

# Future LNG Market in Japan based on the potential capacity back of its Nuclear by 2020

Hisanori Nei, National Institute for Policy Studies(GRIPS), +81-3-6439-6208, h-nei@grips.ac.jp

## Overview

It has passed more than 6 years after the Fukushima Nuclear Accident. It lost 288Gkwh right after and at the year of 2014 nuclear power station produce zero in Japan as the first time since 1965. There were 54 nuclear reactors in operation at the time of the accident. Out of them 12 reactors are decided to decommission. Out of 42 reactors, only 5 are in operation and 7 are confirmed to resume by new regulatory body or NRA. There are couple of improvement for make the others to be resumed for the future. Based on the data shown by NRA and similar experience before the accident, I estimate potential volume of generation capacity by 2020. Right after the accident, LNG import volume of Japan has increased about 15Mt / year. It is still remained almost the same level. If some of nuclear reactors are resumed, the volume of LNG will be reduced in Japan. Then it causes LNG market shrunk to some extent. LNG market in Asia is bearish for coming years. Therefore the reduction of LNG import by nuclear resuming is meaningful event for LNG market in Asia by 2020. Total generation volume of nuclear will be affected not only by the timing of licence approval but also capacity ratio which could be increased after NRA introduce ROP system at 2020. Total generation volume of nuclear will also give some impact the potential volume of power supply by coal firing power plant.

## Methods

Descriptive statistics, scenario analysis

## Results

First, I estimate volume and timing of nuclear resuming by analysing the regulatory review process based on the experience prior to the Fukushima Accident.

Second, I estimate potential volume which is reduced from LNG import in Japan.

Third, I analyse the impacts of nuclear resuming in Japan including the potential volume of coal firing power generation facility and LNG market structure.

## Conclusions

Total volume of nuclear power generation in 2020 might be exceed over the planning outlook at 2030 by GOJ. There are some uncertainty still for the timing of issuing renewal licences by NRA. There need to discuss about the potential new nuclear power facility to be build in the near future.

## References

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