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Japan Energy Newsletter

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1 Kishida Administration's Energy Policy and Public Response

1.1 The Energy Policy of Japan's New Administration

Newly elected Japanese Prime Minister (PM) Fumio Kishida formally took office on October 4, 2021, succeeding Yoshihide Suga after his resignation. Koichi Hagiuda, who previously served as the Minister of Education, Culture, Sports, Science and Technology (MEXT) under the previous administration, was appointed as the new Minister of Economy, Trade and Industry (METI) in the Cabinet.^{1 2} During Mr. Hagiuda's press conference on October 5, 2021, he emphasized that the new administration would seek to achieve carbon neutrality by 2050 and meet carbon emission reduction targets by 2030 based on the principle of 3E+S.³ The administration will also seek to maximize the utilization of renewable energy and existing nuclear reactors while improving nuclear safety. Meanwhile, METI is currently drafting its 6th Strategic Energy Plan, which will set Japan's energy goals by 2030. It is expected that a cabinet decision on the final plan will be made before the 26th United Nations Climate Change Conference of the Parties (COP26), which will be held in Glasgow, Scotland, UK, from October 31 to November 12 this year. The highlights of Minister Hagiuda's remarks on energy policy during the press conference are provided in the following table.⁴

Minister Hagiuda's Remarks on Energy Policy

Focus Area	Description
Nuclear Policy	<ul style="list-style-type: none"> Restart idled nuclear reactors: Gain the understanding of neighboring communities and residents to restart local idled nuclear power plants while prioritizing nuclear safety. Nuclear fuel cycle: The new administration's approach will be in line with the previous administration's policy on reducing high-level radioactive waste. It will continue to adhere to the principle of not having plutonium without a purpose for its usage. In terms of pluthermal usage, the administration will promote the utilization of pluthermal energy⁵ based on the Pluthermal Plan issued by The Federation of Electric Power Companies (FEPC), an industry organization of utilities in Japan, in December last year.⁶ Fast reactors: The administration sees the potential of the fast reactor technology, and will facilitate the research and development by collaborating with international partners, including the U.S. and France.

¹ <https://www.jimin.jp/news/information/202062.html>

² https://www.kantei.go.jp/jp/100_kishida/actions/202110/04kishidanaikaku.html

³ S+3E refers to Safety (S), Energy Security, Economic Efficiency, and Environment (3E).

<https://www.enecho.meti.go.jp/about/pamphlet/energy2019/html/005/>

⁴ <https://www.meti.go.jp/speeches/kaiken/2021/20211005001.html>

⁵ Pluthermal energy means using mixed oxide fuel (MOX fuel) by light water reactors. MOX fuel is a nuclear fuel consisting of reprocessed plutonium blended with reprocessed uranium.

⁶ https://www.fepec.or.jp/about_us/pr/oshirase/icsFiles/afieldfile/2020/12/17/press_20201217_2_1.pdf

<p>Post-Disaster Response to Fukushima Nuclear Accident</p>	<ul style="list-style-type: none"> • Reconstruction of Fukushima: The reconstruction of the disaster area of the Fukushima Daiichi Nuclear Power Plant is regarded as the most important priority for METI. The decommissioning of the nuclear power plant is the first priority for rebuilding in the area. The Japanese government will take the lead in addressing the issue safely and steadily based on the medium- to long-term roadmap. • Discharge of treated water from Fukushima Daichi site: In April 2021, the Japanese government announced that the treated water stored at the Fukushima Daiichi site will be discharged into the sea around spring of 2023 while complying with international safety standards. In August, the government released its measures to address rumors/misunderstandings opposing the discharge of the treated water.
<p>6th Strategic Energy Plan</p>	<ul style="list-style-type: none"> • The Japanese government completed its solicitations for public comment on the 6th Strategic Energy Plan on October 4, 2021. The final plan was approved by the Cabinet on October 22 before the COP26 starts.

Source: METI

1.2 Public Response to the New Administration’s Energy Policy

After Japanese PM Kishida took office, various industry groups, such as the Japan Business Federation (*Keidanren*)⁷ and the Federation of Electric Power Companies of Japan (FEPC), have separately announced their views on future energy policies. On October 4, 2021, the Chairman of the *Keidanren*, Tokura Masakazu, expressed his high expectations for the new administration during a press conference. Mr. Masakazu urged the new administration to speed up the progress of revitalizing the socio-economic activities that were affected by the pandemic; redeveloping Japan’s energy policy with the aim of achieving carbon neutrality by 2050; moving towards the digital transformation; reforming fundamental regulatory frameworks; and implementing diplomatic and security policies in response to turbulent international situations. He also noted that the government needs to pursue sustainable growth through leveraging digital transformation and green transformation.⁸⁹

Kazuhiro Ikebe, the chairman of the FEPC, announced his views on the new administration on October 4, 2021. Mr. Ikebe expressed his concerns regarding the government’s measures to tackle current challenges, including dealing with the coronavirus, reinvigorating socio-economic activities during the pandemic, achieving the goal of carbon neutrality by 2050, and promoting the digital transformation. He emphasized the importance of maintaining a well-balanced energy mix based on the principle of S+3E by making renewable energy the main power source, maximizing the use of nuclear energy while ensuring nuclear safety, and improving the efficiency and decarbonizing thermal power generation.¹⁰

⁷ The Japan Business Federation represents nearly 1,500 Japanese companies.

⁸ <https://www.keidanren.or.jp/speech/kaiken/2021/1004.html>

⁹ Green transformation refers to realizing sustainable growth by transitioning to zero-carbon renewable energy.

¹⁰ https://www.fepec.or.jp/about_us/pr/sonota/1260576_1511.html

2 The Ministry of Economy, Trade and Industry Held its First International Conference on Fuel Ammonia

2.1 First International Conference on Fuel Ammonia Held by METI and CFAA¹¹

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METI and the Clean Fuel Ammonia Association (CFAA) jointly held the first International Conference on Fuel Ammonia on October 6, 2021. The conference was held online and successfully brought together more than 1,500 attendances from eight countries. During the conference, government representatives from Japan, Indonesia, Norway, Saudi Arabia, and Australia announced their efforts to encourage the development and deployment of fuel ammonia. Additionally, the International Energy Agency (IEA) presented the major highlights of its analysis on the future outlook and potential applications of fuel ammonia technology. During the industry sessions, there were fourteen presentations from seven countries. Government representatives and industry experts together reviewed efforts by the public and private sectors to build a stable, affordable, and flexible fuel ammonia value chain. The conference also stressed the importance of international collaborations to promote the use of fuel ammonia.

METI plans to promote the utilization of fuel ammonia and expand it to Asian countries. In October last year, the Japanese government pledged to achieve carbon neutrality by 2050 and later announced its Green Growth Strategy Through Achieving Carbon Neutrality in 2050. The strategy described fuel ammonia as one of the promising technologies to achieve the goal.¹³ Based on the strategy, Japan seeks to realize zero-emission thermal power generation using fuel ammonia and aims to introduce fuel ammonia to existing coal-fired power plants for deployment in Asia while building an international fuel ammonia supply chain. According to the IEA's report, "The Role of Low-Carbon Fuels in Clean Energy Transitions of the Power Sector," fuel ammonia technology is expected to play a significant role in reducing carbon emissions from existing relatively newly built coal-fired power plants in Asia.

During the conference, IHI, a heavy industry manufacturer headquartered in Tokyo¹⁴, signed a memorandum of understanding (MOU) on fuel ammonia technology development and deployment with PETRONAS Gas & New Energy Sdn (a subsidiary of the Malaysian state-owned oil and gas company Petroliam Nasional Bhd), and TNB Power Generation Sdn (a subsidiary of Tenaga Nasional Berhad, a major Malaysian power company). Through the MOU, IHI will work with its partner companies to evaluate the possibilities of applying ammonia mixed combustion in a coal-fired power plant in Malaysia and explore establishing a carbon-free fuel ammonia supply chain.¹⁵ The project will also verify the technological feasibility and economic efficiency of the

¹¹ <https://www.meti.go.jp/press/2021/10/20211012002/20211012002.html>

¹² <https://icfa2021.com/>

¹³ <https://www.meti.go.jp/press/2020/12/20201225012/20201225012-1.pdf>

¹⁴ IHI's main businesses is conventional heavy industry, and the company is new to the resource and energy fields, along with social infrastructure, industrial machinery, and aerospace.

¹⁵ The carbon-free ammonia is composed of green ammonia produced from renewable energy and blue ammonia made from natural gas.

ammonia mixed combustion technology. The research project will take advantage of each firm's strengths, including IHI's expertise in world-leading ammonia combustion technologies, PETRONAS' more than 30 years of ammonia production experience, and TNB's dominant position as a major power producer, accounting for 53% of Malaysia's total electricity supply in the nation.

Based on its experience in delivering large numbers of coal-fired boilers to Malaysia in the past years, IHI has been promoting the development of ammonia mixed combustion technology. Last year, it developed ammonia co-firing burners applied for coal-fired power plants to reduce nitrogen oxide (NOx) generation and improve stable combustion.

2.2 Latest Technological Developments and Overseas Expansion of Fuel Ammonia Technology

Japan is building a fuel ammonia supply chain through technical development and overseas collaborations. The New Energy and Industrial Technology Development Organization (NEDO), a Japan-based quasi-public R&D funding organization, has been conducting a series of R&D and demonstration projects of fuel ammonia technology. On September 30, 2021, NEDO announced public solicitations for fuel ammonia supply chain projects. Through these projects, NEDO aims to build a fuel ammonia supply chain that maintains supply and demand by addressing technical issues, such as expanding the use of ammonia and improving manufacturing efficiency and costs.¹⁶

Japanese private companies are also beginning to produce fuel ammonia, apply it to coal-fired power plants, and build new supply chains. On October 5, 2021, JERA, a joint venture between Tokyo Electric Power Company (TEPCO) and Chubu Electric Power Company (Chuden); Yara International ASA (Yara), a Norway-based leading fertilizer manufacturer; and Idemitsu Kosan (Idemitsu), the owner of a logistic network for petroleum products in Japan, signed an MOU to consider cooperation for expanding the introduction of ammonia in Japan. Through the MOU, JERA, Yara, and Idemitsu will examine the feasibility of building a fuel ammonia logistics chain in Japan. The project will be undertaken at Idemitsu's Tokuyama complex and will focus on strengthening ammonia bunkering businesses and optimizing the marine transportation of fuel ammonia. In May, JERA and Yara previously signed an MOU to consider cooperation on building fuel ammonia value chains.¹⁷ On October 6, 2021, JERA launched a small-scale utilization demonstration test of fuel ammonia at its Hekinan Thermal Power Station Unit 5 through a partnership with IHI.¹⁸

¹⁶ https://www.nedo.go.jp/koubo/EV2_100238.html

¹⁷ https://www.jera.co.jp/information/20211005_771

¹⁸ https://www.jera.co.jp/information/20211006_772