

Japan's Energy Strategy and Development of Energy Cooperation in the Asia-Pacific

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ABSTRACT

Japan is a resource-poor country with a low rate of energy self-sufficiency. Yet it has built an economic system utilizing the world's foremost energy conservation technologies since the oil shocks in the 1970s. Today the possible risk of endangering its energy security, caused by a change in the international environment, is reduced in the short- and medium-term thanks to the improvement of the energy supply-demand structure, including the effective utilization of energy resources and the maintenance of a stable oil stockpile. From a long-term perspective, however, Japan's energy security cannot escape from its potential vulnerability to international factors. One of the keys to overcoming this weakness is, as an example, to aim at benefiting from the returning ripples resulting from stabilizing global energy markets through promoting the worldwide dissemination of the relevant technology in energy conservation.

The Ministry of Economy, Trade and Industry (METI) published the revised version of the Basic Energy Plan in March 2007. The plan has the following policy measures regarding energy demand and supply: a) promotion of energy conservation policies and formation of a resource-saving socio-economic structure; b) development, introduction and utilization of diverse energy sources; c) strengthening of strategic and comprehensive measures for ensuring a stable supply of oil, etc.; and d) promotion of international cooperation in the energy and environment fields.

The New National Energy Strategy, which was published during the preparation stage of the Basic Energy Plan in May 2006, set up the following goals, including concrete numerical targets, entitled: a) Energy Conservation Frontier Plan; b) Transport Energy for the Next Generation Plan; c) New Energy Innovation Plan; d) Nuclear Power Nation Plan; e) Comprehensive Strategy for Securing Resources; f) Asia Energy and Environment Cooperation Strategy; and g) Enhancement of the Emergency Response.

At present both bilateral and multilateral international frameworks for energy cooperation are in the making at multiple levels in the Asia-Pacific. Japan is beginning to strengthen energy cooperation with the United States, China, and India, etc. It can be supposed that multilateral frameworks, such as the Five-Country Energy Ministers' Meeting (Japan, the United States, China, India and South Korea) and the East Asia Summit, have been bolstered by the growing shared awareness of the need for policy adjustments on the part of consuming nations.

³² 『エネルギー基本計画』、42頁。

Notwithstanding the fact that energy issues are at the heart of national security and thus intrinsically liable to give rise to conflict, it seems that they have paradoxically provided a catalyst for cooperation in the Asia-Pacific. The United States' proactive engagement in regional energy security issues has gradually taken on the role of "shock absorber" to ameliorate the potential aggravation of East Asia's major powers - Japan and China. Meanwhile, it can be assumed that Russia's intention to use energy as a "diplomatic weapon" has offered a new opportunity for policy adjustment among the consuming nations in the Asia-Pacific.

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Introduction

While the world's energy consumption, triggered by the rapid economic growth in China's and India's economies, is surging, competition over energy resources is further intensifying today. Against the backdrop of rising oil prices and the rise of "resource nationalism" justifying tightened state control of natural resources and regulation of foreign capital in developing oil and natural gas fields, the consuming side has been compelled to rethink measures aimed at ensuring stable energy supplies.

"Resource diplomacy" has become one of the key terms for understanding the international relations of the early 21st century. However, its meaning differs completely on the supplying and consuming sides. For a supplying country, resource diplomacy means attempting to expand markets for its own energy products and to sell them at the highest possible prices, given the tight balance of demand and supply in the global energy markets. Some supplying countries are even trying to enhance their political clout by brandishing the "resource card".

On the other hand, for a consuming country, the goal of "resource diplomacy" is to secure access to stable supply routes of physically limited resources. However, the implications fundamentally differ depending on whether or not energy security is achieved by economically rational means. A country may make a political decision to increase its energy equities by leaving business profitability out of consideration. An economically rational approach to energy security entails promotion of dialogues among consuming countries on the one hand, and between consuming and supplying sides on the other. A frantic competition over energy resources will only lead the supplying countries to

roar with laughter.

Japan imports 99% of its crude oil, and its self-sufficiency in energy is a mere 4% (and only 18% with nuclear power.) Japan is a resource-poor country: there is no doubt that Japan has a potentially high degree of vulnerability to changes in the external environment with regard to energy supplies. But is it fair to argue that a "resource-poor country" is destined to be a "small energy power"? If a country has wisdom and the know-how for the effective use of limited resources and for building an economic system enabling it to overcome its vulnerability to the supply situation of natural resources, it can be said that in a certain sense it is a "big energy power". The country can also develop a "resource (or energy) diplomacy" in a good way by contributing to stabilization of international energy markets by making the best of its accumulated experience and technology.

Japan's structure of energy demand and supply has been drastically transformed since the oil shocks in the 1970s. Given that Japan has produced world-class energy conservation technology and created a half-year equivalent in oil stockpiles, the possible risk of endangering its energy security, caused by changes in the international environment, is reduced in the short- and medium- term. This is demonstrated by the basic indicators of the *2007 Energy White Paper*, published by METI, as below.

The crude oil (Arabian Light) price climbed by a factor of 3.9, from \$3 per barrel (bbl) in September 1973 to \$11.7 per bbl in January 1974, when the first oil shock occurred. It increased by a factor of 2.7 from \$12.1 per bbl in December 1978 to \$34 per bbl in October 1981, at the time of the second oil shock. In recent years, it rose by a factor of 2.8 from \$25.2 per bbl in July 2002 to \$69.9 per bbl in July 2006.¹

Taking into account the aftermath of these two oil shocks, the Japanese economy has certainly demonstrated its increased tolerance to changes in international energy markets. The average real economic growth rate declined from 6.6% (the three fiscal years 1971-73) to 2.5% (the three fiscal years 1974-76) with the first oil shock and from 5.0% (the three fiscal years 1977-79) to 2.6% (the three fiscal years 1980-82) with the second oil shock. In contrast, it grew from 0.9% (the three fiscal years 2001-03) to 1.6% (the two fiscal years 2004-05).²

The consumer price index has also remained stable. While it rose by 21% in fiscal 1974 and by 7.6% in fiscal 1980, it actually declined by 0.1% in fiscal 2005.

¹ 2007 *Energy White Paper* (METI, in Japanese, 2007), p.4.

² *Ibid.*, p.8.

With regard to the trade balance (nominal value), it recorded a deficit of 1.9 trillion in 1974 and one of 2.6 trillion in 1980, yet a surplus of 8.7 trillion in 2005.

As regards the ratio of the increased value of crude oil imports to Gross Domestic Product (GDP), this was 2.8% (fiscal 1974) and 1.8% (fiscal 1980) for the first and second oil shocks, respectively, whereas it rose to just 0.7% in fiscal 2005.³ The decrease in energy intensity as a result of energy conservation, the reduction of oil dependency, and the appreciation of the Japanese yen combined to provide an environment for alleviating the impact of crude oil prices on the Japanese economy. Energy intensity improved by about 35% and oil dependency decreased by 28 points from fiscal 1973 to fiscal 2005.

The Japanese government enacted the Petroleum Stockpiling Act in 1975, mandating private oil companies to maintain oil stockpiles. State oil-stockpiling also became law in 1978. As of 2006, Japan had 168 days' equivalent of oil stockpiles of which the government's share accounted for 90 days and that of private oil companies for 78 days.⁴

Furthermore, according to the *Outlook for Energy Demand and Supply in 2030*, published by METI in March 2005, as a consequence of a declining population and the changes in the socio-economic structure, it is projected that Japan's energy demand will peak by fiscal 2021 in the normal-case scenario and by 2030 in the case of high economic growth rates.⁵

As summarized above, Japan has made efforts to help itself overcome the weakness of being a resource-poor country and strengthened the tolerance of its energy structure toward external contingencies. However, ensuring long-term energy security for Japan still necessitates a favorable arrangement of the international environment. In this context, it has increasingly become essential to establish multilateral energy cooperation frameworks at the global level, with particular regard to the Asia-Pacific today.

Firstly, this paper presents Japan's perceptions about the recent changes in the national and international energy situation and the direction of policy, by quoting the main points of the official energy documents published in 2006-2007⁶.

Secondly, it addresses the development of building international bilateral and multilateral frameworks for energy cooperation among consuming countries.

Lastly, the author examines, against the background of recent trends, the implications of the United States' role in the energy security of the Asia-Pacific, and the question of engagement with the major oil and gas supplier of Russia.

1. Japan's Energy Security Policies and Countermeasures (1) Basic Energy Plan

A. Background

In March 2007, METI published a new version of the *Basic Energy Plan*. In the light of the latest changes in the domestic and international situation, this plan updated the previous version of October 2003, which had been formulated in accordance with the Basic Act on Energy Policy of June 2002, advocating three basic principles: "securing of stable supplies", "environmental compliance", and "application of market mechanisms."

The revised version is also based on the *New National Energy Strategy* of May 2006, stipulating the prioritized policy measures toward 2030. The strategy document stipulated concrete numerical targets, though not legally binding.

B. Three Basic Principles⁷ *Securing of Stable Supplies*

(a) Perception of the Current Situation

- It is projected that the rising trend in world energy consumption, triggered by Asian economies, will continue in the foreseeable future.
- While the world is likely to increase its oil dependency on the Middle East, the region cannot escape from diverse destabilizing factors including terrorism, and conflict, etc.
- Against the backdrop of soaring oil prices, each country has intensified its operations to secure energy resources such as oil.
- Resource supplying countries have shown a tendency to tighten state control of natural resources and to impose restrictions on foreign investment.
- Given that nuclear power generation has the attributes of ensuring stable supplies and emitting no CO₂ in the process of power generation, the United States and Europe are set to promote nuclear power. China and India also intend to move toward building nuclear power plants due to the rapid growth in their electricity demand.
- Under the above conditions, the issue of reducing the risks associated with energy supplies and of securing stable supplies has become all the more urgent.

(b) Basic Policies

- Development of relevant infrastructure with a view to introducing new technologies and promoting energy conservation efforts in the residential, transport, and industrial sectors.

³ Ibid., p.11.

⁴ Ibid., pp.345-6.

⁵ *Outlook for Energy Demand and Supply in 2030* (General Resources Energy Investigation Committee, 2005), p.82.

⁶ The texts are edited by the author, where necessary. As far as the *Basic Energy Plan* is concerned, he translated the Japanese texts into English. With regard to the *New National Energy Strategy*, some texts were directly cited from its digest version. The same was done regarding the official documents of international agreements mentioned in this paper.

⁷ *Basic Energy Plan* (METI, March 2007), pp.5-11.

Japan aims at establishing a world-leading energy-conservation society by reducing energy consumption to the maximum, without entailing changes in efficiency as far as is possible.

- Diversification of energy sources focusing on alternative sources with low risk of supply suspension. Promotion of nuclear power, as the future mainstay energy, and the nuclear fuel cycle, while encouraging the development, introduction and utilization of new energies, etc.
- Promotion of strategic and comprehensive policy measures, based on public-private partnership with an aim of securing stable supplies of oil, coal, natural gas, and uranium, etc.; strengthening the overall relationship with resource-supplying countries; encouragement of independent development by reinforcing support for resource-developing companies; diversification of oil supply routes; and fostering of energy companies which are internationally competitive.
- Reinforcement of the stockpiling system and countermeasures against emergent situations with regard to oil and LPG (Liquefied Petroleum Gas), for both of which the import dependency on the Middle East is high.
- Establishment of a stable and reliable energy supply system in accordance with domestic energy demands.

Environmental Compliance

(a) Perception of the Current Situation

- It is highly important to maintain a stance of preventing global warming in the process of formulating demand and supply policy measures, considering that about 90% of Japan's greenhouse gas (GHG) emissions are CO₂ originating from the energy sector.
- It is essential to establish an effective framework to encourage all the emitters of GHGs, including the United States which has not ratified the Kyoto Protocol, and China and India which bear no obligation to reduce GHG emissions, to make maximum effort in GHG reduction, taking into account the developments in international debate on any future framework concerning the issue of global warming.
- It has been internationally recognized that energy policy measures are important as a response to global warming. Given that Japan has world-leading technologies, including energy conservation methods, the necessity of not only promoting domestic measures, but also proactively contributing to building an effective international framework has been emphasized.

(b) Basic Policies

- Reduction of energy consumption by energy saving measures, while maintaining the current energy efficiency as far as is possible.
- Placing emphasis on the importance of nuclear power generation as a clean energy which

ensures stable supply and emits no CO₂ in the process of power generation, and as a key to the simultaneous solution of energy security and global warming issues.

- Promotion of the development and utilization of renewables such as photovoltaic energy, wind power, biomass, and developing hydrogen-fuel production not dependent on fossil fuels in the medium- and long-term, taking into consideration the importance of reducing reliance on fossil fuels as far as is possible.
- Promotion of conversion to gas-based energies in view of gas having the least amount of CO₂ emissions among the fossil fuels. Reduction of emissions of CO₂, while encouraging the cleaner use of fossil fuels, including oil and coal, and the improvement of power generation efficiency by developing and introducing higher standards of technology.
- Taking an initiative to lead the debate on the establishment of an effective framework to encourage the major emitters such as the United States, China and India to cooperate in making maximum reductions, by proactively participating in the debate on a post-2013 framework on global warming related issues from the standpoint of energy policy.
- Establishment of a basis for sustainable growth, by proactively making contributions to various types of multilateral measures to supplement the Kyoto Protocol.

Application of Market Mechanisms.

(a) Perception of the Current Situation

- The application of market mechanisms can reinforce the structure of the energy industry by way of: i) diversifying alternatives among consumers; ii) improving the standard of living and strengthening the industry's competitiveness in the international arena due to price reduction in energy products; and iii) encouraging effective management of the industry.
- In the energy sector, problems may arise with regard to the principles of "securing of stable supplies" and "environmental compliance", given the following: i) the requirement of a lengthy time-period to develop supply infrastructure; ii) the strong degree of state involvement, particularly in oil exporting countries; iii) if solely dependent on market mechanisms, the possibility of constructing a problematic energy structure from the viewpoints of stable supplies and the environment; and iv) the possibility of increases in energy consumption.
- There is a possibility that market mechanisms may not function effectively owing to a decline in the incentive for companies to compete and improve the efficiency of management against the background of current energy prices remaining at a high level in the medium- to long-term.

(b) Basic Policies

- Taking care not to neglect ensuring security in the application of market mechanisms.
- Promotion of the implementation of policy measures on the demand side, including energy conservation, for the purpose of not only reforming regulations on the supply side, but also galvanizing market mechanisms.

C. Policy Measures in Demand and Supply of Energy⁸

The implementation of energy policy measures are subdivided as follows:

(a) Promotion of energy conservation measures and the establishment of an energy-saving socio-economic structure

- Formulation of an energy conservation technology strategy
- Introduction of the "benchmark approach" by sector and active control of primary energy consumption in the residential, transport and industrial sectors.
- Cross-sector policy measures for the purpose of: i) enhancing popular consciousness about energy conservation; ii) promoting effective use of energy among multiple actors; iii) establishing a mechanism via which investments in energy conservation are evaluated by the market (i.e., investors); and iv) creating energy-saving urban areas.

(b) Development, Introduction, and Utilization of Diverse Energy Sources

Nuclear Power

- Promotion of nuclear power generation as a mainstay electricity source and of the nuclear fuel cycle, in deference to the Framework for Nuclear Energy Policy (approved at a cabinet meeting in October 2005), and ensuring safety.
- Realization of the new construction, expansion, and rebuilding of nuclear power plants under the liberalized environment of the energy sector, and the appropriate utilization of extant nuclear power plants, in response to the policy measures to raise the proportion of nuclear power generation above the current level in the medium- and long-term.
- Placing emphasis on: the strategic strengthening of establishing the nuclear fuel cycle at an early stage, and the strategic strengthening of the associated industries; early putting into operation of the fast-breeder reactor cycle; proactive engagement in building an international framework with an aim of simultaneously achieving an increase in nuclear power's share of power generation and nuclear non-proliferation; technological development and training of personnel for the next generation; support for the Japanese nuclear industry's international

advancement; and implementation of measures on radioactive waste.

Transport Sector

- Promotion of the introduction of new fuels, including biomass-derived fuels, GTL (Gas-to-Liquid) technology, and development and spread of fuel-cell vehicles and hybrid cars, given that the transport sector has the highest degree of vulnerability in the energy demand and supply structure, with a nearly 100% reliance on oil.

New Energies

- Promotion of technological development toward cost reduction and the solution of other associated issues, taking into consideration the merits of contributing to measures against global warming and of involving fewer resource constraints than fossil fuels, notwithstanding the unstable energy output and high costs at present.
- Intensive support for photovoltaic energy, wind power, and biomass as the prioritized areas in renewables.

Gas-based Energy

- Strengthening the bargaining power vis-à-vis resource-producing countries through overall consolidation of relationships with the latter and the diversification of supply routes for the purpose of securing stable supplies against the backdrop of the projected growth in LNG (Liquefied Natural Gas) in the future.

Coal

- Promotion of development and transfer of clean-coal technology with an aim of enhancing the environmentally-friendly use of coal by overcoming environmental constraints, taking into account coal's having a more stable supply than other fossil fuels, being abundant and with a wide geographical distribution of global reserves, despite Japan's almost complete dependence on imports at present.
- Promotion of alternative energy sources to oil by transferring Japan's advanced gas-to-liquid technology to the coal-producing countries of Asia.

Policy Measures Based on a Long-Term Outlook of the Energy Demand and Supply Structure

- Maintaining a long-term perspective in order to tackle energy consumption issues on the demand side, and promotion of nuclear power on the supply side; dissemination of energy-transmission systems; and realization of a society utilizing hydrogen fuel.

⁸ Ibid., pp.12-50.

(c) Reinforcement of Strategic and Comprehensive Policy Measures toward Securing Stable Supply Routes of Oil, etc. *Overall Strengthening of Relationships with Resource-producing Countries*

- Proactive development of resource diplomacy at the head of government and ministerial levels in cooperation with the business community.
- Promotion of a wide range of cooperation with resource producing countries including non-energy fields such as diversification and sophistication of their economies.

Promotion of Independent Upstream Development by Supporting Energy-related Companies

- Along with an active resource diplomacy, comprehensive and proactive utilization of the capabilities of related organizations: the risk-taking roles to be taken by Japan Oil, Gas and Metals National Corporation (JOGMEC), Japan Bank for International Corporation (JBIC) - or its successor entity after integration into a new policy finance organization - and Nippon Export and Investment Insurance (NEXI); and industrial cooperation roles by the Japan External Trade Organization (JETRO).

Diversification of oil supply routes

- Strengthening the overall relationship with Middle Eastern countries as well as promotion of the securing of new routes from Russia, the area adjoining the Caspian Sea, Africa, Central and South America, and Canada, etc.

Reinforcement of the Securing of Natural Gas Supplies

- Promotion of the introduction of the domestic use of natural gas, strategically developing related technologies, and investment projects for the purpose of maintaining and acquiring Japan's comparative advantage against the backdrop of a projected increase in the global demand for LNG in the future.

Reinforcement of Policy Measures toward Stabilizing the Demand and Supply of Coal

- Strengthening relationships with coal-producing countries by way of cooperation on developing coal mines, transfer of production- and security-related technologies and training up of personnel.
- Transfer of clean coal technologies to developing countries in Asia where coal demand is on the rise with an aim of overcoming environmental constraints and to improve efficiency of use.

Enhancement of Developing and Importing Uranium and Biomass-derived Fuel

- Promotion of providing risk-capital and public finance to encourage private Japanese companies to develop uranium mines, against the backdrop of the reconsideration of uranium and the rising concern about the tight balance of demand and supply globally.

- Promotion of developing and importing biomass-derived fuels including feasibility studies for the purpose of securing stable supplies from those areas where biomass resources are abundant.

Formulation of Guiding Principles for Securing Resources

- Drawing up the government's overall principles with regard to supporting the acquisition of the most important development equities and resource-procurement projects in view of securing stable supply routes for energy resources to Japan.
- Promotion of Official Development Assistance (ODA), policy financing, and trade insurance to strengthen strategic links in the context of economic cooperation.

Enhancement of Technological Development to Strengthen Resource Procurement Capability

- Utilization of Japan's advanced technologies and further promotion of technological development to enhance its appeal to resource-producing countries.
- Promotion of international cooperation as regards effective energy use and the introduction of new energies on a global scale from the standpoint of reinforcing Japan's capability of procuring resources by means of alleviating the energy balance of demand and supply.

Strengthening International Competitiveness and the Management Base of the Oil Industry

- A whole-scale improvement of each stage from development, refining, and distribution to production of petrochemicals, and improvement of the industry's profitability, in order to strengthen domestic companies by increasing their competitiveness internationally as well as domestically.
- Enhancement of the oil industry's international competitiveness with a view to exporting petroleum products to Asian markets, taking into account the growing demand and making a contribution to the stabilization of Asia's demand and supply.
- Consolidation of the oil industry as the heart of Japan's energy security and its leading role also in the procurement of biomass-derived fuels.

(d) Promotion of International Cooperation in the Energy and Environment Fields

Strengthening Energy and Environmental Cooperation via Multilateral Frameworks

- Taking the lead in an initiative to promote policy coordination on energy through various multilateral frameworks, including international organizations such as the International Energy Agency (IEA), regional frameworks such as the Association of Southeast Asian Nations (ASEAN), and the International Energy Forum (IES), with regard to all areas of energy; oil, gas, coal, new energy, nuclear power, and energy

conservation, etc.

Promotion of Asian Cooperation

- Promotion of disseminating energy conservation know-how to Asian countries which have a low-level efficiency in energy use despite their great volume of energy consumption, given that Japan is the world-leader in efficiency of energy use.
- Promotion of developing biomass energies, taking into consideration that there exists great potential for introducing biomass in Asian countries, and also for those nations becoming biomass suppliers to Japan in the medium- and long-term.
- Promotion of transferring technologies regarding the clean use of coal, the liquefaction of coal, and deep coal mining and its safety, against the backdrop of the widespread use of coal in Asian countries without the implementation of sufficient measures to protect the environment.
- Promotion of the creation of regional cooperation frameworks with regard to strengthening the stockpiling system of oil and LPG, and ensuring nuclear safety.
- Promotion of regional cooperation by proactively utilizing multilateral frameworks, not just bilateral ones.

Cooperation in and Contribution to International Frameworks Relating to Climate Change and Nuclear Nonproliferation

- Taking the initiative to lead international discussions on establishing a post-2013 framework due to the expiry of the Kyoto Protocol's first commitment period, with an aim of encouraging all major emitters of GHGs, including the United States, China and India, to cooperate in maximum reductions.
- Promotion of an integrated solution of energy and environmental issues by proactively cooperating within multilateral frameworks supplementing the Kyoto Protocol, such as the Plan of Action for Climate Change, Clean Energy and Sustainable Development (adopted at the G8 Summit in Gleneagles in July 2005), and the Asia-Pacific Partnership on Clean Development and Climate (inaugurated in July 2005), etc.
- Promotion of making a proactive contribution, based on Japan's experience and technology, to the new trend in establishing international frameworks for nuclear cooperation, such as the Global Nuclear Energy Partnership (GNEP) which has the simultaneous goal of spreading nuclear power generation and nuclear nonproliferation, the concept of securing nuclear fuel supplies proposed in the discussions of the International Atomic Energy Agency (IAEA), and

the reinforcement of the control of nuclear-related materials, equipment, and technology by the Nuclear Suppliers Group (NSG), bearing in mind Japan's importance as the only nation having suffered nuclear attack and as a model for the utilization of nuclear power for peaceful ends.⁹

(2) New National Energy Strategy

The *New National Energy Strategy*, published in May 2006, was formulated in the preparatory stage of revising the *Basic Energy Plan* and set concrete numerical targets in accordance with the principles and objectives stipulated in the latter document.

According to the *New National Energy Strategy*, the "first structural change period" covered the era from the early 1970s to the mid-1980s, including the first oil shock at the outbreak of the Fourth Arab-Israeli War of 1973 (Yom Kippur) and the second oil shock in the aftermath of the Iranian Revolution of 1979 and the outbreak of the Iran-Iraq war. The document regards the contemporary era as the "second structural change period" with tight market conditions of energy demand and supply and a trend of higher oil prices due to a series of events including the 9/11 attacks of 2001 and the outbreak of the Iraq War (or Second Gulf War) in 2003.

The strategy includes three basic future prospects: "establishing a state-of-the-art energy supply-demand structure", "comprehensive strengthening of resource diplomacy, and energy and environmental cooperation", and "enhancement of response to emergencies." The concrete policies with numerical targets are as below.

A. Establishing a State-of-the-Art Energy Supply-Demand Structure¹⁰

(a) Energy Conservation Frontrunner Plan

The Japanese economy has achieved an energy conservation efficiency of over 30% since the oil shocks of the 1970s. It aims at further improvement of energy conservation efficiency by at least another 30% by 2030.

The main activities include:

- Formulation of an energy-conservation technology strategy
- Preparation of "top-runner" standards for various sectors, and selective reinforcement of support for those meeting the standards.
- Development of a business value assessment method with which companies engaged in energy conservation investment are evaluated by the market (investors).

(b) Transport Energy for the Next Generation Plan

This aims at bringing the oil dependency of the transport sector down to about 80% by 2030 by establishing a highly efficient transport infrastructure.

The main activities include:

- Improvement of fuel efficiency for passenger

⁹ GNEP is a U.S. proposal for the peaceful use of nuclear power, announced in February 2006, by establishing an international framework consisting of "nuclear fuel-cycle countries" and "non-nuclear fuel-cycle nuclear generating countries".

¹⁰ *New National Energy Strategy (Digest)*, (METI, 2006), pp.29-48.

- vehicles.
- Diversification of fuels.
- Promotion of the development of new fuels, including biomass-derived fuels, GTL, etc., and the securing of their supply.
- Promotion of the development and spread of electric vehicles, and fuel cell vehicles, etc.

(c) New Energy Innovation Plan

This expands the introduction of new energy in the following example directions, and aims at attaining its independence as an industry by 2030.

- Bringing the cost required for photovoltaic energy generation down to the same level as thermal power generation.
- Promotion of local production for local consumption through biomass energy and wind-powered electricity to improve the self-sufficiency ratio of the energy supply in the region.
- Turning a large part of the new vehicles sold on the market into hybrid vehicles along with the promotion of the introduction of electric vehicles and fuel cell vehicles.

The main activities include:

- Expansion of supply and demand through introducing support measures according to the attributes and growth stage of the given energy source.
- Formation of a substantial industrial structure for the new-energy industry and promotion of regional businesses based on local production and local consumption.
- Transfer of innovative technologies to promote the intensive use of energy.
- Expansion of support for new-energy ventures using innovative technologies.

(d) Nuclear Power Nation Plan

This aims at bringing nuclear power's share of the total amount of power to over 30 or 40%, by 2030 and even beyond, since nuclear power is pivotal to establishing energy security and solving global environmental issues, given that it has excellent supply stability and is a clean energy source that does not emit CO₂ when being generated.

In addition to systematically and comprehensively tackling various issues such as the steady promotion of the nuclear fuel cycle based on current light-water reactors and the early practical use of fast-breeder reactors, the research and development of fusion energy technology is also being promoted.

The main activities include:

- Realization of constructing new, additional nuclear power plants and the replacement of existing plants in the context of the liberalization of the electricity sector.
- Early establishment of the nuclear fuel cycle for current light-water reactors.

- Early practical use of the fast-breeder reactor cycle.
- Active contribution toward creating a global framework for both the spread of nuclear power use and non-proliferation.
- Strengthening for the future the technology and personnel of the nuclear power industry.
- Active support for the global development of the Japanese nuclear industry.
- Strengthening the efforts for selecting the possible location of a final waste-disposal site.
- Introduction and building of effective safety regulations based on the establishment of quality assurance.
- Improvement of aging management measures, earthquake-proofing, and physical protection measures.
- Strengthening the relationship of trust between the government and the localities where the nuclear facilities are located.

B. Comprehensive Strengthening of Resource Diplomacy, and Energy and Environmental Cooperation¹¹

(a) Comprehensive Strategy for Securing Resources

This promotes, strategically and strongly, the reinforcement of the relationship with resource-producing countries and the strengthening of support for resource-developing companies with the aim of boosting Japan's involvement in the development of resources. It strives not only to diversify the sources of oil supply, but also to raise the crude oil volume obtained through exploration and development by Japanese companies to 40% by 2030.

The main activities include:

- Strengthening a strategic and comprehensive effort for the securing of resources.
- Promotion of strategic development of resource-related technologies.
- Strengthening the procurement strategy for natural gas.
- Development of the clean use of fossil fuels.
- Strengthening the procurement strategy for mineral resources.

(b) Asia Energy and Environment Cooperation Strategy

This aims at improving the efficiency of energy use in Asia as well as stabilizing coal production in the coal-producing countries of Asia, while simultaneously making a contribution to solving environmental issues, including global warming, against a backdrop of the accelerating use of coal. It also strives to establish an effective scheme for oil stockpiling in Asia as a preventative measure for conceivable panic centered in Asian countries in the case of a tightening of the energy balance of demand and supply.

The main activities include:

- Promotion of energy conservation based on the Asia Energy Conservation Program.
- Promotion of new-energy cooperation in Asia.

¹¹ Ibid., pp.49-59.

- Transfer to Asia of clean-use, production and safety technology relating to coal.
- Building a stockpiling system in Asia.
- Promotion of regional cooperation on nuclear power in Asia.

C. Enhancement of Response to Emergencies¹²

- Strengthening of the oil stockpiling system including the introduction of petroleum-product stockpiling.
- Preparation of an emergency-response system for natural gas.
- Strengthening of cross-sector crisis management for various energy sources.

2. Emergence of International Cooperation Frameworks

Concerns about energy security are heightened worldwide, and while consuming countries are intensifying their competition over resources, they are also beginning to gradually create frameworks for cooperation. This signifies that consuming nations have increasingly realized that excessive competition between them will only lead to benefits for the supplying nations.

Even between the two big East Asian powers, Japan and China, notwithstanding the unsolved issues regarding sovereignty and demarcation of national boundaries in the East China Sea and the disagreements over interpretations of history, energy dialogues and practical projects have gathered momentum since the arrival in office of Shinzo Abe in autumn 2006. Meanwhile, energy cooperation between China and India has also developed against the backdrop of their sharp increases in energy demand.

It is noteworthy that a new development of the U.S.-Japan alliance as regards energy is starting to bolster Sino-Japanese energy cooperation with its attendant political implications.

For example, a report entitled "The U.S.-Japan Alliance: Getting Asia through 2020", co-authored by Richard L. Armitage (the ex-Deputy Secretary of State) and Joseph S. Nye (ex-National Security Adviser to the President) and published by the Center for Strategic and International Studies, stated as follows:

The United States, Japan, and others will be further affected by China's surging demand for energy and raw materials. Some of the consequences will likely be negative: higher prices for foreign crude, increasing environmental degradation, and competition over disputed maritime boundaries. But there will also be new

opportunities for cooperation on energy efficiency, "clean-coal technology," and nuclear power. It may also be the case that China's increasing reliance on the outside world will present the United States and its friends with foreign policy opportunities.¹³

Furthermore, it can be noted that various forms of multilateral and multilayered cooperation frameworks, embracing bilateral developments, are in the making.

(1) The Bilateral Level¹⁴

A. Japan-China Energy Cooperation¹⁵

In December 2006, when Akira Amari, Japan's Minister of Economy, Industry and Trade, visited Beijing to attend the First Five-Country Energy Ministers' Meeting (see below), he and Ma Kai, Chairman of the People's Republic of China's National Development and Reform Commission (NDRC), had a bilateral summit and signed a memorandum on implementing an energy conservation and environmental business model project in order to facilitate reciprocal cooperation between Japan and China in the energy conservation and environmental fields.¹⁶

In April 2007, the first policy dialogue between Japanese and Chinese energy ministers was held in Tokyo, and Japan's METI and China's NDRC announced the "Joint Statement on Enhancement of Cooperation between Japan and the People's Republic of China in the Energy Field." The statement advocated a shared awareness that promotion of bilateral energy cooperation by public and private bodies in both countries would contribute to the energy security of not only their two countries, but also East Asia and the world. It was indicated that Japan had the most advanced energy conservation technology and the highest level of efficiency in energy use in the world, whereas China stipulated energy conservation as a policy fundamental to its national security, economic development, and preservation of its environment. Japan's will to help the Chinese effort for energy conservation was emphasized. They agreed to promote cooperation on the utilization of clean-coal technology, the construction and safe operation of nuclear power plants, and the development of new and renewable energy sources. Promotion of energy security and of efficient energy use within a multilateral framework was also stipulated.

B. Japan-India Energy Cooperation¹⁷

Both governments agreed to set up a dialogue on oil and natural gas at the Japan-India Summit of April 2005 in New Delhi. In September of the same year, Shoichi

¹² Ibid., pp.60-61.

¹³ *The U.S.-Japan Alliance: Getting Asia through 2020*, p.4.

¹⁴ Aside from the bilateral relations addressed here, Japan has promoted the strengthening of energy cooperation with other Asian countries, including Indonesia and Vietnam. <<http://www.enecho.meti.go.jp/policy/international-affairs/index3.htm>>.

¹⁵ <<http://www.enecho.meti.go.jp/policy/international-affairs/data/Joint%20Statement.pdf>>.

¹⁶ As early as May 2006, the first China-Japan Comprehensive Energy Conservation and Environment Forum was held in Tokyo in which about 850 people including the ministers of both countries and businesspeople participated, for the purpose of promoting an exchange of opinions on policy measures, past experiences and technologies in the energy conservation and environment fields. The second forum is planned to be held in Beijing in September 2007.

¹⁷ <http://www.enecho.meti.go.jp/policy/international-affairs/data/Japan%20Ver._Final%20draft-Energy%20Dialogue.pdf>.

Nakagawa, Japan's Minister of Economy, Industry and Trade, and Mani Shankar Aiar, India's Petroleum and Natural Gas Minister, issued a joint statement, stipulating that both countries would promote dialogue on cooperation in six areas; exploration and development in third countries, oil stockpiling, joint research on Asian oil markets, methane hydrate, energy conservation, and hydrogen fuel.

During Indian Prime Minister Manmohan Singh's visit to Japan in December 2006, he and the Japanese premier Shinzo Abe agreed on the launch of a "Japan-India energy dialogue" at the cabinet level, and announced the "Joint Statement Towards Japan-India Strategic and Global Partnership," advocating comprehensive cooperation in energy, including in energy conservation.

In April 2007, the first meeting of the regular cabinet-level energy policy dialogue was held in Tokyo. Both sides acknowledged the importance of developing energy infrastructure, the promotion of energy conservation, and collaboration on energy security within a multilateral framework. Working groups on six areas of cooperation - 1) electricity, 2) power generation, 3) energy conservation, 4) coal, 5) renewables, and 6) oil and natural gas, were established.

C. Japan-United States Cooperation¹⁸

At the meeting of METI minister Amari with Samuel W. Bodman, Secretary of Energy, in Washington in January 2007, they published the "United States-Japan Cooperation on Energy Security" agreement. The document stated that both sides recognized, for the purposes of ensuring the mutual energy security of the United States and Japan, and of addressing global climate change, that it would be essential to improve energy efficiency, to diversify the energy mix - making wider use of clean and alternative energy, such as clean use of coal, nuclear energy and renewables - as well as to improve the investment climate in energy-producing countries, and to engage emerging economies.

For example, the document specified the following two areas of cooperation: joint development of a civilian nuclear energy action plan; and the Japanese government's active participation in the U.S.-led "FutureGen Project" to construct the world's first emission-free coal-fired electricity generation plant.

As an area for Japan-U.S. policy coordination in building international cooperation with regard to improving the investment climate in energy-producing countries, both countries agreed on the need to enhance the producing countries' understanding of the importance of foreign investment in upstream sectors which are beneficial for both energy-producing and consuming countries alike. Concerning the engagement of emerging economies, Washington and Tokyo also agreed on strengthening cooperation with China and India both bilaterally and multilaterally and encouraging the latter two to improve their energy efficiency and to build strategic oil stockpiles

in collaboration with the IEA.

(2) The Multilateral Level

A. Five-Country Energy Ministers' Meeting

The result of a Chinese initiative, the leaders of five countries - the United States, China, Japan, India and South Korea, which account for about the half of the world's energy consumption - gathered in Beijing for the first time in December 2006, and issued the "Joint Statement of the Five-Country Energy Ministers' Meeting," which included the following points¹⁹:

- Our common challenge is to ensure sufficient, reliable and environmentally responsible supplies of energy at reasonable prices, as well as the more efficient utilization of energy.
- Our collective effort is of great significance for the stability of international oil and other energy markets, and for enhancing global energy security.
- We recognize that the reasons behind oil price volatility are complex and manifold, including the growing demand for oil, concerns over the adequacy of investment in oil production capacity in the long-term, the current low level of spare production capacity, refining capacity bottlenecks, prolonged political instability in some oil-producing regions and market speculation.
- We encourage investment based on market principles in oil and gas exploration and production so as to increase the supply capacity of oil and gas.
- Our policies to accelerate the development and deployment of new energy technologies and improve energy efficiency will significantly enhance our energy security as well as global energy security. We agree to enhance our cooperation in the following areas:
 - Diversifying our energy mix to make wider use of clean and alternative energy, such as clean coal, nuclear energy, and renewables, including in the transport sector.
 - Improving energy conservation and efficiency.
 - Strengthening cooperation on strategic oil stocks.
 - Improving transparency of data in the market through better sharing of information to enhance market stability.
 - Encouraging extensive and in-depth cooperation among the business sectors of the five countries in areas including energy efficiency, alternative energies and transportation.

Furthermore, the joint statement advocated global energy security via the following measures:

- ✧ Open, transparent, efficient and competitive energy markets to encourage investment in the whole energy supply chain, especially in oil and gas exploration and production, including

¹⁸ <http://www.enecho.meti.go.jp/policy/international-affairs/data/US-J_Cooperation.pdf>.

¹⁹ Cited from: <http://www.gov.cn/misc/2006-12/16/content_471001.htm>.

transparent and effective legal and regulatory frameworks.

- ◇ Diversification of energy demand and supply, and of energy sources.
- ◇ Promotion of energy conservation and energy efficiency measures as well as development and deployment of environmentally sustainable energy technologies.
- ◇ Cooperative energy emergency response through strategic oil stocks.
- ◇ Safeguarding critical energy infrastructure and sea-route security for transportation of oil and gas.
- ◇ Improved quality and timeliness of energy data made available to the market.

B. East Asia Summit

The Second East Asia Summit was held in Cebu, the Philippines, in January 2007.²⁰

The heads of the member countries of the Association of Southeast Asian Nations (ASEAN), China, India, Japan, South Korea, Australia and New Zealand published the "Cebu Declaration on East Asian Energy Security," articulating the following common views²¹:

- Recognizing that our energy needs are growing rapidly, and will necessitate large-scale investments in the coming decade.
- Acknowledging that fossil fuels underpin our economies, and will be an enduring reality for our lifetimes.
- Recognizing that renewable energy and nuclear power will represent an increasing share of the global energy supply.
- Acknowledging the need to strengthen renewable energy development such as in biofuels, and to promote open trade, facilitation and cooperation in the sector and related industries.

The following policy measures were thus proposed:

- Promotion of cleaner and lower emission technologies that allow for the continued economic use of fossil fuels while addressing air pollution and GHG emissions.
- Taking concrete action toward improving efficiency and conservation, while enhancing international cooperation through intensified energy efficiency and conservation programs.
- Setting individual goals and formulation of action plans on a voluntary basis for improving energy efficiency.
- Encouraging collective efforts in intensifying the

search for new and renewable energy resources and technologies, including research and development in biofuels.

- Ensuring availability of stable energy supplies through investment in regional energy infrastructure such as the ASEAN Power Grid and the Trans-ASEAN Gas Pipeline.
- Exploration of possible modes of strategic fuel stockpiling such as individual programs, multi-country and/or regional voluntary and commercial arrangements.
- Promotion of clean use of coal and development of clean-coal technologies and international environmental cooperation toward mitigating global climate change.

C. Asia-Pacific Partnership on Clean Development and Climate (APP)

The first ministerial meeting of the member countries (the United States, Japan, China, India, South Korea and Australia) of the APP, which was originally instigated by the U.S. as early as July 2005, was held in Sydney in January 2006, and adopted the Charter for the APP.

It is stipulated in the Charter that one of the APP's purposes is to provide a forum for exploring the partners' respective policy approaches related to addressing the interlinked development, energy, environmental, and climate change issues within the context of clean development goals, and for sharing their experiences in developing and implementing their respective national development and energy strategies.²² The APP is considered complementary to the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and other relevant international instruments. It can be interpreted, however, that the APP is a methodology to promote energy cooperation with an aim of promoting efficient energy use and energy conservation by addressing the issues from the standpoint of "clean development and climate."

Within the APP, the work programs have been formulated in accordance with the eight areas for which task forces have been set up: 1) cleaner fossil energy; 2) renewable energy and distributed generation; 3) power generation and transmission; 4) steel; 5) aluminum; 6) cement; 7) coal-mining; and 8) buildings and appliances.

3. Summary of Latest Trends and Challenges

(1) Energy Security as a Catalyst for International Cooperation²³

It goes without saying that Japan is a resource-

²⁰ It can be said that the necessity of cooperation in the energy field, articulated in the "Kuala Lumpur Declaration" and announced at the First East Asia Summit of December 2005, is being addressed increasingly in ever more concrete forms.

²¹ The following points are cited with some modification, where necessary, from <<http://www.enecho.meti.go.jp/policy/international-affairs/data/CEBU%20DECLARATION.pdf>>.

²² Cited with some modification from <<http://www.asiapacificpartnership.org/charter.pdf>>.

²³ On the applicability of theoretical frameworks on international politics, see Shoichi Itoh, "China's Surging Energy Demand: Trigger for Conflict with Japan or the Emergence of an Energy-Environment Regime in the Asia-Pacific?", a paper presented at the 2007 International Studies Association Annual Conference in Chicago, on 1 March 2007 (forthcoming).

poor country. However, Japan, against the background of the global common agenda mentioned above, has succeeded in substantially overcoming its vulnerability to international energy markets by turning its own weakness into a "springboard." That does not mean that Japan's potential vulnerability as a resource-poor country can be completely surmounted, so further reinforcement of Japan's energy security requires making a proactive contribution to stabilizing international energy markets, the realization of which will in turn benefit Japan itself.

Today, collaboration is gaining momentum among the consuming countries in the Asia-Pacific, given that they have various common interests, such as energy conservation, effective energy use, diversification of energy sources including development of alternate fuels to oil, and the simultaneous pursuit of environmental and energy-security issues.

It is true that competition over resources will be never-ending and there remain a number of other unsolved political issues, including the so-called "dispute over interpretation of history," as is noticeable regarding Japan-China and Japan-South Korea relations. At the same time, however, it is worth noting that movement toward multilateral cooperation concerning energy security, notwithstanding being one of the core components of national security, has been accelerating, against the backdrop of the tightening balance of energy demand and supply and the rise in oil prices in recent years. In other words, the consuming nations are coming to a consensus on the logic that a zero-sum game on the consuming side will weaken each member's bargaining power vis-à-vis the supplying side. This point was duly noted by the Japanese Minister of METI, Akira Amari, saying "cooperation between the two countries is much more preferable to a competition which gives suppliers the upper hand and increases uncertainty."²⁴

Ultimately, the more the supplying countries attempt to use energy as a "weapon" in their resource diplomacy, the more opportunities the consuming countries will have for policy coordination.

(2) Importance of the United States' Engagement

The development of the cooperation between Japan as a "major energy-conserving power" and China as a "major energy-consuming power" will be one of the keys for ensuring energy security in the Asia-Pacific. It would be a misunderstanding, though, if one assumed that cooperation between these two great East Asian powers will develop in a straightforward manner, however much their economic interdependence deepens.

It is important, however, that the United States has proactively developed its engagement in regional energy issues through establishing new international frameworks, and is increasingly playing a role of "shock absorber" between Japan and China. In other words, it can be assumed that the United States has realized that excessive

aggravation of Sino-Japanese relations will ultimately undermine its own energy security.

For Tokyo and Beijing, the importance of Washington's engagement in regional energy security goes beyond the fact that the United States is not only the biggest energy consumer in the world, but also has the capability of acting as a mediator between Japan and China. Given that, it would be impossible to concentrate merely on economic issues when implementing full-scale policy measures to ensure energy security. If one considers, as two examples, marine transportation, including through the Strait of Malacca and the Taiwan Strait, and the international dissemination of nuclear technology, it would be unrealistic to solve issues having military implications such as these, without the United States' proactive engagement in addition to Japan and China.

As a prelude for these three powers' cooperation, the exigency of energy cooperation was increasingly emphasized within the framework of ASEAN Plus Three (Japan, China and South Korea), leading to the current policy coordination within the framework of the East Asia Summit. Meanwhile, the launch and institutionalization of the Five-Country Energy Ministers' Meeting, which includes the United States, makes possible the bolstering of ASEAN-led efforts in energy cooperation.

It should also be noted as a positive trend that India, whose growth rate in energy consumption is second to China, has also been integrated into the policy coordination frameworks of Japan, the United States and China.

(3) Russia as a Catalyst for Collaboration by Consuming Countries

Today, Russia is attempting to propel its advance into the energy markets of the Asia-Pacific. According to *Russia's Energy Strategy toward 2020*, published in August 2003, Moscow aims to increase the Asia-Pacific's share of its oil and natural gas exports to 30% and 15%, respectively, by 2020 (from a 3% share for oil at the beginning of the century.)

Russia uses expansion of its crude oil and natural gas exports to the Asia-Pacific as a "negotiation card" to brandish at Europe for the purpose of both strengthening its position in price negotiations and enhancing its diplomatic presence.

However, there remains a high degree of uncertainty at present as to the scale of Russia's advance and the timing of its assuming the role of stable supplier, despite its great potential for advancing into the Asia-Pacific energy markets. Rising resource nationalism and a tendency to drive away as much foreign investment as possible have cast a dark shadow on the prospects of securing a sufficient volume from the proven reserves and stable levels of crude oil and natural gas production and exports.²⁵

With regard to Russia's energy cooperation at the bilateral level in Asia, it hasn't established a mature relationship with either China or Japan. Both Sino-Russian

²⁴ "Japan and China Pledge Energy Dialogue," *International Herald Tribune*, 17 December 2006.

²⁵ For more details, see Shoichi Itoh, "The Pacific Pipeline at a Crossroads: Dream Project or Pipe Dream?," *ERINA Report*, vol.73, 2007, pp.42-62.

and Russo-Japanese energy relations are, in practical terms, continuing to seesaw²⁶. It can be said that the Sino-Japanese "scramble" over the Pacific pipeline project has also gradually abated, given that the development of the East Siberian oil fields has seriously fallen behind the original plan.

As regards a multilateral framework with Russia's participation, the Energy Ministers' Meeting within the framework of the Asia-Pacific Economic Cooperation forum (APEC) has demonstrated virtually no active role or concrete function, when compared with the earlier-mentioned international frameworks. Since the range of issues addressed by APEC is too wide and diverse, the question of promoting energy dialogue with Russia remains too specific an issue. The Asia-Pacific lacks a multilateral framework like the "EU-Russia Dialogue" to promote a producer-consumer dialogue with Russia at the governmental level.

Of course, it is evident that EU countries are not unanimous in energy policy toward Russia today. For example, Germany's independent effort to consolidate energy ties with Russia at the bilateral level is well-known. Against such a background, the physical constraints of oil and natural gas export via pipeline from Russia to Europe cannot be ignored. As of today, the EU's total dependence on Russia as a source of oil and natural gas imports stands at over 25% apiece. The figures in Germany's case are 20% and 35%, respectively.²⁷

In contrast, if the Asia-Pacific countries attempt to promote policy coordination with a view to institutionalizing a producer-consumer dialogue with Russia, they are basically free of the physical constraints which the EU must bear, and can virtually start from scratch. Russia's export of energy products to the Asia-Pacific region is only now beginning. For example, the scale of the Sakhalin project's exports of natural gas to Japan and the volume of West Siberian crude oil exported to China have not been major enough to threaten either country's present energy security.²⁸ Therefore, the Asia-Pacific countries can design their future policy coordination, with Russia in the role of supplier to the region, with a long-term perspective. It will be beneficial for the producer as well, if the consuming side can engage Russia as one, with the aim of stabilizing the energy consumption markets in the Asia-Pacific and enhancing predictability.

Meanwhile, Russia needs to speed its development of the East Siberian resources bearing in mind that West Siberia's production growth rate for crude oil and natural gas is projected to peak in the near future. It means that the importance for Russia of promoting cooperation with the countries of the Asia-Pacific will be enhanced, and will be irreversible. It is estimated that the cost of developing oil

and gas fields in East Siberia is several times higher than in West Siberia, considering the huge risks in developing a vast terrain of permafrost where geological survey work is possible for no more than half of the year. Russia's actual situation cannot help but lure a huge amount of foreign investment to propel forward oil and natural gas development in East Siberia on a commercial basis.

The Asia-Pacific countries as one should request that Russia improve the transparency of data on reserves and clarify the legal frameworks for protecting foreign investments. These would correspond to the principles and goals of "increasing transparency, predictability and stability of global energy markets" and "improving the investment climate in the energy sector," stipulated by the St. Petersburg Plan of Action on Global Energy Security, published as a result of the St. Petersburg G8 Summit hosted by none other than Russia in July 2006.²⁹ However, it is hard to say that the investment climate and transparency in the energy sector of Russia have improved since then. Russia is even turning the clock back in some respects.

To the extent that the development of oil and gas fields entails huge potential and risks as two sides of the same coin, it is necessary to establish a negotiation framework of frank discussion among the consuming countries on the one hand, and between the producing side and the consuming side on the other, with an aim of distributing the associated investment risks rationally.

It should be noted that the number of cases of collaboration among the Asian consuming nations with regard to distributing the risks in developing upstream is increasing these days. China National Petroleum Corporation (CNPC) and Oil and Natural Gas Corporation (ONGC) reached an agreement of promoting cooperation with regard to exploration and development of oil and gas fields in January 2006. China National Offshore Oil Corporation (CNOOC) and Korea Gas Corporation (Kogas) signed a memorandum on cooperation in developing natural gas, etc., in November of the same year.

In March 2007, CNPC and Korea National Oil Company (KNOC) arrived at a basic agreement regarding exploration and development of oil fields. When Chinese Premier Wen Jiabao and Ma Kai, Chairman of NDRC, visited Tokyo in April 2007, CNPC and Nippon Oil Corporation (ENEOS) concluded a memorandum of long-term cooperation including development of resources. Likewise, Japan and India have reached a basic agreement on development of resources, as noted in Section 2 of this paper.

The Second Asian Ministerial Energy Roundtable Meeting was held in Riyadh in May 2007 at Saudi Arabia's instigation, and Japan co-hosted it. The following points

²⁶ Shoichi Itoh, "Sino-Russian Energy Relations: The Dilemma of Strategic Partnership and Mutual Distrust," in Hiroshi Kimura (ed.), *Russia's Shift toward Asia* (The Sasakawa Peace Foundation, 2007), pp.62-77.

²⁷ *International Herald Tribune*, 9 January 2007.

²⁸ For a discussion about Russia's failure to use energy as a "weapon" in the Asia-Pacific, see Shoichi Itoh, "Russia's Energy Diplomacy toward the Asia-Pacific: Is Moscow's Ambition Dashed?," a paper presented at the 2007 Summer International Symposium, Slavic Research Center, Hokkaido University, in Sapporo on 4 July 2007 (to be published shortly.)

²⁹ < <http://en.g8russia.ru/docs/11-print.html> >.

included in its joint statement give a suggestion of the way in which we can develop a multilateral dialogue with Russia between energy producers and consumers.³⁰

- Calling for greater cooperation and coordination among and between Asian energy exporters and importers within bilateral, regional, and global contexts, and encouraging the participation of international bodies, such as the IEA, the IEF, and the Organization of Petroleum Exporting Countries (OPEC) in the promotion of dialogue and cooperation.
- Continuation of working for the stability and predictability of the energy market, and encouraging maintaining spare capacity by both producers and consumers and in the whole energy value chain: upstream, midstream and downstream.
- Working toward open, competitive and transparent oil and gas markets, in order to reduce uncertainty and volatility in these markets.
- Recognizing that free and economically based global markets should be the basis for energy sources, and making efforts to maintain such markets in the interest of increased stability and transparency.
- Endeavor to insulate energy markets from unwarranted political influences wherever they may occur.

The very first paragraph of *Russia's Energy Strategy toward 2020* states the following³¹:

Russia has a considerable amount of energy resources and capability in its fuel-energy complex, which are a basis for economic development and implementation of domestic and foreign policies. The country's role in global energy markets determines its geopolitical influence. (Author's underlining.)

The fact that Russia is attempting to build relationships with consuming countries by publicly disclosing its intention of using energy as a "diplomatic weapon" should not be overlooked.

Meanwhile, Japan's Basic Energy Plan states the following in the context of supporting energy development companies to promote independent development of oil fields³²:

Strategically important projects, including development of resources in Siberia and the Far East in Russia, and the "East Siberia-Pacific" pipeline project of shipping crude oil to Russia's Pacific coast, etc., which encourage a large scale reduction of Japan's crude oil dependence on the Middle East, are to be carried out in in a way that will meet our country's interests. (Author's underlining.)

If Japan wishes to promote energy cooperation with Russia in a way which meets the country's interests, it must avoid recklessly bearing more than the necessary risks in developing Russia's upstream, etc. Instead, Tokyo should make the best of the current positive trend in promoting collaboration among the consuming countries in the Asia-Pacific and explore its further potential.

³⁰ <http://www.enecho.meti.go.jp/policy/international-affairs/data/Energy%20Roundtable_J.pdf>.

³¹ *Energeticheskaja strategija Rossii na period do 2020 goda.* <<http://www.minprom.gov.ru/docs/strateg/1>>.

³² *The Basic Energy Plan*, p.42.