

# Chapter 1

## Introduction

### 1.1 Background and Objective

Unprecedented sea change has been seen in the transport and energy sectors in a revolutionary way. Especially the automotive industry is facing a turning point that happens only once every 100 years. Major auto manufacturers worldwide are accelerating the development of clean vehicles, including electric vehicles, in the wake of tightening regulations on the environment. Furthermore, new advanced technologies such as artificial intelligence or the internet of things have made self-driving or connected vehicles available, which could solve traffic-related problems such as air pollution or traffic congestion.

In the energy field, the cost of renewable energy has drastically declined, and it has become a more powerful and competitive energy source compared to fossil fuels. Dozens of countries around the world are keen on introducing affordable renewable energies.

Tackling global warming is an urgent task for all countries. The energy and the transport sectors are the major sources of GHG emission. Combining zero-carbon energy supply with clean vehicle technology can make automobiles a carbon-free transport mode.

Although a lot of problems remain to be solved in renewables and clean vehicles, such as power intermittence or the price and quality of batteries, it is a good opportunity to tap into technology advancements and draw up a strategic policy for both the transport and energy sectors.

### 1.2 Work Stream

In this research, the study group held two workshops and discussed how to reduce CO<sub>2</sub> emissions in transport, especially in the road transport sector. In each workshop,<sup>1</sup> experts from Malaysia and Japan shared what is starting to happen.

In the first workshop, the team focused on next-generation vehicles, mainly EVs, FCEVs, and charging infrastructure based on Japan's Roadmap.<sup>2</sup> In the second workshop, the team exchanged information on the sustainable mobility aims for using Intelligence Transport Systems (ITS). At the end of the workshop, Malaysia's Energy Commission presented the country's scenario analysis for reducing CO<sub>2</sub> emissions in 2030.

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<sup>1</sup> The workshops were held on 22 February 2018 and on 14 May 2018 in Putrajaya.

<sup>2</sup> <http://www.meti.go.jp/press/2015/03/20160323002/20160323002-3.pdf>

Malaysia's GHG is expected to increase as its economy grows. With an increasing number of automobiles, countermeasures against CO<sub>2</sub> emissions are impending issues. Innovative solutions are also expected to be developed in the years to come. Malaysia's efforts could serve as a role model to member countries of the Association of Southeast Asian Nations.

We hope that this report will contribute to drawing up a strategic policy to address environmental issues in the transport sector.