

# Chapter **1**

## Introduction

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# Chapter 1

## Introduction

### 1. Background

In Asia, some countries began to develop nuclear power generation in the 1960s, and now several other countries are considering the introduction of nuclear power. Some East Asia Summit countries such as China, India, Japan, and the Republic of Korea already use nuclear power. As member states of the Association of Southeast Asian Nations (ASEAN) attempt to reduce their fossil fuel consumption in the face of rising electricity demand, they might begin to think about the introduction of nuclear power generation more positively in the future.

Nuclear energy remains an important option for the ASEAN+6 countries (the 10 members of ASEAN plus Australia, China, India, Japan, the Republic of Korea, and New Zealand), due to insufficient renewable resources (Nian and Chou, 2014) and the increasing effects of pollution from coal (Koplitz et al., 2017). Nuclear power generation can provide these countries with energy security, and a solution to environmental problems such as climate change.

On the other hand, a negative attitude towards the introduction of nuclear power has spread in some countries, including Japan, since the accident at the Fukushima Daiichi nuclear power plant (NPP) in March 2011.

In Japan, as of the end of April 2020, there were nine NPPs in operation, with 16 NPPs still under review or preparing to be restarted, although 54 NPPs were in operation before the Fukushima nuclear accident. Following the accident, permanent shutdown was decided at 21 NPPs (including Fukushima Daiichi Units 1–6 and Fukushima Daini Units 1–4).

Germany, Taiwan, the Republic of Korea, and Switzerland have changed course and are moving towards abandoning nuclear power generation. In Asia, whilst China and India are steadily pushing forwards with boosting the number of NPPs according to official energy policy, ASEAN member nations are still undecided. Negative voices were raised in Viet Nam and the Philippines, which had already started their pre-implementation activities; a plan to construct an NPP has come to a halt in Viet Nam, and a similar plan that had been promoted several times has been stopped in the Philippines. The introduction of nuclear power generation is being considered in

countries outside Asia, but efforts to win over citizens are still only halfway through, and opportunities are not ripe.

This background suggests a situation where social consensus cannot be obtained and there is no choice but to put the introduction of nuclear power on hold even if governments are contemplating bringing NPPs onto their soil.

Some ASEAN nations are concerned about electricity shortages associated with brisk economic growth. On the one hand, concerns about an increase in emissions of greenhouse gas are mounting, and each ASEAN member nation has set a greenhouse gas emissions reduction target. Each ASEAN country has also set a target for the introduction of renewable energy, although the situation varies for each country.

There are cases where the introduction of nuclear power, which is an option for low-carbon energy, was postponed due to the lack of social consensus. Forming social consensus is one of the effective methods to construct better understanding on nuclear power in ASEAN countries. Even countries that have no intention of launching nuclear power generation must prepare nuclear accident evacuation plans and drills because neighbouring countries may introduce nuclear power generation. All East Asian and ASEAN countries are involved in the discussion of the social acceptance of nuclear power.

In some developed nations where nuclear power facilities have been in existence for many years, there are entities that have successfully served as a communication bridge between residents and the nuclear power business operators. Methods to improve PA include public involvement, the giving of incentives, and benefits to stakeholders. As one method, it is important to hold international symposiums where experts get together from all over the world. All the more important, however, is to invite leaders of regions and opinion leaders of municipalities of developed nations where nuclear power facilities are located to hold discussions at workshops, gathering requirements necessary for improving PA, and coming up with policy proposals. The policy proposals are urgent because there is a long lead time to introduce nuclear power and to construct power plants.

In addition, the workshops will develop a model for better PA of nuclear power that can be adapted and applied to other low-carbon energy technologies, such as wind power,

hydropower, and electricity grid management. It is also expected that this method will contribute to find solutions for issues where PA is difficult to obtain.

## **2. Purpose**

The purpose of this report is to clarify the issues of PA and the common and/or different points of recognition between the explainer and the recipient, and to compile policy proposals from the discussions at the workshops.

## **3. Study method**

### **1) Holding workshops**

Opinion leaders of municipalities of developed nations where nuclear power facilities are located, were invited to hold workshops for participants including energy policymakers and government officials from member countries of the Energy Research Institute Network (ERIN)—an organisation consisting of the 10 ASEAN member nations and Japan, China, the Republic of Korea, Australia, New Zealand, India, the United States (US), and Mongolia (18 countries in total), and affiliated with the Economic Research Institute for ASEAN and East Asia (ERIA).

The workshop members visited Kashiwazaki City and Tsuruga City, hosting municipalities of NPPs in Japan, and participated in workshops with the opinion leaders of that region. In addition, discussions in Tokyo were held to draft policy proposals. The appendix shows the itinerary for the Public Acceptance Week for Nuclear Energy FY 2019. Rather than unidirectional talk about ideals like in typical symposiums, the workshops should be used as an exchange of opinions with those who went through similar experiences in their own countries and those for whom PA will be necessary in the future.

Before convening the workshops, a representative from the Institute of Energy Economics, Japan (IEEJ) visited the opinion leaders from the European countries and the US to gain a better understanding of their background and thereby draw out their views more effectively. This preliminary exchange of views helped workshop participants focus on the major issues of this research and contributed significantly to the policy proposals compiled at the workshops.

### **2) Compiling policy proposals**

Based on the discussions at the workshops, common necessary conditions were classified and analysed to be put together as policy proposals.