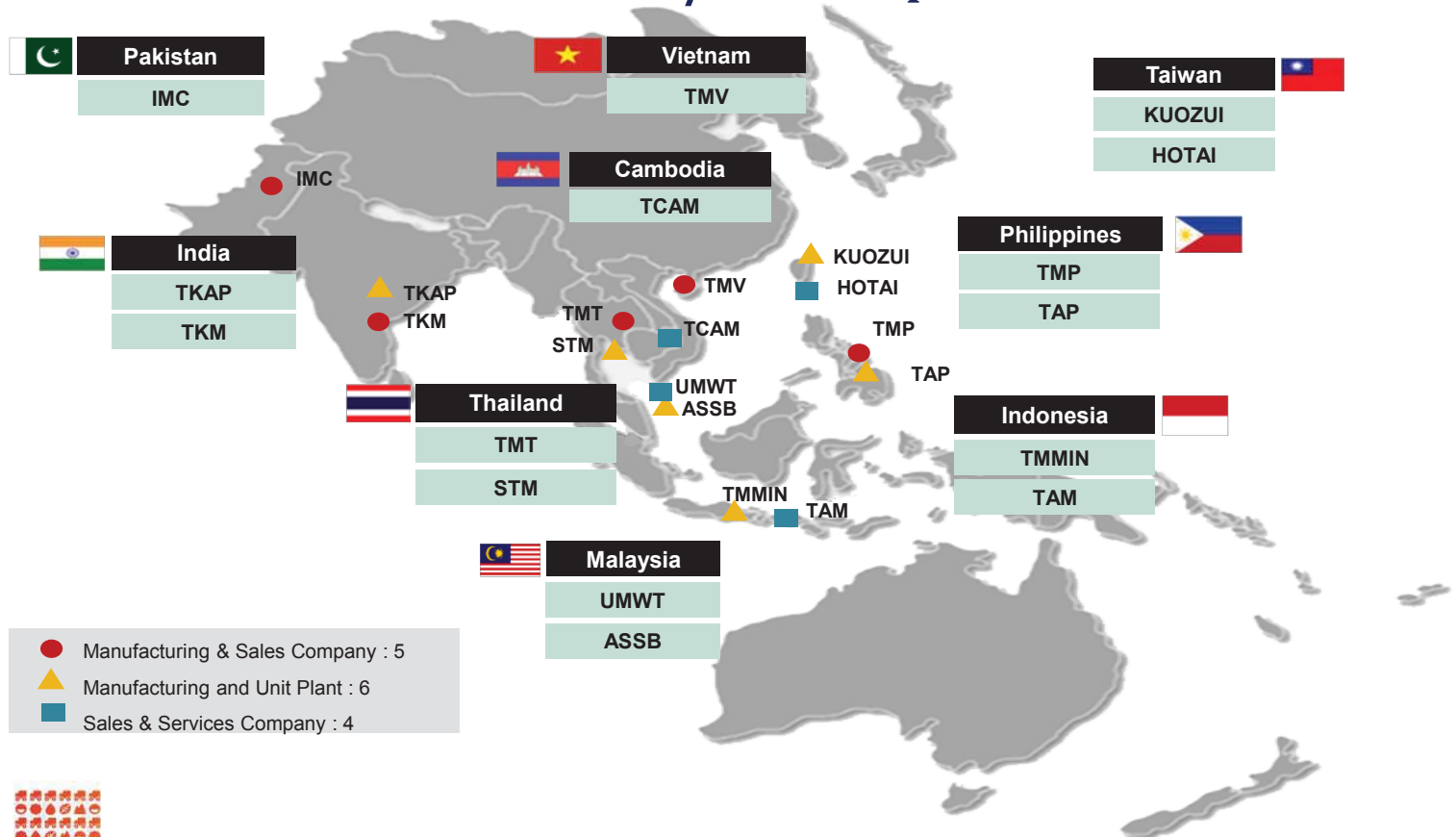
Yoshiaki Ishimoto
Vice President
Toyota Daihatsu Engineering & Manufacturing

ASEAN SUTAINABLE ENERGY WEEK at BITEC
TOWARD SUSTAINABLE MOBILITY

Our regional scope

1

9 Countries / 15 Companies



In 2015

"Toyota Environmental Forum"

~Toyota Environmental Challenge 2050~



Toyota Environmental Challenge 2050

Challenge to Zero & Beyond









For future generation children,
we need new challenges overlooking
for the next two to three decades.



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Three “CO₂ ZERO Challenges” Three “Net positive Challenges”

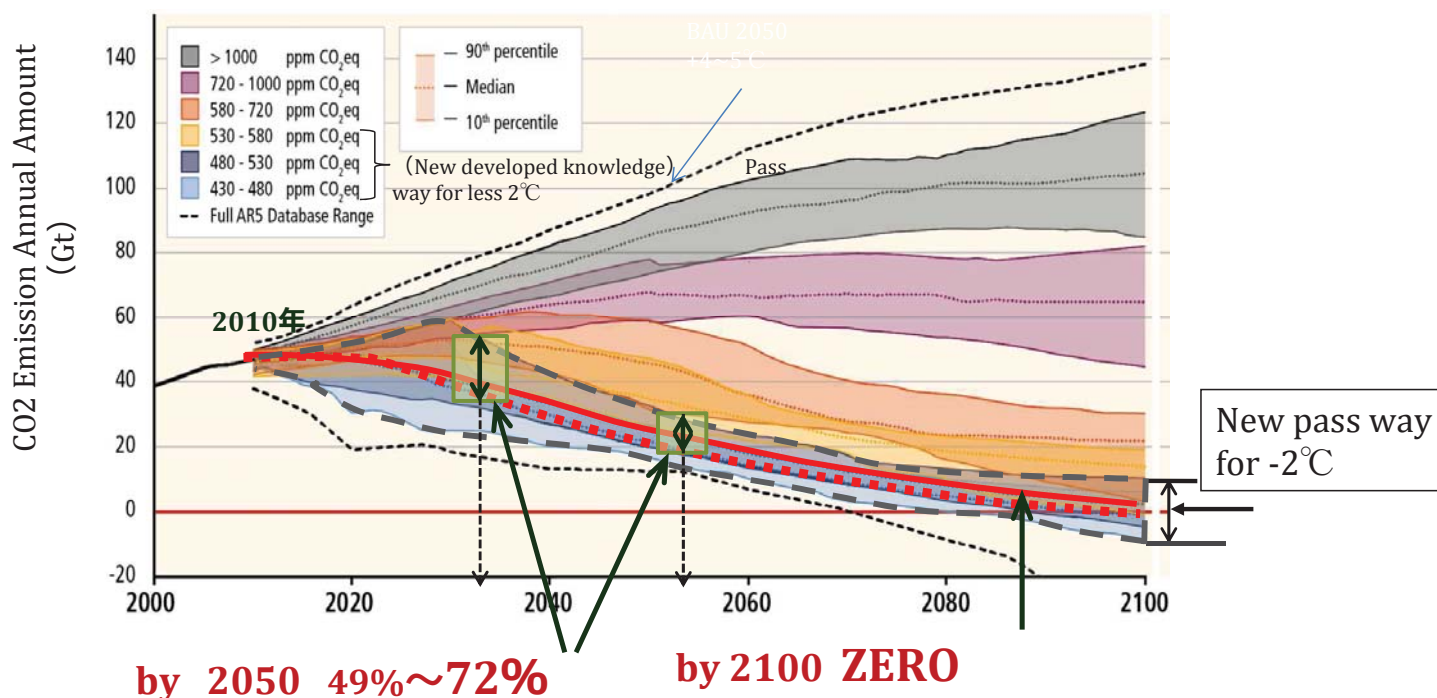
Zero Challenges	 ① New Vehicle CO ₂ Zero ▲90% by 2050 Numerical	Develop & Disseminate Next Generation car We aim at -90% CO ₂ by corroborating with society and stakeholders
	 ② Life Cycle CO ₂ Zero	DfE (Design for Env) from material to waste
	 ③ Factory CO ₂ Zero Zero CO ₂ by 2050 Numerical	Evolutional technology for Low carbon processes Use of Hydrogen and RE
Net Positive Challenges	 ④ Minimizing & Optimizing Water usage	Minimizing usage and Return cleaner water
	 ⑤ Recycling-based society & systems	Recycling system & tech'gy Global expansion
	 ⑥ Future society in Harmony w/nature	3 “connect” concept - Connect with community - Connect to the world - Connect to future

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Challenge 1 - New Vehicle Zero CO₂ Emissions



Based on “**Less than -2°C** scenario” by IPCC AR5
<New Science based knowledge IPCC AR5 2014>



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Challenge 1 - New Vehicle Zero CO₂ Emissions

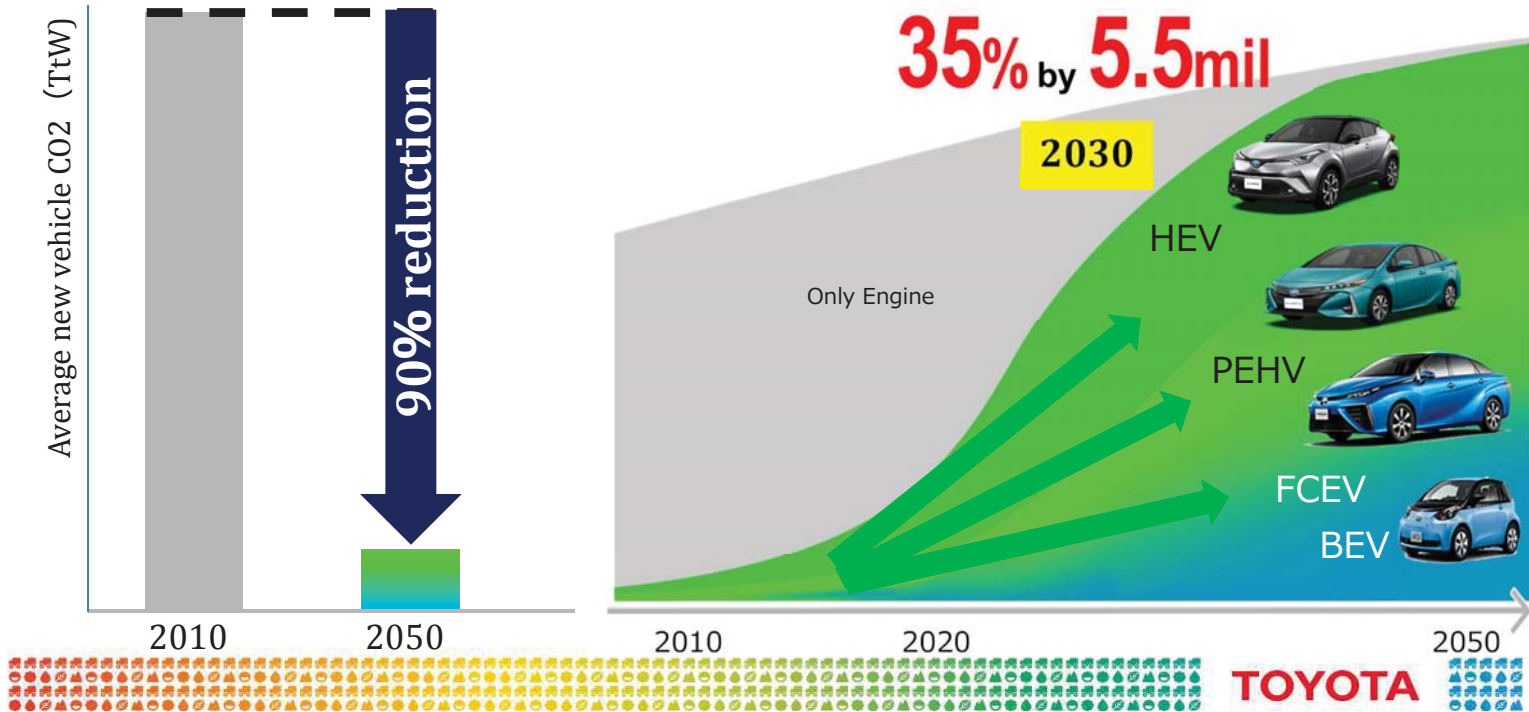
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Product

Reduce 90% of New Vehicle CO₂ emissions

Challenge Target



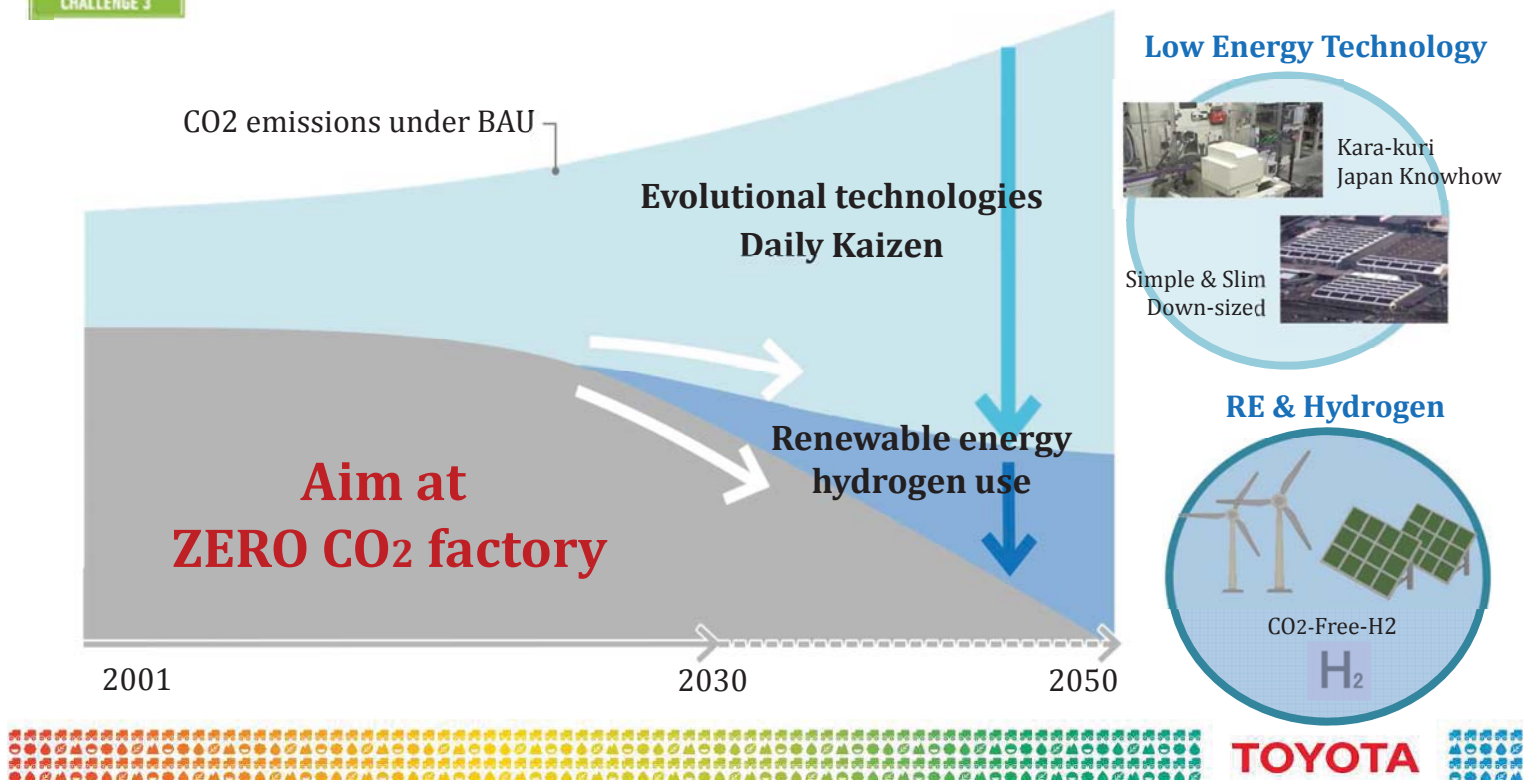
Challenge 3 - Plant Zero CO₂ Emissions

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Plant

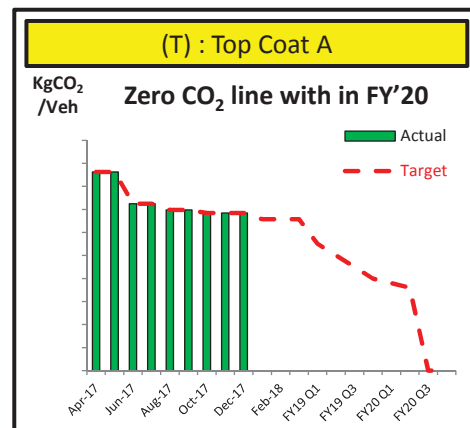
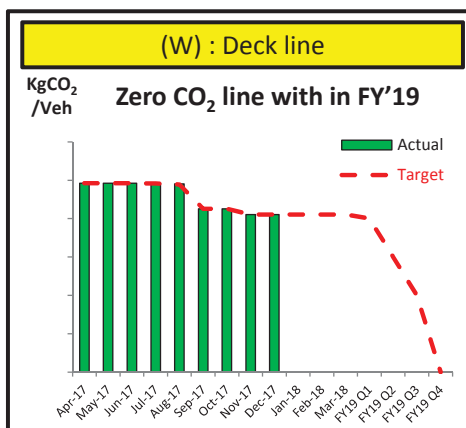
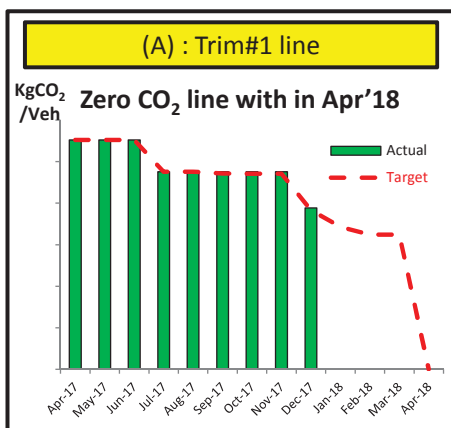
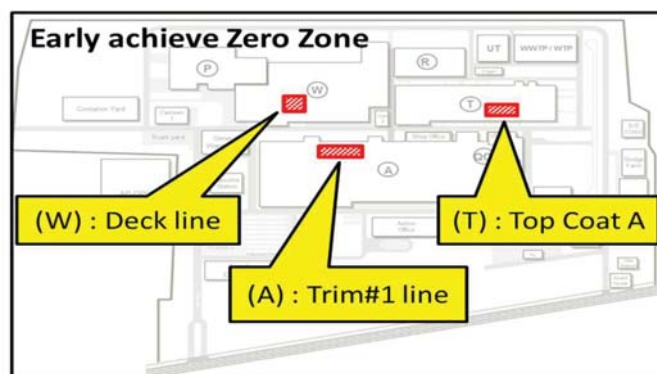
Zero CO₂ Emissions in all Toyota factories



Challenge 3 - Plant Zero CO₂ Emissions

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Result of **CO₂ ZERO Model Line** (Thailand)



Challenge 3 - Plant Zero CO₂ Emissions

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Approach to increase **Renewable Energy usage** in ASEAN



India



Thailand

Vietnam



Taiwan



Philippines



Indonesia

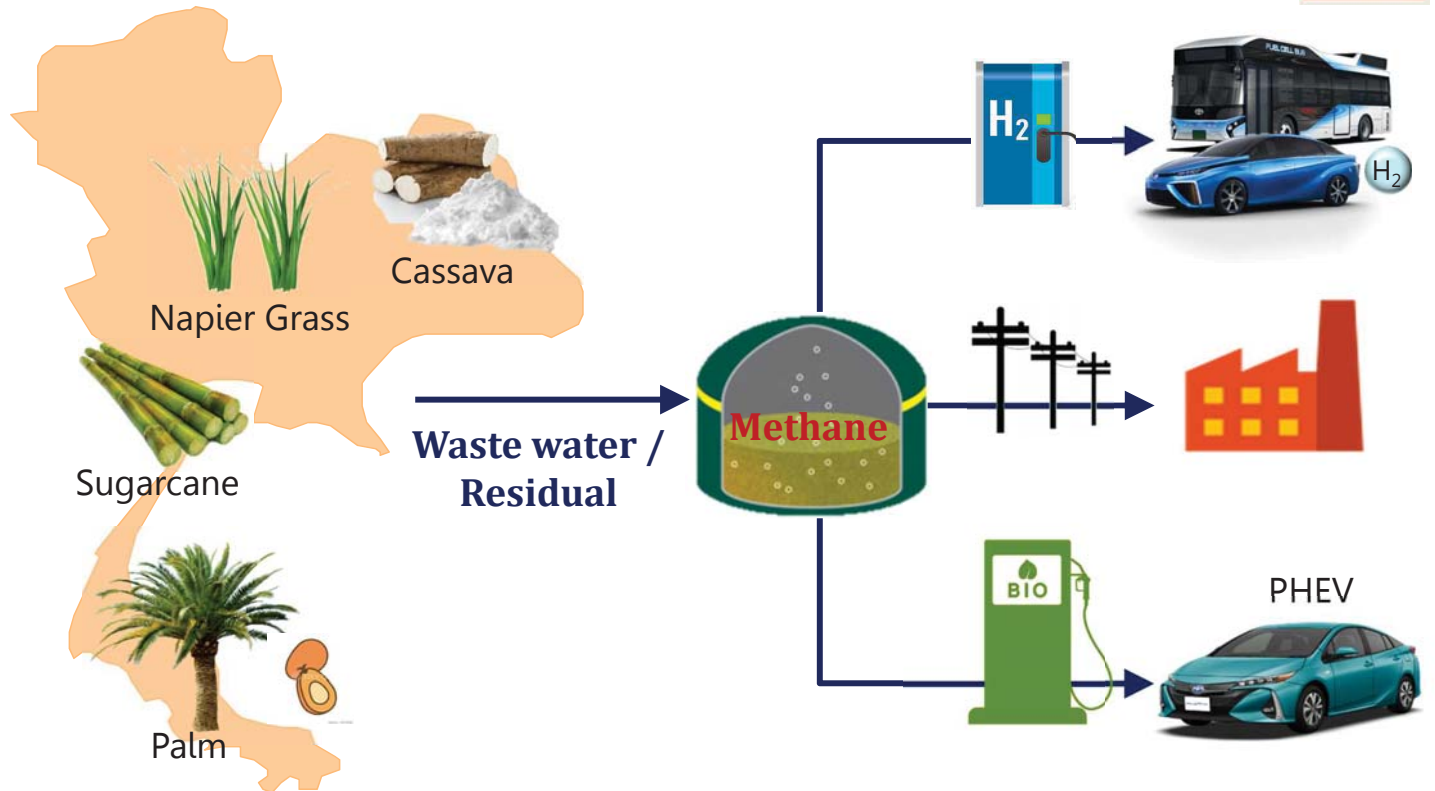
Malaysia



Challenge 3 - Plant Zero CO₂ Emissions

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New Renewable Energy sources - **Biomass** (Under development)



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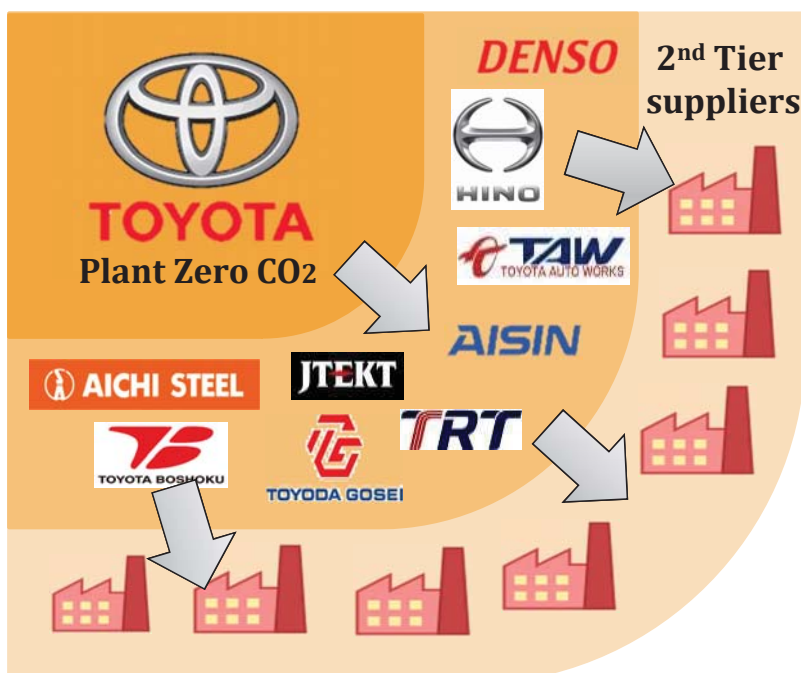
Challenge 2 - Life Cycle Zero CO₂ Emissions

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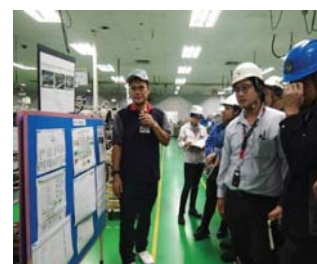


Life cycle

Zero CO₂ Emissions in entire vehicle life cycle



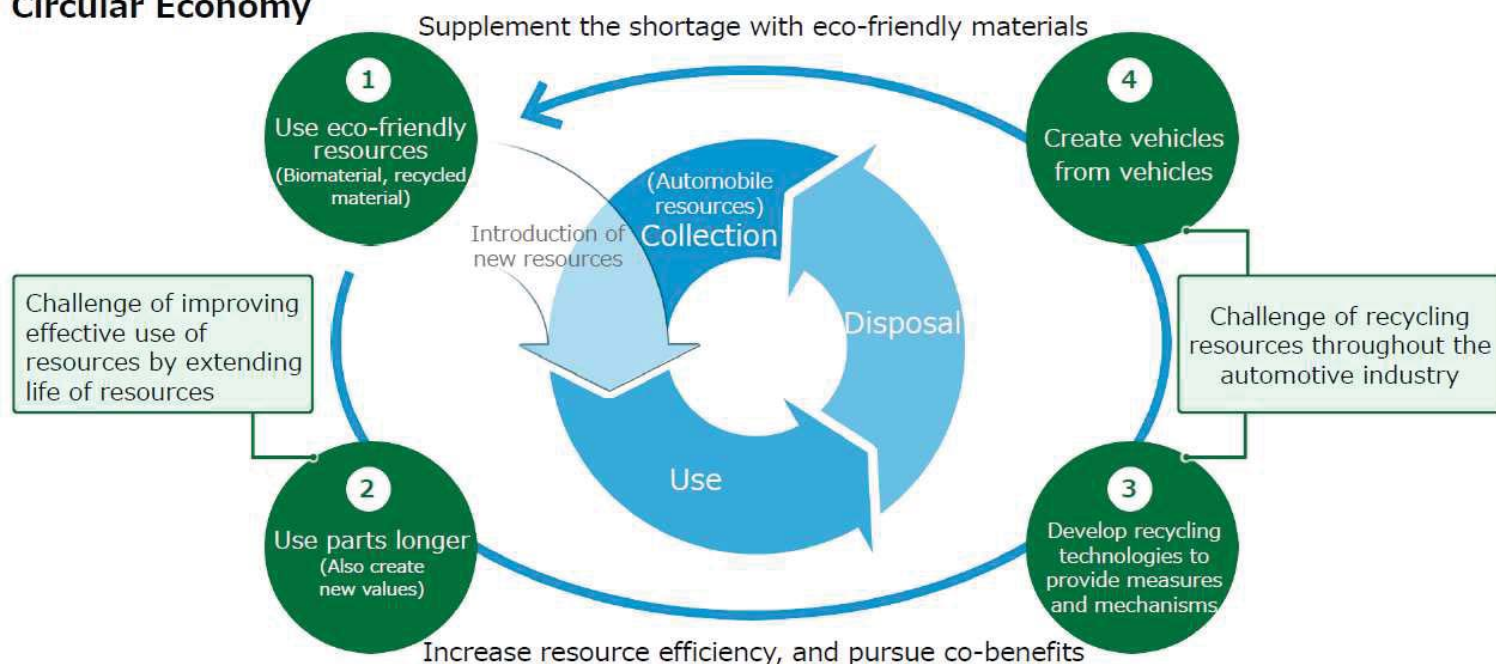
Monthly observation and support CO₂ reduction activities



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Circular Economy

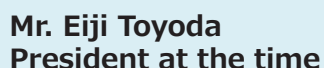


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Establish recycling technology and integrate it into the value chain with Toyota and group

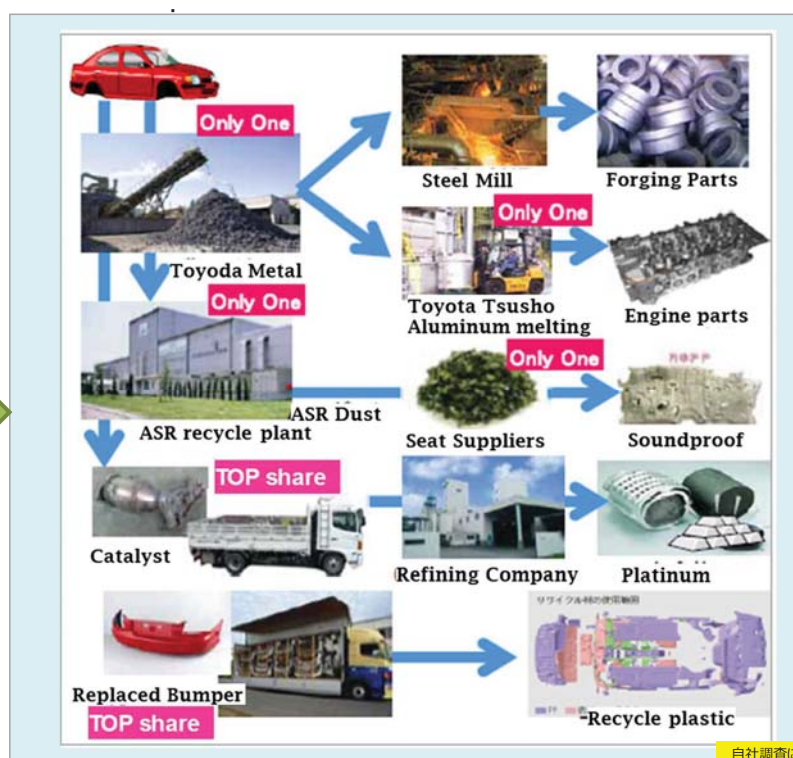


"It's time to think about proper disposal and recycling schemes, assuming massive disposal." At Toyota Group Morning Meeting the following day, Toyota Tsusho decided to establish a recycling company

In 1970

World's first automobile company established a shredder company

Toyota Metal Corporation



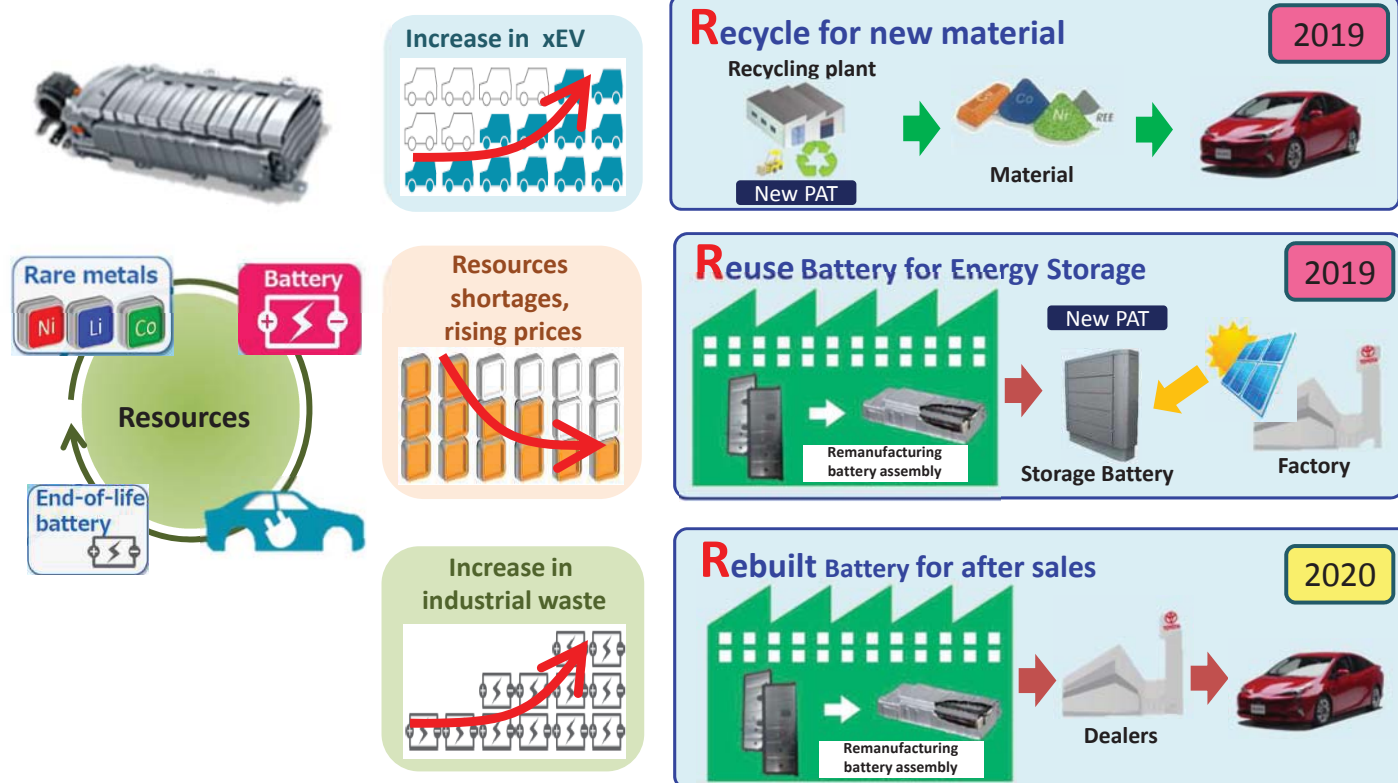
自社調査による



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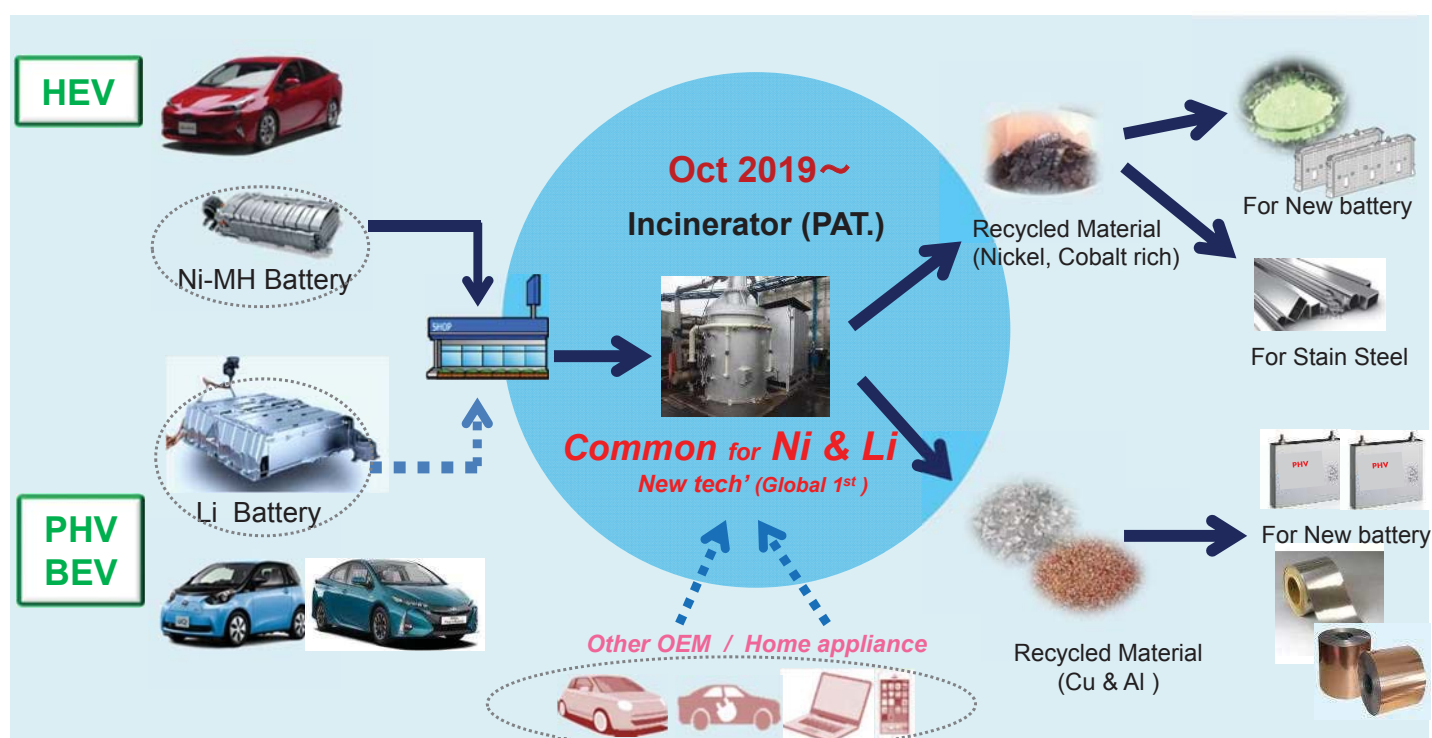
Toyota's "Only 1- technology HV-Battery 3R"



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Challenge 5 - Recycling-based Society

HVB Recycle Scheme in Thailand (2019 October)



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End Life Vehicle Green Recycling Project 2017~



ELV Proper recycling process

1 Dismantling Process (Toyota-Tsusho-GMT)



CFC/HFC
Collection



Inflator
Collection



Oil Liquid
Collection



2 CFC / Inflator Treatment (DOWA-WMS-BPEC)



3 Oil / Fluid Treatment (DOWA-WMS-ESBEC)



Concrete Floor
Oil separator



Collection
Equipment

Challenge 5 - Recycling-based Society

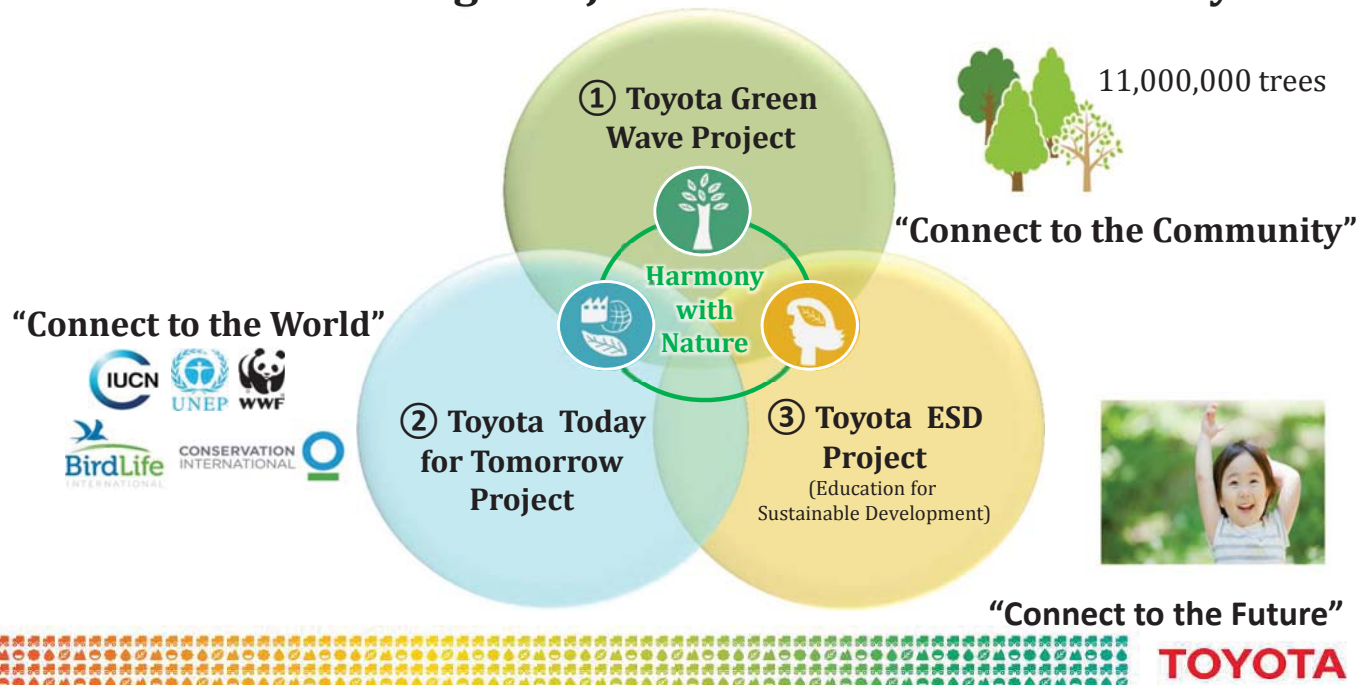
Expanding **Battery** and **End life Car** management system





Connect Nature conservation globally

3 “Connecting” Project for Nature & Biodiversity



Challenge 6 - Establish Harmony with Nature

Today for Tomorrow Project Global Partnership Started



Global

IUCN - May 2016



Ms. Inger Andersen,
IUCN Director General

Mr. Didier Leroy, EVP
Toyota Motor Corp

WWF International - July 2016



Mr. Nemoto GM Environment
Toyota Motor Corp.

Mr. Tsutsui CEO
WWF Japan



IUCN-TOYOTA Red List 2020 project



WWF-TOYOTA Living Asian Forest Project

Thailand

IUCN-TOYOTA Initiate “Thailand B-DNA”



B-DNA
Bio-Diversity Network Alliance

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Challenge 6 - Establish Harmony with Nature

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1st Joint event with B-DNA : **Tackle “Plastic Waste”**



15th Anniversary

Mangrove Reforestation & Coastal Clean up



July 6th, 2019 (Sat) at 12:00-16:00

Bang Pu Nature Education Center (BNEC)

Organized & sponsored by



Co-located with



Officially supported by



Included Toyota Group Companies

Supported by



Toyota Environment Challenge 2050



New challenges for a future

For a better, cleaner world for our children to enjoy



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