

Research Report on International Economy and Foreign Affairs

(Excerpt)

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Research Committee on International Economy and Foreign Affairs

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Foreword

Since the dawn of history, human lives have been intertwined with the ocean in various ways. The ocean has brought us great blessings, and at times, great disaster. The expansion and sophistication of human activities arising from the development of science and technology have unleashed the potential of the ocean and made it an important source of economic prosperity, while at the same time have led to conflicts over its control. In addition, the environmental burden associated with human activities has steadily increased and it has already exceeded the restitutive force of the oceans and of the Earth's systems, leading to a situation where sustainability is at stake.

Positioning itself as a maritime nation, Japan has developed together with the sea and engaged with the world. The knowledge, experience, technology and so on that Japan has accumulated in this process can contribute not only to the prosperity of our country, but also to the resolution of various maritime issues facing the international community. At the same time, in response to the changing times, it is essential that we review the knowledge and so on that has supported Japan's foundation as a maritime nation and make efforts to consolidate our position. Based on an awareness of the above issues, since its establishment, the Committee has undertaken three years of research under the research theme "Japan Living with the World through the Ocean."

During the third and final year of research, more in-depth research was undertaken into a number of issues based on research conducted in the first and second years. In addition to research on maritime issues associated with globalization, we undertook comprehensive research based on three years of discussions.

Specific discussion points included the development of maritime human resources, maritime security, international shipping, maintenance of submarine cables, marine science, management of fishery resources, development of submarine resources, formation of a framework for maintaining maritime order and international cooperation for that purpose, and a comprehensive ocean policy. Based on thought-provoking

opinions presented by voluntary testifiers, multifaceted discussion was held among Committee members and voluntary testifiers. Finally, the Committee members exchanged views with each other for the final report.

This report provides an outline of this third year of research, and based on all three years of research, makes recommendations of the Committee for the next Basic Plan on Ocean Policy, which is currently in the process of being revised by the government.

I. Research Process

The House of Councillors may set up Research Committees to conduct long-term and comprehensive researches relating to fundamental matters of government. The Research Committee on International Economy and Foreign Affairs (hereinafter referred to as the “Committee”) was established on October 4, 2019, during the 200th session of the National Diet (extraordinary session), for the purpose of conducting long-term and comprehensive research on the international economy and foreign affairs.

At a Board of Directors meeting on December 9, 2019, the Committee decided that the research theme for the current three-year term would be “Japan Living with the World through the Ocean.” It also decided to proceed with research covering the three subsidiary research themes of “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources,” “Concept of Various Problems and Efforts Regarding the Maritime Environment,” and “Efforts and Roles of Japan to Lead the International Community as a Maritime Nation.”

In the first year, the Committee began with general research on “Japan’s Ocean Policy,” hearing explanations from and questioning Government informants and hearing opinions from and questioning voluntary testifiers. Of the three subsidiary research themes, the Committee then selected “Management and Protection of Fishery Resources” and “Management and Utilization of Submarine Resources and Maritime Renewable Energy and their Future Development” for research on the “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources,” as well as “Strengthen the Foundation of Maritime Industry” for research on “Efforts and Roles of Japan to Lead the International Community as a Maritime Nation.” Research was conducted on each topic through hearing opinions from and questioning voluntary testifiers. After the Committee members exchanged views with each other, the Committee decided on the research report (interim report) and submitted it to the President of the House of Councillors on June 10, 2020.

In the subsequent second year, the Committee focused on “Efforts to Address Problems Regarding the Polar Regions,” “Problems and Efforts in the Quest to Conserve Marine Biodiversity and Achieve the Sustainable Use of Marine Bioresources” and “Efforts and Problems in the Quest to Achieve a Zero-Carbon Society, including Offshore Wind Power Generation and Zero Emission Ships” as research that takes account of the interrelationships between the three subsidiary research themes. It also selected “Responses to Conservation of the Maritime Environment and Various Maritime Meteorological Problems” for research on the “Concept of Various Problems and Efforts Regarding the Maritime Environment,” as well as “Problems and Efforts Regarding Maritime Security” and “Current Status and Problems Regarding Maritime Education and Maritime Human Resource Development” as research for “Efforts and Roles of Japan to Lead the International Community as a Maritime Nation.” Research was conducted on each topic through hearing opinions from and questioning voluntary testifiers. After the Committee members exchanged views with each other, the Committee decided on the research report (interim report) and submitted it to the President of the House of Councillors on June 2, 2021.

In the third year of research, which is the primary focus of this report, during the 208th Diet session, as a summary of the research theme for the current three-year term, that is, “Japan Living with the World through the Ocean,” the Committee selected “Securing Maritime Human Resources to Lead the Next Generation and Promoting Public Understanding of the Ocean” (February 2, 2022), “Roles and Challenges of Ocean Networks amid Globalization” (February 9, 2022), “Approaches to Contributing to the Conservation of the Maritime Environment and the Sustainable Use of Marine Resources” (February 16, 2022) and “The Future of Japan’s Ocean Policy” (April 6, 2022) for research. For each topic, the Committee listened to the opinions of three voluntary testifiers (two on April 6 only) and asked them questions. Finally, the Committee members exchanged views with each other based on the research conducted over the current three-year term (April 20, 2022).

II. Research Outline

Japan Living with the World through the Ocean

1. Securing Maritime Human Resources to Lead the Next Generation and Promoting Public Understanding of the Ocean (February 2, 2022)

As Japan is surrounded by the sea on all sides, shipping plays an indispensable role in supporting people's lives and the economy, accounting for almost all trade volume and approximately 40% of domestic freight volume on a tonnage basis. Seafarers, who are responsible for operating those ships, are essential workers, and securing them is an extremely important issue.

Meanwhile, against the backdrop of a declining working-age population because of a falling birthrate and aging population, securing human resources is a major challenge in Japan. Seafarers are no exception. Japan's fleet of merchant vessels is reliant on foreign seafarers from the Philippines and other countries. Apart from wages, reasons why recruiting Japanese seafarers is difficult include aspects that are particular to the seafarer occupation, such as danger and the separation from family and community that comes from working long periods of time at sea. From the perspectives of improving this situation, ensuring safe and stable marine transportation, and ensuring the stable transfer of maritime skills between generations, effective measures need to be promoted aimed at recruiting and training young people. The younger generation have fewer opportunities to experience the sea in their everyday lives, so various initiatives for further deepening their understanding of and interest in the sea need to be promoted, including from the perspective of securing seafarers and other maritime human resources.

Furthermore, the presence of marine energy and mineral resources, such as methane hydrate and submarine minerals, has been confirmed in the waters around Japan. From the perspective of improving Japan's energy self-sufficiency rate in light of the recent

situation in Ukraine, there is an urgent need to strengthen and accelerate initiatives aimed at practical application. Such development of resources is a future growth area, and it is expected that related companies in Japan will enter this market and move to expand their operations. On the other hand, however, marine development engineers with practical skills and know-how will be the driving force for ensuring these growth opportunities, yet the quality and quantity of such engineers are far from adequate. Given this situation, a consortium of industry, academia, government and public organizations has been established with the cooperation of government and with the participation of Japanese companies that plan to enter and expand their operations in the marine development market, along with universities and public organizations in order to promote securing maritime development engineers in an all-Japan effort. The purpose of the consortium is to promote efforts across Japan for the training of marine development engineers. Imperative now is for Japan to strengthen its efforts to improve capacity for future marine development, to capture the market and to advance the marine development industry.

Based on this awareness, the Committee listened to the opinions of voluntary testifiers and discussed with them the training of seafarers at national colleges of maritime technology, the need to recruit and develop seafarers, initiatives related to maritime public relations, and initiatives and issues regarding the development of human resources for marine development.

The points of discussion included the following matters: ICT-based maritime education and recurrent education for seafarers; recognition of the current status of national colleges of maritime technology and response to aging training ships; current status of prospective students and graduates at national colleges of maritime technology; characteristics of seafarer education in Japan, including national colleges of maritime technology, and the future of seafarer training; assessment of government initiatives for expanding seafarer training and education institutions; promotion of work style reforms for seafarers, the recruitment of seafarers, and the significance of the seafarer tax

exemptions; development of maritime human resources such as marine development engineers; government measures necessary for promoting maritime education, etc.; reform of the system covering use of marine zones necessary for fully autonomous ship navigation projects; outlook and benefits from clarifying seafloor charts; the status of Marine Day; and the possibility of appointing foreigners for coastal shipping crews.

(1) Outline of Opinions by Voluntary Testifiers

(Omitted)

(2) Main Points of Discussion

(Omitted)

2. Roles and Challenges of Ocean Networks amid Globalization (February 9, 2022)

Japan is a maritime nation that has achieved economic growth through maritime trade and the development of marine resources under “open and stable seas.” The stable use of oceans as an international public good and the maintenance of order at sea are the basis for peace and prosperity of the international community. Hegemonic nations of the time have contributed to the stability, but the current order is being challenged with the receding relative power of the United States and the rise of China. In order to strengthen the rule of law so as to maintain order on “open and stable seas” and to ensure that basic rules are upheld—such as freedom of navigation, which is essential for ensuring the safety of maritime and air traffic, and sovereign rights of coastal nations over resources in exclusive economic zones (EEZs) and other areas—necessary efforts need to be taken, including cooperation within the international community and strengthening the law enforcement capability of each country.

Under such “open and stable seas,” supply chains are also becoming increasingly globalized against the backdrop of evolution of the global economy, advances in technology and the associated changes in industrial structure. Amid the current COVID-19 pandemic, the reliance of countries around the world on other countries for industrially important commodities like rare metals used in information terminals and other devices has led to increased supply risks and the emergence of supply chain vulnerabilities, particularly at production sites and in maritime logistics. For Japan, a country with limited natural resources, the importance of marine transportation, which plays a fundamental role in international trade linking supply chains, has been reaffirmed from the perspective of securing stable supplies of key commodities which are reliant on imports.

Attention is also being drawn to submarine cables that serve as infrastructure for forming networks across national borders and across oceans. Submarine cables have an overwhelming advantage over satellite communications in terms of communication speed

and capacity. Almost all of today's international exchange of data relies on submarine cables. While demand for cable installation grows along with increasing international communications, China and other countries are boosting their state involvement in the submarine cable business. As a consequence, concerns about information being extracted or intercepted have raised the issue of ensuring the security and stability of submarine cable communications. International frameworks for the maintenance and management of submarine cables are not necessarily adequate, and efforts are needed in the future to address technical and policy issues that will determine globalization and progress of the information society.

Based on this awareness, the Committee listened to the opinions of voluntary testifiers and discussed with them globalization and ocean policy, the current status and issues related to international marine transportation, and the protection and management of submarine cables.

The points of discussion included the following matters: the impact of the worsening situation in Ukraine on Japan's defense and marine transportation in general; Japan's position within the friction between the United States and China; Japan's response in the East China Sea and South China Sea; Japan's measures taken in response to China's human rights issues and the Senkaku Islands; ASEAN and other multilateral frameworks in Asia, their significance, and Japan's involvement in them; connectivity of marine spaces in the South China Sea issue and the role of the private sector in the stabilization of marine spaces and the avoidance of war; taxation challenges for increasing the number of deemed-Japanese-flagged vessels and improving the competitiveness of Japan's shipping industry; improving compliance of Japanese-flagged vessels with International Maritime Organization (IMO) conventions; the relationship between the state and ship registry; the state of submarine cable protection zones; the protection of submarine cables under international frameworks and issues to be addressed by Japan; and the current status of submarine cable damage and responses taken.

(1) Outline of Opinions by Voluntary Testifiers

(Omitted)

(2) Main Points of Discussion

(Omitted)

3. Approaches to Contributing to the Conservation of the Maritime Environment and the Sustainable Use of Marine Resources (February 16, 2022)

The Sustainable Development Goals (SDGs), which are the 17 development goals that the international community is working to achieve by 2030, include SDG 14: Conserve and sustainably use the oceans, seas and marine resources. Much is unknown about the oceans, and with growing international recognition that improving scientific knowledge based on oceanographic observation would be essential to achieving SDG 14, in December 2017, the 72nd Session of the United Nations General Assembly adopted a resolution designating the decade beginning in 2021 as the “United Nations Decade of Ocean Science for Sustainable Development” (hereinafter referred to as the “UN Decade of Ocean Science”). The UN Decade of Ocean Science began on January 1, 2021. Having strengths in the field of marine science, Japan was also actively involved in formulating the Implementation Plan for the UN Decade of Ocean Science, which was approved by the UN General Assembly in December 2020, and is expected to work in an integrated manner to resolve issues through collaboration and cooperation among industry, government, academia and the private sector in the field of marine science, including international partnerships.

Amid this situation, demand for marine products, which have a significant impact on sustainable ocean use, is growing globally, and the proper management of fishery resources, including the elimination of illegal, unreported and unregulated (IUU) fishing, is becoming increasingly important. Japan, as a responsible fishery nation, needs to actively participate in activities for the proper management and sustainable use of resources, and to ensure that management measures agreed by Regional Fisheries Management Organizations are steadily implemented, needs to both take initiatives on its own and to contribute to various efforts to improve the resource management capability of member countries.

Furthermore, with the expansion of the global economy, securing rare mineral

resources, such as rare earth elements used in environmental technology, has become an issue, especially when realization of a sustainable society is considered. Given the uneven distribution of areas that produce these rare mineral resources and concerns about supply risks due to the effects of the international situation, attention is currently being drawn to the development of submarine resources. Considerable amounts of these resources have also been confirmed to be present within Japan's EEZ. Both from the perspective of developing Japan's key industries and the perspective of security, this development is extremely significant. Japan needs to further accelerate initiatives, including furthering development for practical application, while at the same time conserving the marine environment.

Based on this awareness, the Committee listened to the opinions of voluntary testifiers and discussed with them the role played by marine science for conservation of the marine environment, marine conservation and the management of fishery resources, and issues related to the use of marine mineral resources, such as rare-earth muds around Minamitorishima Island.

The points of discussion included the following matters: challenges to realizing the development of rare-earth muds; moves by China to acquire mining concessions in the waters around Japan; drafting of fair rules regarding deep seabed mineral resources; promotion of initiatives relating to the UN Decade of Ocean Science; impacts of climate change on the oceans; human resources development for marine science research; crackdown on IUU operations and realization of a fair fisheries environment; and balancing the use of fishery resources with conservation of the marine environment.

(1) Outline of Opinions by Voluntary Testifiers

(Omitted)

(2) Main Points of Discussion

(Omitted)

4. The Future of Japan's Ocean Policy (April 6, 2022)

The so-called law of the sea forms the basis of legal order at sea, which establishes the rights and obligations under international law regarding the use and development of the sea and the regulation thereof. Adopted in 1982 and also known as the constitution of the oceans, the United Nations Convention on the Law of the Sea (UNCLOS) is central to the law of the sea. (Japan signed UNCLOS in February 1983, ratified it in June 1996, and the convention came into force for Japan in July 1996.)

Based on the premise of such legal order at sea, in July 2007, Japan enforced the Basic Act on Ocean Policy, which clearly set out the basic principle and basic measures of Japan's ocean policy. In March 2008, based on this act, the Cabinet approved the Basic Plan on Ocean Policy, which stipulates the measures to be taken comprehensively and systematically for the oceans, and under this plan, the government has been implementing measures for the oceans. The term of the plan is approximately five years. Although the plan has been revised twice to enhance its content, issues remain in promoting a comprehensive ocean policy, including issues relating to organization and authority. Imperative now is revision for the upcoming Fourth Basic Plan on Ocean Policy, work for which is underway, as well as specific measures to be implemented based on that plan.

In order to promote these domestic efforts, the "rule of law" based on legal order at sea centered on UNCLOS needs to be established internationally. As a maritime nation that seeks the basis of its national prosperity from the sea, Japan has a history of having cooperated with major maritime nations to realize free, open and stable seas. In recent years, following shifts in the balance of power in the international community, countries have appeared around Japan that have repeatedly behaved in a way that could be construed as challenging the existing order, prompting the need for a new response. Given this situation, for the stability of order at sea, in addition to strengthening its own systems, Japan must urgently engage in in-depth discussion and take action to appeal to

the international community about the importance of the “rule of law” through international partnerships and cooperation and to ensure its effectiveness.

Based on this awareness, the Committee listened to the opinions of voluntary testifiers and discussed with them the comprehensive ocean policy that is needed by Japan and efforts for international cooperation through the ocean.

The points of discussion included the following matters: measures to make Russia, which has ideas of a continental state, recognize the order of free and open seas; ways of international cooperation and international assistance at sea, including assistance to island nations; fleshing out and future development of the Western Pacific Union concept; evaluation of the principle of enhancing consultations on matters seriously affecting common interests in the ASEAN Charter; measures for deepening marine science research in response to the UN Decade of Ocean Science; approaches to the conservation and promotion of remote islands and the management of coastal areas; management of coastal areas using Sea Grant in the United States; measures for realizing the comprehensive ocean policy and strategies; measures aimed at securing a stable supply of energy resources; approaches to supporting the development of human resources in Japan, supporting exchanges and accepting a foreign workforce; the need to revise the Development Cooperation Charter as a measure and driving force to achieve an ODA to GNI ratio of 0.7%; approaches to supporting Ukraine and surrounding countries through development cooperation; areas in which Japan should promote nonmilitary cooperation for other countries; the way forward for Japan-Thailand relations; the impact that Russia’s aggression against Ukraine has on the situation in China and Taiwan; concerns over the state of Japan’s defense; approaches to United Nations reform prompted by Russia’s aggression against Ukraine; measures to make countries with outdated attitudes to spheres of influence, etc. recognize the changing times and deterrence of war through economic sanctions.

(1) Outline of Opinions by Voluntary Testifiers

(Omitted)

(2) Main Points of Discussion

(Omitted)

**5. Japan Living with the World through the Ocean (Exchange of Views among
Committee Members) (April 20, 2022)**

(Omitted)

III. Recommendations

In light of the three years of research, the Committee makes recommendations on the following five priority matters regarding “Japan Living with the World through the Ocean.”

1. Maintaining Legal Order at Sea that Supports the Free and Open Use of Oceans

Japan will not allow the status quo to be unilaterally changed by force, and will uphold the “rule of law” based on legal order at sea that supports the free and open use of oceans. The structure of the Japan Coast Guard (JCG) should be strengthened, not only in terms of quantitative scale, but also with a view to maintaining and improving its quality. Japan should strengthen coordination among its relevant organizations in order to respond appropriately to changes in the activities of China’s Coast Guard Bureau following the enforcement of China’s Coast Guard Law. In addition, Japan should promote the sharing of values, such as the “rule of law,” and strengthen cooperation with regional countries by supporting them to improve their maritime safety capacity and develop their legal systems.

2. Strategic Efforts for Development of Rare-earth Muds and Other Submarine Resources

There is a growing need to develop submarine resources from the perspective of securing a stable supply of natural resources in preparation for any destabilization of the international situation. In addition to placing a high priority on the development of rare-earth muds, which show promise in terms of resource volume and other aspects, and strengthening efforts for the development of mud extraction and pumping technologies, consideration should also be given to financial support for initial exploration and so on in order to encourage corporate investment. Furthermore, Japan should take the lead in making international rules through the drafting and implementation of evidence-based environmental guidelines for the development of submarine resources. In order to commercialize the submarine resource exploration technologies developed under SIP, Japan should also provide support for their international expansion, such as through promotion by national leaders.

3. Promoting the Use of Maritime Renewable Energy with a Focus on Offshore Wind Power Generation

For securing energy and decarbonization, Japan should promote the early widespread adoption of floating offshore wind power generation. In executing these projects it is important to respect the philosophy of coexistence and coprosperity with the local community and fisheries, build power grids and base ports and harbors, build a strong supply chain for offshore wind power generation, create an environment that enables Japanese companies to utilize the technologies and knowledge they have cultivated, and put effort into creating synergies with regional development and regional revitalization. Furthermore, consideration should also be given to utilizing maritime renewable energies other than offshore wind power generation from a medium- to long-term perspective.

4. Efforts for Conservation of the Maritime Environment, including Reduction of Ocean Plastic Waste

With an eye toward the international standardization of Japan's technologies and know-how, Japan should take the lead in efforts for establishing an international convention on the reduction of plastic waste. To realize the "Osaka Blue Ocean Vision," Japan should promulgate 3R + Renewable, develop technologies for materials and alternative products with less environmental impact, and actively support developing countries in building capacity for proper waste disposal. Regarding the problem of marine plastics, Japan should promote its science and technology diplomacy worldwide and encourage the promotion of a circular economy which includes the smooth recycling of plastic resources.

5. Strengthening the Maritime Industries, such as the Shipbuilding and Ship Machinery Industry, and Developing Seafarers and other Maritime-Related Human Resources

The importance of the shipbuilding and ship machinery industry should be fully recognized and shared by the entire nation. By ensuring a fair and equitable competitive environment in the international shipbuilding market, by taking advantage of its position of leadership in the IMO and the more stringent regulations on environmental performance, and by providing the necessary support so the industry can gain an edge in international competitiveness, Japan should strategically address the entire maritime industry under the banner of SDGs.

Furthermore, Japan should secure the necessary budget for maritime education institutions, and strengthen education systems for developing the next generation of high-quality maritime human resources. In addition, steady progress should be made in reforming the way seafarers work, and further consideration should be given to a tax system that takes the unique characteristics of seafarers into account.

[Priority Matters]

With regard to ocean policy, the government should prioritize efforts to address the following matters.

1. Maintaining Legal Order at Sea that Supports the Free and Open Use of Oceans

Japan is maritime nation that lives with the world through the ocean, and it would be no exaggeration to say that Japan's survival and prosperity are supported by the sea. The ocean is not only a treasure trove of energy and resources, including marine products, and a means connecting the world; it is also an irreplaceable support for biodiversity and climate systems. Utilizing these bounties of the sea peacefully and sustainably is in the common interest of both Japan and the international community.

In order for Japan and rest of the international community to realize this common interest, it is imperative to maintain and develop legal order at sea centered on

UNCLOS—which coordinates and appropriately regulates the rights and obligations between states to avoid disputes concerning the sea—and to enforce the rule of law based on these conventions.

On the other hand, in the international community, a situation that could shake the very foundations of the postwar international order has occurred in Russia’s military aggression against Ukraine, and a resolute response is required that decisively rejects such a unilateral change of the status quo by force. In the oceans too, particularly in the Indo-Pacific region, China has repeatedly acted in a way that seems to challenge the legal order at sea, and in terms of both avoiding regional conflict and protecting Japan’s sea lanes, a more proactive response is required to maintain and develop legal order at sea.

In light of this situation, Japan should strengthen the structure of the Japan Coast Guard (JCG), including enhancements of personnel and equipment, and in cooperation with regional countries, Japan should strengthen efforts to make the Indo-Pacific region free and open.

In doing so, in relation to the JCG, more than just simply increasing the quantitative scale of the organization, the JCG needs to be strengthened with a view to maintaining and improving quality, for example, maintaining patrol vessels, providing education and training, and enhancing related facilities. Furthermore, Japan needs to remain vigilant for any apparent changes in the activities of China’s Coast Guard Bureau, which now serves as part of the national defense mission following the enforcement of China’s Coast Guard Law. Japan also needs to strengthen coordination among its relevant organizations to ensure it can respond appropriately to any changes in activities.

In relation to securing freedom and openness in the Indo-Pacific region, it is important that the value of the sea as an international public good, to which Japan attaches great importance under the rule of law, be shared with the international community, and that coordinated efforts are made against any unilateral change of the status quo by force. Key in this regard is the understanding and response of developing countries—as seen in the difference in degrees of attitude toward the recent acts of aggression by Russia. Given

this, Japan should promote the sharing of values through strengthening support such as for enhancing maritime safety capacity and developing legal systems, which are indispensable for advancing the rule of law.

In regard to China, while asserting what needs to be asserted, including the situation concerning the Senkaku Islands, through the efforts described so far, Japan should cooperate with related countries that share values such as the rule of law, and with reference to the stance of ASEAN countries that are stepping up talks to prevent opposition from turning into conflict, Japan should deal with China steadfastly and work toward the eventual achievement of shared values. It is important to pursue the way forward for Japan-China relations from a long-term perspective.

2. Strategic Efforts for Development of Rare-earth Muds and Other Submarine Resources

Given the scarcity of key mineral and energy resources in Japan, one of the country's top priorities has been to secure these resources in order to protect the Japanese economy and the lives and livelihoods of its people. Accordingly, Japan has made various efforts, including diplomatic efforts, such as building friendly relations with producer countries, diversifying supplier countries, implementing anti-piracy measures, supporting neighboring countries improve their maritime safety capacity, and ensuring the safety of maritime transport routes through collaboration. However, in view of the international impact of the recent situation in Ukraine, and bearing in mind the potential risks should the international situation deteriorate further, in addition to these efforts, Japan will also need further strengthen efforts aimed at securing a stable supply of natural resources and strategically utilize the outcomes of such efforts.

Japan has a vast EEZ, the sixth largest in the world. Its seafloor contains a wide variety of potential resources, such as methane hydrate, seafloor polymetallic sulfides, cobalt-rich manganese crusts and rare-earth muds. During research by the Committee, a voluntary testifier suggested that, of the various types of submarine resources, rare-earth

muds are superior in terms of resource quantity, balance of rare earth element content and consistency with environmental conservation, and are currently the most promising, including in terms of profitability. Given that rare earth elements will be used in technologies essential for achieving both the SDGs and carbon neutrality by 2050 as a response to climate change issues, securing these resources will become increasingly important. On the other hand, producers of rare earth elements are unevenly distributed across the world, and currently, Japan is heavily dependent on imports from China. Combined with the fact that China restricted exports to Japan in 2010, it is essential that Japan strengthen efforts to secure stable supplies. Possessing the technology to convert highly potential rare-earth muds into resources is also significant in terms of resource diplomacy and security.

In light of this, of the various submarine resources, Japan should place a high priority on the development of rare-earth muds. In this regard, mud extraction and pumping technologies are currently being developed for rare-earth muds under the Cross-ministerial Strategic Innovation Promotion Program (SIP), and Japan should ensure that these technologies are reliable by continuing to work on them, including expanding the scale of testing. Furthermore, looking ahead to future industrialization, since private-sector investment will be essential, in order to reduce the risks and burden thereby facilitating this investment, consideration should be given to financial support for initial exploration and establishing a mechanism to make exploration data, etc. currently held by the government and related organizations available for use.

In addition, as exploration and development of submarine resources take shape, environmental conservation on the seafloor will be called into question. Given this, and also from the standpoint of deterring countries that engage in unsustainable development, Japan should lead the international community in establishing rules for submarine resource exploration and development by drafting advanced and evidence-based environmental guidelines and through building up actual experience, utilizing the environmental monitoring and other technologies developed under SIP.

Moreover, with growing interest in submarine resources worldwide, demand for submarine resource exploration is expected to increase and there is great potential for business. Given this, strategic support should be provided for exploration technologies developed under SIP, including promotion by national leaders, with a view not only to transferring them to the private sector, but also to entrenching them as de facto international standards through expanding the outcomes internationally.

3. Promoting the Use of Maritime Renewable Energy with a Focus on Offshore Wind Power Generation

In recent years, the introduction of renewable energy with a minimal environmental impact and the creation of a zero-carbon society have become major challenges for the international community in its quest to reduce greenhouse gas (GHG) emissions to combat climate change. Moreover, for Japan as an energy importer, the recent increase in energy prices due to the situation in Ukraine is having a considerable impact on Japan's economy as it leads directly to an increase in the cost of living and business activities. As with resources mentioned in the previous recommendation, securing a stable supply of energy that is unaffected by the international situation is also a major challenge facing Japan.

Renewable energy, especially offshore wind power generation, is attracting attention as an important energy source that can contribute to both improvement of energy self-sufficiency rate and decarbonization. Considering its distinctive feature of having many deep marine zones, Japan should promote the early widespread adoption of floating offshore wind power generation, which has the greatest potential for introduction among the renewable energies and which is also resistant to typhoons.

The government has set a target of installing up to 45 gigawatts (GW) of capacity by 2040, and to achieve this target, offshore wind power generation projects are being steadily commercialized in general sea areas throughout Japan based on the Act on Promoting the Utilization of Sea Areas for the Development of Marine Renewable

Energy Power Generation Facilities (the Marine Renewable Energy Act). However, in proceeding with these projects, in addition to ensuring that they do not interfere with any prior use of the local sea areas, such as fishing operations and navigation, it is important that environmental impact assessments are properly conducted before and after the project in accordance with relevant laws and regulations, and that courteous, ongoing briefings and consultations are undertaken while respecting the philosophy of coexistence and coprosperity with the local community and fisheries.

A prerequisite of making renewable energy, including offshore wind power generation, a main source of power is the need to expand connection capacity. Consequently, power grids need to be improved, such as operational improvement and augmentation of transmission networks, to prevent any lack of available capacity in the grid from hindering the expansion of renewable energy. In addition to improving power grids, in order to install, maintain and manage offshore wind power generation facilities, based on an understanding of the recent trend toward large-scale offshore wind power generation, the development of base ports and harbors with a certain scale of cargo unloading and handling facilities, a high load capacity and a certain water depth should be promoted in an integrated manner with other port-related development projects.

Furthermore, since offshore wind power generation facilities involve a large number of components and parts, the supporting supply chain is broad. However, with Japanese companies having withdrawn from the manufacture of wind turbines for a while, Japan is still highly dependent on overseas suppliers for parts procurement. In order to achieve a domestic procurement ratio of 60% by 2040, it is important to build a strong supply chain based on local production for local consumption which is capable of completely domestic production by building up multiple layers of technology and know-how in various Japanese industries such as design, manufacturing, construction, marine engineering and shipbuilding. In addition, it is also vital to create an environment that prevents the dissipation of technologies and knowledge previously cultivated by companies that have withdrawn from the industry and ensuring such technologies and knowledge can be

utilized. In strengthening the supply chain, because of the expected ripple effects on local employment and economic revitalization from such characteristics as the broad base of projects related to offshore wind power generation and the length of time from project surveys through to construction of facilities and maintenance and management post completion, it is important to put effort into creating synergies with regional development and regional revitalization.

Moreover, maritime renewable energies other than offshore wind power generation, such as wave power, tidal power, tidal currents, ocean currents and ocean thermal energy, are said to have great potential because they are characterized by their capacity for stable power generation, less affected by weather and other conditions than solar power and wind power. It is also important to consider their use from a medium- to long-term perspective.

Given that offshore wind power generation is also expected to be introduced in Japan's vast EEZ in the future, Japan should consider how to promote its introduction, after examining the issues in international law, including UNCLOS, and in domestic law, including the Marine Renewable Energy Act.

4. Efforts for Conservation of the Maritime Environment, including Reduction of Ocean Plastic Waste

While the ocean does have a function of mitigating climate change through the absorption of large amounts of heat, it is also affected by rising temperatures and acidification that are induced by climate change. Since changes in the marine environment also affect diverse marine organisms and ecosystems, conserving the environment and biodiversity in the ocean and promoting its sustainable use are essential for the survival of humankind, which enjoys a wide variety of bounties from the sea.

Environmental pollution caused by ocean plastic waste has become a major issue for the international community in recent years. Among the various problems highlighted are degradation of the marine environment, including ecosystems, a decline in coastal

functions, adverse impacts on the landscape, obstruction of maritime traffic, and impacts on the fisheries industry and tourism. Circular economies need to be promoted which encourage the recycling of plastic resources throughout the entire life cycle of a product, from the design stage through to the discharge, collection and recycling stage.

Amid this situation, the UN Environment Assembly (UNEA), which is the decision-making body of the UN Environment Programme (UNEP), adopted a resolution in March 2022 that included enactment of the first international convention for plastic waste reduction. A decision was made to establish an Intergovernmental Negotiating Committee (INC) by the end of the year to discuss the specifics of the convention and to complete a draft agreement by the end of 2024. The resolution was proposed by Japan and adopted after coordination with other countries. With an eye to international standardization of Japan’s technologies and know-how, Japan should continue to take a position of leadership in creating the rules of the convention and making it more effective by leveraging its past efforts.

Regarding the MARINE Initiative, which was established to advance effective actions to combat marine plastic litter at a global scale in order to realize the “Osaka Blue Ocean Vision,” the aim of which is to reduce additional pollution by marine plastic litter to zero by 2050, Japan should especially promulgate 3R + Renewable, develop technologies for materials and alternative products with less environmental impact, and actively support developing countries in creating problem-solving systems and building capacity for proper waste disposal. Furthermore, in order to realize a “world free of new pollution,” in conjunction with ascertaining the actual situation of ocean plastic waste as a starting basis and enhancing related scientific knowledge, Japan should promote its science and technology diplomacy worldwide, including the dissemination of innovative technologies that contribute to solving the problem of ocean plastic waste, and encourage the promotion of a circular economy which includes the smooth recycling of plastic resources.

In Japan, the Act on Promotion of Resource Circulation for Plastics has been in effect

since April 2022, and all entities involved from product design to the disposal of plastic waste should lead the world in promoting effective measures for initiatives such as the recycling of plastic resources.

As for biodiversity, the Post-2020 Global Biodiversity Framework, which will replace the Aichi Biodiversity Targets as the new global target, includes the “30 by 30” target to protect 30 percent of the world’s lands and oceans by 2030. More than merely achieving a numerical target for the establishment of marine protected areas, once established, it will be important to take measures according to the functions and structure of each marine ecosystem as well as the mode of use, based on scientific indicators and assessments. Furthermore, with respect to the Japan Biodiversity Fund, which was established by Japan for the purpose of building capacity in developing countries in order to achieve the Aichi Biodiversity Targets, consideration should also be given to further contributions as required, while being mindful of the effectiveness of the fund’s operations. Japan should also be actively involved in the rule-making process and play a leading role in reaching the final agreement at COP 15, which is scheduled to be held in Kunming, China, before the end of 2022.

5. Strengthening the Maritime Industries, such as the Shipbuilding and Ship Machinery Industry, and Developing Seafarers and other Maritime-Related Human Resources

In Japan, marine transportation accounts for more than 90% of trade volume and approximately 40% of domestic cargo transport on a tonnage basis, and is a key transportation infrastructure for people’s lives and economic activity. The maritime industries, such as shipbuilding and shipping, are an important support for this.

One of these industries—the shipbuilding and ship machinery industry—continues to experience low ship prices due to oversupply in the global market for new ships. With high ship prices, Japan’s shipbuilding industry is in an even tougher situation due to the difficulty of obtaining new orders coupled with a decline in appetite for placing new

orders because of the COVID-19 pandemic. Japan's ship machinery and shipbuilding industry plays a role in the stable supply of ships used for marine transportation, and contributes to local economies and employment as a labor-intensive industry with broad supporting industries. The industry also contributes to the protection of people's lives and property at sea, the maintenance of maritime order, and the security of Japan through the stable supply, repair and maintenance of vessels in the fleets of the Japan Coast Guard and the Self-Defense Forces. These realities and their importance should be fully recognized and shared by the entire nation.

In view of these points, a fair and equitable competitive environment should be ensured in the international shipbuilding market by eliminating the unfair competitive environment with China and South Korea, which receive excessive state support. With regard to the IMO's efforts to reduce GHG emissions in international shipping, it is important that Japan continues to take the lead for more stringent environmental regulations, and that it leverages its key position within the organization to facilitate compliance with regulations, and at the same time, support the development of technologies for the construction of advanced, highly energy-efficient and eco-friendly ships, thereby gaining an advantage in the international competition with China and South Korea in terms of environmental performance, rather than price competition. Considering the importance that shippers and financial institutions in the shipbuilding and shipping industries place on ESG management, such as the achievement of GHG reductions in ship operations, the entire maritime industry should strategically address these issues under the banner of the SDGs and promote the development and recruitment of human resources to support them.

Regarding the development of Zero Emission Ships, which take Japan's strength in environmental technology performance one step further and emit no GHGs, industry, academia, government and public organizations should work together to hasten their practical application. Furthermore, regarding the development of next-generation technologies, such as digital transformation (DX) including autonomous navigation,

Japan should prioritize this development and play a leading role in the international rule-making process at the IMO based on its pioneering experience.

Seafarers, who are responsible for operating ships, are essential workers, and form the foundation of Japan's social and economic activities. In this context too, recruiting and training Japanese seafarers is an important issue from the perspectives of ensuring stable marine transportation in Japan and the stable transfer of ship handling and other maritime skills to the next generation.

For this reason, Japan should secure the necessary budget for maritime education institutions to ensure that education quality is not compromised, and for training ships in particular, planned budgetary measures should be implemented in view of the remaining service life so as not to interfere with on-the-job education. Through such budgetary measures, Japan should strengthen its education system for developing the next generation of maritime human resources of even higher quality, so that students can be trained with the knowledge and qualities to respond appropriately to changes in required capabilities as transportation becomes more globalized and as technological innovation progresses more rapidly.

In addition, apart from wages, reasons why recruiting Japanese seafarers is difficult include aspects that are particular to the seafarer occupation, such as the separation from family and community that comes from working long periods of time at sea. In order to improve this situation, the jobs need to be made more attractive by steadily promoting work style reforms such as creating healthy on-board environments, rectifying the long working hours and making improvements to holiday and leave conditions. Furthermore, from the perspective of gender equality, it is also important to make efforts to improve the employment environment for female seafarers, such as the enhancement of worker-friendly maternity and childcare leave systems, considerations for life planning, and the improvement of facilities in on-board living quarters.

Moreover, in order to raise public awareness and enhance social recognition for the seafarer occupation, the significance and effectiveness of tax measures for seafarers

should be verified in light of reductions of and exemptions from inhabitants tax that have been introduced by some local governments, and consideration should be given to expanding such programs.

[Matters for Consideration]

The Committee also recommends that the following three matters be considered for action as complementing the priority matters in a cross-cutting or individual manner.

6. Efforts for the Promotion and Utilization of Marine Science that Contributes to the Sustainable Use of Oceans

In order to realize sustainable development of the oceans, ocean mechanisms need to be clarified. Given that the development of marine science is essential for this, in order to take advantage of its strengths in oceanographic observation, etc., Japan should strengthen efforts to lead the formation of international frameworks, such as developing domestic systems and disseminating in line with the Global Ocean Observing System (GOOS). In addition, in order to strengthen the link between science and policy, Japan should nurture administrative officials who understand the natural sciences, such as those with doctoral degrees. In addition, as a scientific contribution to realization of an open Arctic, Arctic research vessels should be utilized as a platform for international cooperation.

7. Efforts for the Management and Sustainable Use of Fishery Resources Based on Scientific Evidence

Of all the ocean-related issues, science-based management is particularly important for the sustainable use of fishery resources, which are a renewable bioresource. Therefore, in addition to steadily promoting measures based on the revised Fishery Act, such as securing budgets and systems for collecting scientific data, Japan should also scientifically demonstrate that marine protected areas contribute to the restoration of fishery resources, model the coexistence of fisheries with the environment, and disseminate the outcomes to the international community. In addition, Japan should make diplomatic efforts and provide assistance to developing countries to expand the number of Parties to the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, in order to eliminate IUU fishing.

8. Promoting Marine Education to Facilitate Public Understanding of Various Ocean-Related Issues

To ensure the effectiveness of ocean policy, it is essential that the importance and characteristics of ocean-related issues be understood by the general public, not just by those involved. Therefore, in order to realize substantive marine education through cross-curricular teaching, descriptions of the ocean in official curriculum guidelines should be enhanced and consideration should be given to establishing a Marine Education Center to serve as a hub for education about oceans in Japan. In addition to further strengthening partnerships with aquariums and other social education facilities and with private-sector initiatives, efforts should be made secure opportunities for people to experience the sea, including through the use of digital technologies.

6. Efforts for the Promotion and Utilization of Marine Science that Contributes to the Sustainable Use of Oceans

Since the dawn of history, all life on Earth, including humans, have benefited from the ocean, and at times, have suffered disaster from it. Oceans also play an indispensable role in considering the current pressing issues of climate change by storing massive amounts of heat in their vast waters. At the same time, despite such familiarity of the oceans, because of their immense scale, their mechanisms, including those of the Arctic and the deep sea, are not necessarily fully understood.

Because of their overwhelming size, oceans were once thought to have an inexhaustible supply of fishery resources and a limitless capacity to clean up environmental pollution. Based on this premise, the law of the sea was also structured with an emphasis on freedom of use. However, the extraordinary expansion of human activity in the wake of technological advances has resulted in a burden that exceeds the limits of the ocean's capacity. The question now is how to properly regulate use of the oceans and ensure their sustainability.

Amid this situation, based on the recognition that the development of marine science is imperative for realizing sustainable development of the oceans, the UN General Assembly decided to designate the decade beginning in 2021 as the “UN Decade of Ocean Science for Sustainable Development.” As a maritime nation that has lived together with the sea, and with strengths in oceanographic observation and other endeavors, Japan should take the opportunity of this 10-year initiative to solidify its current dominant position, and should strengthen its initiatives, including the development of human resources, so that this dominance can be strategically applied to international rule-making and other areas.

Specifically, in addition to strengthening basic research, so that it can make a greater contribution to issues of climate change, for example, from the field of marine science, Japan should strengthen its science and technology diplomacy, by proceeding to develop domestic systems in line with the GOOS—an initiative led by the IOC—disseminating

and inputting outcomes using international logic, and exercising leadership in the formation an international framework for oceanographic observation.

Apart from oceanographic observation, since scientific fact is the basis for discussion as a prerequisite for formulating policies and forming international frameworks for the resolution of various ocean-related issues, such as environmental conservation including biodiversity, in order to lead such discussions, Japan should also strengthen the link between science and policy such as by actively nurturing administrative officials who understand the natural sciences, such as those with a doctoral degree in a natural science.

Furthermore, Japan has provided scientific data and made other significant contributions to the Arctic Council, which plays a major role in the governance of the Arctic. To prevent the Arctic from becoming a closed sea area like it was during the Cold War due to future developments in Russia, Japan should therefore contribute to the governance of an open Arctic from the viewpoint of science, such as by utilizing an Arctic research vessel, which has been approved for construction, not only for observations for Japan, but also as a platform for international cooperation, and by promoting the development of international human resources and research networks.

7. Efforts for the Management and Sustainable Use of Fishery Resources Based on Scientific Evidence

Resolving ocean-related issues generally requires action based on scientific evidence, but scientific evidence plays a particularly important role in the sustainable use of fishery resources (including whales) which are a renewable resource. It is also an issue that has dual aspects as a nexus between resource security and environmental conservation.

Surrounded by the sea on all sides, Japan has historically taken advantage of this to actively utilize marine products as a source of animal protein. Given these facts, the fisheries policy has occupied an important position from the early stages of Japan's ocean policy. During the enactment process of UNCLOS too, taking the freedom of the high seas into consideration, at the time, Japan objected to the introduction of the EEZ system

out of concern for the impact on the thriving deep-sea fishing industry. However, the tone of the international community pressed Japan to make a major decision.

Turning to the circumstances surrounding fishery resources, in Japan, the volume of fish catches has been decreasing, in part as a consequence of a decline in demand for marine products due to the Westernization of the Japanese diet as well as a decline in the number of workers in the fisheries industry due to Japan's declining birthrate and aging population. Globally, however, catches continued to increase until the second half of the 20th century, after which they have remained at a high level; although if products from aquaculture are included, that figure is continuing to increase.

Amid commentary in recent years about changes in the habitats of specific fish species and the impact on fish populations against a backdrop of rising ocean temperatures as a result of climate change and overfishing, fishery resources will also need to be managed properly from the perspectives of securing marine products as a food resource and conserving biodiversity.

In light of this situation, Japan needs to steadily promote measures based on the Fishery Act, which was revised in 2020, with a focus on setting targets based on scientific evidence and building new resource management systems that maintain and restore resources, while also paying adequate attention to the wishes of small-scale fishers and the perspective of regional revitalization. In this regard, Japan should secure necessary budgets and adequate systems for collecting scientific data to serve as the basis for targets and the like.

In addition, as mentioned in an earlier recommendation, as the international community moves toward setting the "30 by 30" target for marine protected areas, given the close relationship between the management of fishery resources and conservation of the environment, Japan should make efforts to scientifically clarify that the fishery industry and the establishment of marine protected areas can coexist through the restoration of fishery resources without the need for any trade-off, and then to develop a model based on such practices and disseminate it to the international community.

Furthermore, in light of trends in demand for marine products, international efforts for the management of fishery resources are even more important. In the international community, Regional Fisheries Management Organizations have taken conservation and management measures for various fish species and are working to achieve sustainable fisheries and resource use, but widespread IUU fishing that fails to comply with these measures have become a problem. With regard to IUU fishing, apart from problems such as the sustainability of fisheries and the lost earnings of regular fishers, IUU fishing also needs to be eliminated from the perspective of human rights issues, such as forced labor. Given this, in addition to making approaches at various diplomatic forums for the expansion of the number of Parties to the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA), which is one of the outcomes of international efforts, Japan should also provide necessary support to reduce any impediments to developing countries to sign the PSMA.

8. Promoting Marine Education to Facilitate Public Understanding of Various Ocean-Related Issues

Through the past three years of research, the Committee confirmed that while the ocean plays an important role in various aspects of sustainable development for Japan and the rest of the international community, such as securing resources and energy, conserving biodiversity and climate change, there are also many challenges.

To address these challenges appropriately, efforts are needed which are mindful of the interconnectedness of issues, which is also the basic approach of the SDGs. Japan therefore needs to formulate and steadily implement a comprehensive ocean policy. At the same time, as a prerequisite for ensuring the effectiveness of the policy, Japan also needs to deepen public understanding for the importance of the ocean and for the interconnectedness and comprehensiveness of issues.

Japan sees itself as a maritime nation, and Article 28 of the Basic Act on Ocean Policy prescribes the promotion of marine education, but when it comes to specific initiatives,

Japan could hardly be described as advanced, and various issues have been pointed out. For example, in the current official curriculum guidelines for elementary and junior high schools, which were revised in 2017, it has been pointed out that, while there has been about a 50% increase in descriptions of the ocean in the social studies curriculum compared to before the revision, these are mainly limited to sections about territorial lands and waters, and in the science and integrated studies curriculums, there have been hardly any changes.

In school education, although teachers and schools are given a degree of creative leeway, since the outline of instructional content is prescribed by official curriculum guidelines, descriptions of the ocean should be enhanced during the next revision so that more substantive marine education can be delivered through cross-curricular teaching that is mindful of comprehensiveness. In this regard, it is important to have perspectives that deepen our understanding of how the ocean is the origin of all life and the nurturer of diverse creatures, how the ocean serves as the foundation of everyday life and survival, and how the relationship between humankind and the oceans should be symbiotic. In addition, consideration should also be given to establishing a Marine Education Center to serve as a hub for education about oceans in Japan, where marine education at schools can be supported by developing curriculums and establishing practical and evaluation techniques.

At the same time, keeping in mind that any further increased burden in the classroom would be difficult, Japan should further promote partnerships with aquariums, museums and other social education facilities from the perspectives of reducing burden and increasing synergies. In addition, the collection and dissemination of best practices should be strengthened with regard to advanced private-sector initiatives in marine education as well as activities promoting thought about maritime affairs, and consideration should also be given to necessary financial support.

Furthermore, stimulating intellectual curiosity is important in order for people to take ownership of ocean-related issues and to understand the importance of those issues. The

significance of actually experiencing the sea is immense, yet Japanese people have been turning away from the sea in recent years as their leisure activities become more diverse and as their tendency to play safe becomes stronger. In light of this, efforts need to be made to improve this situation. Accordingly, in marine education, know-how on ensuring safety should be shared, and in collaboration with the private sector, education designed to make students more familiar with the sea, such as school summer camps by the seaside, should be incorporated as much as possible.

In this regard, as a form of marine education in the age of digital transformation (DX), initiatives that allow children to experience the ocean in virtual reality via digital technologies should also be promoted in order for today's children to gain a deeper, comprehensive understanding of the various roles and issues of the ocean while at the same time sparking their interest.

Finally, the Committee has compiled a total of eight recommendations, including the five priority matters shown here, in order to substantively resolve these ocean-related issues while being mindful of their interconnectedness, and it is essential that the Headquarters for Ocean Policy and the National Ocean Policy Secretariat fulfill their functions as the government's control tower more fully than ever before. In addition, from the perspective of managing the ocean comprehensively, given the importance of the role played by municipalities in promoting the comprehensive management of coastal areas, the Committee would like to make additional remarks about examining the incorporation of coastal areas into municipal areas and local allocation tax measures.

The government is currently in the process of formulating the next Basic Plan on Ocean Policy, and it is the Committee's hope that our recommendations made above will be reflected in this plan and in future ocean policies.

Afterword

The Committee's activities over the past three years have had to be conducted amid various constraints arising from the COVID-19 pandemic. We would like to express our gratitude to the voluntary testifiers who were kind enough to attend our meetings and give us the benefit of their valuable opinions under these difficult circumstances.

On February 24, 2022, Russia commenced acts of aggression against Ukraine, leading to the loss of many lives and vast amounts of property, and resulting in an inhumane situation. Russia, a permanent member of the United Nations Security Council that is responsible for international peace, has threatened to use nuclear weapons in an attempt to unilaterally change the status quo by force—a situation that could shake the very foundations of the postwar international order. The true value of the international community is seemingly being tested to see how far it will go in its united response to such a situation.

Behavior that could be seen as challenging the legal order at sea centered on UNCLOS is also often observed in the seas researched by the Committee, and in particular in the Indo-Pacific region. Accordingly, there is a need to deter attempts to unilaterally change the status quo by force and to ensure a shared awareness and enforcement of the rule of law.

In this final report, which has been compiled amid such circumstances, we have made a total of eight recommendations, including five priority matters, regarding ocean-related measures that the government and other entities should implement going forward. These recommendations have been made from the perspective of what contributions Japan, as a maritime nation, should make with respect to the sustainable use of the ocean, as represented by the SDGs, and at the same time, from the perspective of how Japan should strengthen its foundations to enable such contributions to be made in the current challenging environment.

The government is currently in the process of revising the Basic Plan on Ocean Policy,

and the recommendations in this report have been made with the next basic plan in mind. Among these timely recommendations, those on the priority matters in particular encapsulate topics of great interest to many of the Committee members. We strongly hope that the government will not only reflect these recommendations in the next plan, but also make sincere efforts to implement them.

Finally, we hope that this report will contribute in some small way to the realization of peace and prosperity for Japan and the international community, while serving as a compass to help guide Japan to live together with the world through the ocean.

Reference 1 Timeline of Deliberations

(The First year)

Diet session and date	Outline
200th (Extraordinary session) October 4, 2019 December 9	<ul style="list-style-type: none"> • Establishment of the Research Committee on International Economy and Foreign Affairs at a plenary meeting • Election of the Committee Chairman (TSURUHO Yosuke (LDP·VP)) • Election of Directors • Decision on this three-year term’s research theme (“Japan Living with the World through the Ocean”)
201st (Ordinary session) February 5, 2020	<ul style="list-style-type: none"> • Hearing government explanation and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean” focusing on “Japan's Ocean Policy”) • Hearing opinions of voluntary testifiers and conducting a question and answer session (same as above) <p>(Voluntary testifiers)</p> <p>YAMADA Yoshihiko Director (Advisor to the President), Shizuoka Campus, Tokai University Professor, School of Marine Science and Technology, Tokai University</p> <p>OKUWAKI Naoya Professor Emeritus, the University of Tokyo</p>

- February 12 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean” focusing on “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources” (Management and Protection of Fishery Resources))

(Voluntary testifiers)

Sakana-kun

Honorary Doctorate, Visiting Associate Professor, Tokyo University of Marine Science and Technology

KATANO Ayumu

Fisheries Journalist

KOMATSU Masayuki

Senior Fellow, the Tokyo Foundation for Policy Research

- February 26 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean” focusing on “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources” (Management and Utilization of Submarine Resources and Maritime Renewable Energy and their Future Development))

(Voluntary testifiers)

URABE Tetsuro

Professor Emeritus, the University of Tokyo

	<p>Advisor, Japan Mining Engineering & Training Center</p> <p>SHIRAISHI Takashi</p> <p>Chancellor, Prefectural University of Kumamoto</p> <p>ISHIDA Shigesuke</p> <p>Professor, Institute of Ocean Energy, Saga University</p>
June 3	<ul style="list-style-type: none"> • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean” focusing on “Efforts and Roles of Japan to lead the International Community as a Maritime Nation” (Strengthen the Foundation of Maritime Industry)) <p>(Voluntary testifiers)</p> <p>FUJIMOTO Takahiro</p> <p>Professor, Graduate School of Economics, Faculty of Economics, the University of Tokyo</p> <p>Executive Director, Manufacturing Management Research Center, the University of Tokyo</p> <p>UEDA Takashi</p> <p>Vice Chairman, the Shipbuilders’ Association of Japan</p> <p>TATAMI Ryozo</p> <p>Mayor of Maizuru City</p> <ul style="list-style-type: none"> • Exchange of views among Committee members (“Japan Living with the World through the Ocean”)
June 10	<ul style="list-style-type: none"> • Decision on the research report and its submission to the President of the House of Councillors • Decision to offer the report at a plenary meeting

(The Second year)

Diet session and date	Outline
202nd (Extraordinary session) September 18, 2020	<ul style="list-style-type: none"> • Election of a director
203rd (Extraordinary session) December 4, 2020	<ul style="list-style-type: none"> • Resignation of directors and election of substitutes
204th (Ordinary session) February 10, 2021	<ul style="list-style-type: none"> • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources, and Concept of Various Problems and Efforts Regarding the Maritime Environment” (Efforts to Address Problems Regarding the Polar Regions)) <p>(Voluntary testifiers)</p> <p>IKESHIMA Taisaku Professor and Dean, School of International Liberal Studies, Waseda University</p> <p>ENOMOTO Hiroyuki Vice Director, National Institute of Polar Research</p> <p>HAMAZAKI Kazuya General Manager, LNG Carrier Division, Mitsui O.S.K. Lines, Ltd.</p>
February 17	<ul style="list-style-type: none"> • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,”

focusing on “Concept of Ocean Utilization and Development including Securing of Marine Energy and Mineral Resources, and Concept of Various Problems and Efforts Regarding the Maritime Environment” (Problems and Efforts in the Quest to Conserve Marine Biodiversity and Achieve the Sustainable Use of Marine Bioresources))

(Voluntary testifiers)

DOHKE Teppei

General Manager, Communication Division, The Nature Conservation Society of Japan

TOBAI Sadayosi

CEO, WWF Japan

MORISHITA Joji

Professor, Department of Marine Policy and Culture, Tokyo University of Marine Science and Technology

- February 24
- Election of a substitute director
 - Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Concept of Various Problems and Efforts Regarding the Maritime Environment” and “Efforts and Roles of Japan to Lead the International Community as a Maritime Nation” (Efforts and Problems in the Quest to Achieve a Zero-Carbon Society, including Offshore Wind Power Generation and Zero Emission Ships))

(Voluntary testifiers)

SATO Iku

Senior Director, Ocean Renewable Energy Division,
Promotion Office for Strategic Business, Toda
Corporation

MANABE Hisafumi

President and CEO, Marubeni Offshore Wind
Development Corporation

TANAKA Seiichi

Chairman, Japan Ship Technology Research Association

- April 14 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Efforts and Roles of Japan to Lead the International Community as a Maritime Nation” (Problems and Efforts Regarding Maritime Security))

(Voluntary testifiers)

SAKAMOTO Shigeki

Professor Emeritus, Kobe University

KOTANI Tetsuo

Professor, Faculty of Languages and Cultures, Meikai
University

Senior Fellow, The Japan Institute of International Affairs

MUKAIDA Masayuki

Former Vice Commandant for Operations, Japan Coast
Guard

- April 21 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme

of “Japan Living with the World through the Ocean,”
focusing on “Concept of Various Problems and Efforts
Regarding the Maritime Environment” (Responses to
Conservation of the Maritime Environment and Various
Maritime Meteorological Problems))

(Voluntary testifiers)

SUNAMI Atsushi

President, The Sasakawa Peace Foundation

TOMIOKA Masashi

Vice President and Distinguished Professor, Graduate
School of Law, Nagoya University of Economics

SUGA Toshio

Professor, Graduate School of Science, Tohoku
University

- May 12 • Hearing opinions of voluntary testifiers and conducting a
question and answer session (regarding the research theme
of “Japan Living with the World through the Ocean,”
focusing on “Efforts and Roles of Japan to Lead the
International Community as a Maritime Nation” (Current
Status and Problems Regarding Maritime Education and
Maritime Human Resource Development))

(Voluntary testifiers)

KAYANNE Hajime

Vice Director, Center for Ocean Literacy and Education,
Graduate School of Education and Professor, Graduate
School of Science, University of Tokyo

HEMMI Shin

	<p>Professor, Faculty of Marine Technology, Tokyo University of Marine Science and Technology</p>
May 19	<ul style="list-style-type: none"> • Exchange of views among Committee members (“Japan Living with the World through the Ocean”)
June 2	<ul style="list-style-type: none"> • Decision on the research report and its submission to the President of the House of Councillors • Decision to offer the report at a plenary meeting

(The Third year)

Diet session and date	Outline
205th (Extraordinary session) October 14, 2021	(Only procedures related to the end of the Diet session)
206th (Special session) November 12, 2021	<ul style="list-style-type: none"> • Election of substitute directors
207th (Extraordinary session) December 21, 2021	<ul style="list-style-type: none"> • Election of substitute directors
208th (Ordinary session) February 2, 2022	<ul style="list-style-type: none"> • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Securing Maritime Human Resources to Lead the Next Generation and Promoting Public Understanding of the Ocean”) <p>(Voluntary testifiers) TAKAMASA Tomoji</p>

President, National Institute of Technology, Toyama
College

MATSUURA Mitsuharu

President, All Japan Seamen's Union

UNNO Mitsuyuki

Executive Director, The Nippon Foundation

- February 9 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Roles and Challenges of Ocean Networks amid Globalization”)

(Voluntary testifiers)

ITO Tsuyoshi

Professor, School of Political Science and Economics,
Meiji University

GODA Hiroyuki

Professor, Marine Frontier Education Center, School of
Marine Science and Technology, Tokai University

ISHII Yurika

Associate Professor, National Defense Academy of Japan

- February 16 • Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “Approaches to Contributing to the Conservation of the Maritime Environment and the Sustainable Use of Marine Resources”)

(Voluntary testifiers)

UEMATSU Mitsuo

President, Center for Environmental Science in Saitama

Emeritus Professor, The University of Tokyo

KOBAYASHI Masanori

Senior Research Fellow, Ocean Policy Research Institute,

Sasakawa Peace Foundation

KATO Yasuhiro

Vice Dean, School of Engineering, and Professor,

Frontier Research Center for Energy and Resources,

School of Engineering, The University of Tokyo

- April 6
- Hearing opinions of voluntary testifiers and conducting a question and answer session (regarding the research theme of “Japan Living with the World through the Ocean,” focusing on “The Future of Japan’s Ocean Policy”)

(Voluntary testifiers)

KITAOKA Shinichi

Emeritus Professor, The University of Tokyo

TERASHIMA Hiroshi

Advisor, Japan Society of Ocean Policy

- April 20
- Exchange of views among Committee members (“Japan Living with the World through the Ocean”)

- June 3
- Decision on the research report and its submission to the President of the House of Councillors
 - Decision to offer the report at a plenary meeting

**Reference 2 Summary of the Exchange of Views among Committee Members
Contained in Interim Reports (First Year and Second Year)**

(Omitted)

Reference 3

List of Committee Members

Chairman	TSURUHO Yosuke (LDP·VP)
Director	ASAHI Kentaro (LDP·VP)
Director	TSUGE Yoshifumi (LDP·VP)
Director	MATSUKAWA Rui (LDP·VP)
Director	MORIMOTO Shinji (CDP)
Director	TAKAHASHI Mitsuo (KP)
Director	KAWAI Takanori (DPFP-SR)
Director	YANAGASE Hirofumi (JIP)
Director	ITO Gaku (JCP)
	INOUCHI Kuniko (LDP·VP)
	IMAI Eriko (LDP·VP)
	UTO Takashi (LDP·VP)
	UENO Michiko (LDP·VP)
	ONODA Kimi (LDP·VP)
	OTA Fusae (LDP·VP)
	MORI Masako (LDP·VP)
	YOSHIKAWA Yumi (LDP·VP)
	ISHIKAWA Taiga (CDP)
	ONUMA Takumi (CDP)
	TAJIMA Maiko (CDP)
	YOKOSAWA Takanori (CDP)
	KUMANO Seishi (KP)
	MIYAZAKI Masaru (KP)
	TAKARA Tetsumi (OW)
	NAGAE Takako (HS)

Note:	LDP·VP:	Liberal Democratic Party and Voice of The People
	CDP:	The Constitutional Democratic Party of Japan and Social Democratic Party
	KP:	Komeito
	DPFP-SR:	Democratic Party For the People and The Shin-Ryokufukai
	JIP:	Nippon Ishin (Japan Innovation Party)
	JCP:	Japanese Communist Party
	OW:	Okinawa Whirlwind
	HS:	Hekisuikai

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Research Committee on International Economy and Foreign Affairs
House of Councillors

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