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Contents

Hatoyama pledges 25% cut of GHG emissions

Yukio Hatoyama, the newly elected Prime Minister of Japan, pledged in his speech on September 22 at the United Nations Summit on Climate Change that he will lead Japan to strive for cutting greenhouse gas emissions by 25% from the 1990 level by 2020. The Democratic Party of Japan (DPJ) had announced this ambitious goal in its election Manifesto before the landslide victory in August. He said, "I am resolved to exercise the political will required to deliver on this promise by mobilizing all available policy tools."

The gist of Hatoyama's statement is as follows:

(1) Japan will aim to reduce its emissions by 25% by 2020 from the 1990 level by mobilizing all possible measures. These will include the introduction of a domestic emission trading mechanism and a feed-in tariff for renewable energy, as well as the consideration of a global warming tax. However, the commitment of Japan to the world is premised on agreement on ambitious targets by all the major economies.

(2) To promote public financial assistance and technology transfer to developing countries, Japan intends to work with world leaders on creating a mechanism that not only ensures the effective use of public funds but also facilitates the flow of private investments. Japan deems the following four principles essential in assisting developing countries:

a. The developed countries, including Japan, must contribute through substantial, new and additional public and private financing.

b. We must develop rules that will facilitate international recognition of developing countries' emissions reductions, in particular those achieved through financial assistance, in a measurable, reportable and verifiable manner.

c. On assistance to developing countries, consideration should be given to innovative mechanisms to be implemented in a predictable manner. And an international system should be established under the auspices of the UN climate change regime. This

system should facilitate one-stop provision of information on and matching of available bilateral and multilateral financing, while securing transparency and effective utilization of assistance.

d. Japan proposes to establish a framework to promote the transfer of low-carbon technologies which ensures the protection of intellectual property rights.

He proposed the "Hatoyama Initiative" to the international community as outlined above, stating, "Active measures to address climate change such as the Green New Deal will open new frontiers and create new opportunities for employment in the world economy, particularly in such fields as clean energy technologies, including electric vehicles, and solar power generation. Political leaders have a responsibility to future generations to create a sustainable society by transforming the social structure that we have known since the Industrial Revolution."

Chinese president Hu Jintao also told, "We will endeavour to cut carbon dioxide emissions per unit of GDP by a notable margin by 2020 from the 2005 level." He put no specific target on the reduction, but said that the policy would figure in the next Five-year Plan. In a meeting with Hatoyama prior to the forum, he told that he highly values the proactive attitude of the new Japanese administration and China will also endeavour toward a success of COP-15. [1]

On the 25% reduction target, Masayuki Naoshima, the new METI Minister, told on September 17 that it is contingent on agreement by all major emitting countries to participate in the international framework to curb global warming. Japan's endeavor alone cannot halt climate change. The structure of the new target of 25% reduction is different from the one proposed by the Aso administration, that is, a net 15% reduction in the domestic emissions. The new target will include emission credits to be purchased from abroad, as well as mitigations, in addition to the net domestic reduction. He also said that the laws and policies are yet to be debated, and a national consensus must be established. In addition, he pointed out, "The previous approaches starting with business as usual (BAU) case and weighing anticipated economic slow-downs would not create a sustainable scenario, as we should pursue a win-win scenario of developing our economy consistently with environment."

In its election Manifesto, the DPJ offered to abolish the provisional gasoline tax and expressway tolls, as well as other measures that could run counter to GHG reductions. According to one estimate, these measures might increase annual CO_2 emissions by 9.8 million tons. A growing number of people are now voicing questions as to how exactly the emission reductions would be achieved.

Sakihito Ozawa, Minister of Environment, on September 16 mentioned a plan of introducing a Global Warming Tax (a tax as a measure to counter global warming) to be levied on CO_2 emissions. It is yet to be debated whether the new tax should be created, or the provisional gasoline tax be abolished and converted to the new tax. Recognizing the possibility that abolishment of the provisional gasoline tax could increase CO_2 emissions, he told that the new

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[1] At the global environment forum held on September 7 in Tokyo, Prof. Zhou Dadi, adviser to the Energy Research Institute of NDRC told: "China has become a factory for the world, using 20-40% of its total energy consumption for producing export products. Unless developed countries take leadership in realizing a low-carbon economy, developing countries alone cannot solve the problem. The National People's Congress has adopted a resolution to take proactive responses against climate change. Under the 11th Five-Year Plan, China has been undertaking an ambitious target of cutting the energy/GDP intensity by 20%. Following this challenge, China will bring increase of the GHG emission to zero and from that point on, reduce emissions in absolute quantity."

government should take comprehensive measures to curb emissions through overall review of the tax regime. He also told on September 20 after the first cabinet meeting that a bill to create the Global Warming Tax will be laid before the Diet next year.

Under the leadership of the Hatoyama administration, Japan is now set to strive for the ambitious target of reducing GHG emissions by 25%. The new administration is required to formulate a feasible roadmap and action plans swiftly, and build up a national consensus on them. Though considerable uncertainties lie ahead, the private as well as the public sectors will be asked to make collective efforts, and make this tough challenge a successful one to open up a new era of development for Japan.

Energy and Environment policies of the DPJ

The gist of the energy and environment policies the DPJ offered in its election manifesto is as follows (item numbers are those given in the manifesto).

29. Abolish automobile-related provisional tax rates

- Abolish the provisional (add-on) rates for taxes on gasoline, diesel gas oil, motor vehicle tonnage and automobile acquisition.
- In the future, combine the gasoline tax and diesel gas oil tax into one single tax and rename it "Global Warming Tax." Combine the motor vehicle tonnage tax with the motor vehicle tax. Abolish the automobile acquisition tax to avoid double taxation with the consumption tax that also applies to automobile purchases.

In Japan, the use of automobile-related tax revenues has been earmarked for road construction. The present tax system is as follows:

- The gasoline tax totals 53.8 yen per liter, including 24.3 yen in principal tax, 24.3 yen in provisional tax and 5.2 yen in local transferred tax for road construction. The diesel gas oil delivery tax totals 32.1 yen per liter, including 15.0 yen in principal tax and 17.1 yen in provisional tax. The motor vehicle tonnage tax is levied annually totaling 6,300 yen per 0.5 ton, including 2,500 yen in principal tax and 3,800 yen in provisional tax. The automobile acquisition tax aggregates 5%, including 3% in principal tax and 2% in provisional tax.
- Tax revenues scheduled for FY 2008 totaled 2,729.9 billion yen in gasoline tax (plus 299.8 billion yen in local transferred tax as above for road construction), 991.4 billion yen in diesel gas oil delivery tax, 914.2 billion yen in motor vehicle tonnage tax and 402.4 billion yen in automobile acquisition tax. In addition, the petroleum gas tax, which is imposed on LPG, was scheduled to provide 28 billion yen in revenues.

30. Eliminate highway tolls

- Implement trial expansion of toll discounts stepwise, while assessing their social impact, and proceed with the progressive elimination of all highway tolls.

42. Strongly promote measures to prevent global warming

- Aim to reduce GHG emissions by 25% (from the 1990 level) by 2020 and by more than 60% by 2050.

- Play a leadership role in environmental diplomacy and encourage the participation of major emitter nations, including the United States, China and India, in the "post-Kyoto" international framework for GHG emissions reduction.
- Establish an effective domestic market for emissions-trading applying the cap-and-trade system.
- Study the introduction of a Global Warming Tax. Ensure to design the tax system that would not impose an excessive burden on particular industries, giving due consideration to the financial position of local governments.
- Promote "Visualization (improving transparency and appearance of data and information to enhance publicity)" of CO_2 emissions data ensuring provision of information on emission amounts at points of supply and sale of home appliances.

43. Introduce a feed-in tariff system for new and renewable energy with mandatory purchase of all power generated by NRE

- Swiftly introduce a feed-in tariff system that shall mandate power companies to purchase the entire power output from renewable energy sources. Promote R&D and diffusion of "smart" electricity grid technologies.
- Provide subsidies for purchase of solar panels for houses and other buildings, eco-vehicles and energy-saving appliances.

44. Promote environmentally friendly, high-quality houses

- Support barrier-free remodeling, anti-quake retrofitting and energy-saving renovation such as installation of solar panels and insulation.

45. Lead the world with innovative environmental technologies

- Increase the ratio of renewable energy in the total primary energy supply to around 10%by 2020.
- Maintain and boost Japan's international competitiveness by promoting R&D and commercialization of environmental technologies.
- Promote R&D and commercialization of world-leading environmental technologies such as fuel cells, superconductivity and biomass.
- Foster new, innovation-based industries by harnessing new energy and energy-saving technologies.
- Raise the faculty and R&D capacities of Japanese universities and laboratories to the world top level.

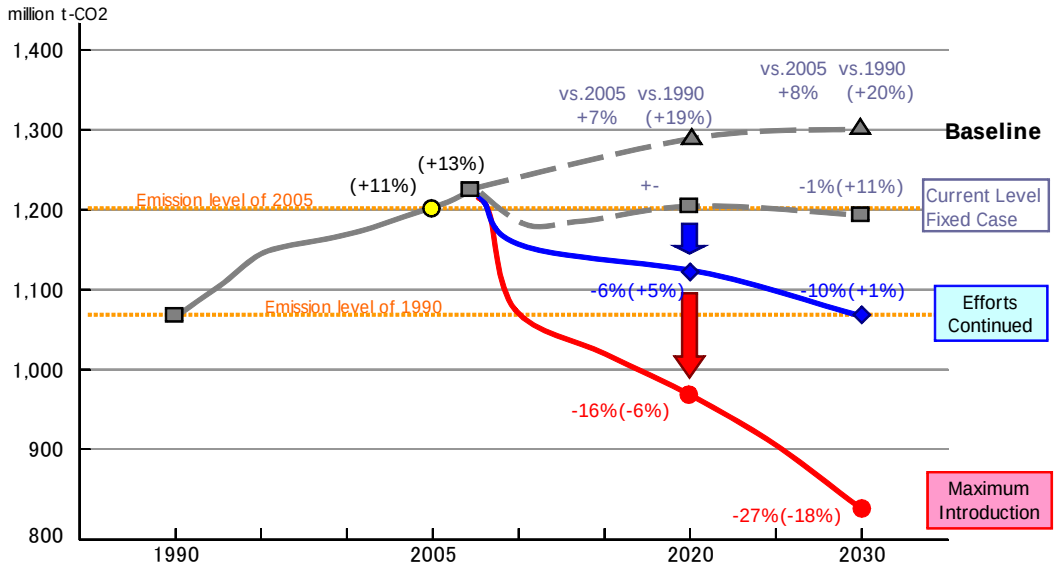
46. Establish secure energy supplies

- Strengthen an integrated approach for securing stable energy supply, developing and promoting new and renewable energies and enhancing energy efficiency and conservation.
- While adopting the policy of safety first and gaining the understanding and confidence of the public, take steady steps toward improved use of nuclear power.

Re-calculation of GHG Emission Outlook of Japan

The Energy Supply and Demand Subcommittee of the Advisory Committee for Natural Resources and Energy held its 2nd meeting on August 25, where explanations were given on the results of recalculation run for the long-term energy supply/demand outlook. While the previous version of the outlook was formulated in May last year, it was recalculated with modified assumptions to incorporate additional actions required to achieve the mid-term target of GHG reduction as announced by then Prime Minister Taro Aso in June this year; namely, a 15% cut by 2020 from the 2005 level, or an 8% cut by 2020 from the 1990 level. The outlook was revised for the case of maximum introduction of emission reduction measures, and presented together with major GHG reduction plans considered. The Subcommittee reaffirmed that each sector should aggressively implement key GHG reduction measures in pursuit of Japan's mid-term target. According to the revised outlook, energy-based CO_2 emissions in 2020 would decrease by 16% from the 2005 level as shown in the chart below, while other GHG emissions would increase by 1%. Overall GHG emissions would thus be curbed by 15%.

Outlook of Energy Based CO_2 Emission



Source: METI

Main parameters considered for review of the outlook include (1) a downward revision of energy demand in the transportation sector, (2) a downward adjustment of GDP growth rate, (3) an upward shift of energy prices, (4) a large scale installation of photovoltaic power, and (5) an accelerated conversion to alternate CFC. Compared with the previous outlook, the average annual GDP growth rate between 2005 and 2020 was revised downward from 2.0% to 1.3%. The nominal benchmark crude oil price for 2020 was revised upward from $89/Bbl to $121/Bbl. In the recalculation above, the case for the maximum introduction of measures to

Revised GHG Emission Outlook (Unit: million tonnes)

	2005	2020			
		Original May 2008		Revised August 2009	
Energy Based CO2	1,203	1,026	(-13%)	981	(-16%)
Other GHG	155	188	(+2%)	176	(+1%)
Total	1,358	1,214	(-11%)	1,157	(-15%)

Major factors for revision	million t
1. Review of road transport	-10
2. Downward revision of GDP	-9
3. Review of energy price	-9
4. Review of air transport	-3
5. Improvement in industrial technology	-2
6. 20-fold increase of PV	-9
7. Additional introduction of FC	-0.7
8. Additional biomass use	-0.5
9. Additional mini/micro-hydro (1,300 locations)	-0.4
10. Additional measures on alternate CFC	-12

reduce energy-based CO_2 emissions has been considered, whereby CO_2 emissions in 2020 is projected to decline by 4.6% from last year's outlook. However, achieving this magnitude of CO_2 emission reduction would call for a far greater decline of 9.8% in GDP in the year 2020, incurring a substantial burden on citizens.

In the review this time, key measures on CO_2 reduction were classified into three categories: Type-A measures that should be deployed rapidly in the near future, Type-B measures that have been deployed but should be accelerated more rapidly, and Type-C measures that face social or institutional challenges. Challenges and required policies for these measures were identified. Tabled below are guidelines for deploying these measures:

Measures for GHG Reduction Considered in the Revised Long-term Outlook

Type-A : Rapid deployment is required	
Photovoltaic Power (20-fold of 2005)	2005:1.4Gw → 2020: 28GW
Next generation car (50% for new car sales and 20% for stock)	2005:1% → 2008:3% → 2020: 50%
Organic EL, LED lighting	Current:0% → 2020: 14% (ownership)
Energy efficient IT equipments (Router, storage and server)	Current:0% → 2020: 100% (ownership)
Type-B : Rapidly penetrating but further acceleration is necessary	
High efficiency hot water server (more than 80% of households)	2005: 0.7 → 2008: 2.9 → 2020:28 million units
EEC at non-residential buildings (80% - 90% of new buildings should meet the strictest standard)	
EEC of houses (80% of new houses should meet the strictest standard)	2005: 30% → 2007:36% → 2020:80% of new houses
Energy efficient home appliances (All appliances available at market should meet the Top-runner standard)	
Type-C : Further deployment is necessary, but there are social and institutional problems	
Wind mill (5-fold of 2005)	Regulations under the Natural Park Law, Installation cost, Bird strikes, Low frequency noises
Mini/micro hydro	Water rights, Installation cost, Regulations under the River Law, Co-existence with local society
Biomass	Collection/transportation system, LCA evaluation, Food-fuel competition, Issues on stable supply
Geothermal	Development cost, Regulations under the Natural Parks Law, Coordination with hot spring operators, Installation cost

Concerning the latest revision as above, IEEJ Chairman and CEO Masahisa Naitoh made the following comments:

(1) Regarding the expansion of nuclear power generation as the most effective means to reduce GHG emissions, the Agency of Natural Resources and Energy (ANRE) must explicitly illustrate how difficult it is to raise the capacity utilization rate to 81% and to construct nine new nuclear reactors, both of which are built-in in the studied cases as preconditions.

(2) It is important for all government ministries and agencies to demonstrate that they are endeavoring in full power, in a manner that is easy for citizens to understand. For instance, old building standards including the 1999 insulation standards for houses are left untouched. The ANRE should negotiate with the Ministry of Land, Infrastructure, Transport and Tourism to consider new standards. Also, technological innovation has enabled the development of a handy, higher-performance windmill improving the feasibility of installation. The agency should negotiate with the Ministry of the Environment in charge of national parks to install more windmills with improved design.

(3) The government should convey details of discussions on GHG reduction efforts to the international community and obtain their acceptance of the Japanese case. In order to gain their understanding of the difficulty and the great challenges involved in the 15% GHG

reduction, the Japanese government as well as the mass media should send out messages from international viewpoints.

The latest estimation shows that the investment required in achieving the target would amount to some 5 million yen per family, indicating anew the high hurdle standing in the way of achieving the goals. In his address on September 22 at the UN Summit on Climate Change, Yukio Hatoyama, the Prime Minister of Japan, pledged a 25% GHG emission reduction from the 1990 level, implying an even heavier burden on the people's livelihood. The new administration's case is yet to be formulated for general public's review.

Committee Highlights

Discussion Started on Review of the Basic Energy Plan

The Advisory Committee for Natural Resources and Energy has initiated a review of the Basic Energy Plan at the first Coordination Subcommittee held on July 8. As the Law for Upgrading the Energy Supply Structure (the Law on the Promotion of the Use of Nonfossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers) was enforced as of July 1, its fundamental law system was also referred to the Subcommittee including the principles of its directives and rules, guidelines and application criteria.

On the Basic Energy Plan review, the members stressed the importance of public understanding, and pointed out the need to present a comprehensive picture of the Plan together with priorities in the energy policies that should be formulated, taking time axis and practicality into consideration. For the purpose of upgrading the energy supply structure, it was also noted that support for developing nuclear energy should be enhanced with the recognition that nuclear energy is the last resort for building a low-carbon society. To that end, promoting trust with local communities, creating a clear policy on the front-end such as securing uranium supply, and taking a firm position with a pliable response to any issues that arise, should be critical.

At the meeting, IEEJ Chairman and CEO Masahisa Naitoh noted the following.

a) Considering the lead time required from R&D through commercial development, innovative technologies for emission reduction may start materializing only after 2025 or 2030, while the diminishing cheap oil production might accelerate the development. We should develop our plans taking into account the elements of time axis and developing speed of technological innovation.

b) Japan should develop a low-carbon technology industry as the key driver of the future economy, and take firm policy to this end with clear recognition of the global developments.

Nuclear Energy SC discussed the direction of the Nuclear Energy Policy

Discussions are under way at the Nuclear Energy Subcommittee to sort out the basic concept for formulation of the next Framework for Nuclear Energy Policy. The Subcommittee has consolidated discussion points into the following five: (1) peaceful utilization of nuclear energy and prevention of nuclear proliferation, (2) reinforcement of technological capabilities, (3) international development of Japan's atomic industry, (4) promotion of global warming prevention measures, and (5) international contribution. The first meeting of the Special

Subcommittee on International Affairs was held on July 23, following its establishment based on a decision made at the July 7 NESC meeting. The basic concept to be formulated relates to Japan's role in the efforts that the international community shall make toward the peaceful utilization of nuclear energy as well as the international initiatives that must be adopted by Japan to promote the use of nuclear energy. Members selected for the Subcommittee include 20 specialists representing a wide variety of fields such as nuclear energy and other energy fields, international law and politics, industry, and marketing.

At the first meeting of the Special Subcommittee, the members pointed out the need to correctly understand the current international situation and the importance of paying attention to two inherent aspects of nuclear energy, namely, technological development and business opportunities in its peaceful utilization, as well as its potential risks such as nuclear proliferation. At the second meeting held on August 27, reports were delivered concerning Japan's international initiatives, with a focus on the efforts to strengthen Japanese technologies and expand the nuclear industry's businesses overseas.

It was reported in the above meeting that although Japanese nuclear plant manufacturers lack the experience of overseas construction, they do have a track record of exporting major components. It was also pointed out that Japan is yet to acquire world-class experience in nuclear fuel cycle technology, given the fact that only a limited number of countries such as France or Russia possess such technology. Recommendations made by the committee members included:

- Build an R&D system that can offer total solutions based on the accumulation of individual elemental technologies;
- Offer assistance to developing nations by combining energy and anti-global warming measures with technologies and systems for nuclear safeguards as a package; and,
- Re-establish relationships with the United States, France, and Asian countries in the related fields.

During the discussion, the IEEJ Chairman and CEO Masahisa Naitoh made the following comments:

a) There is a need to realize how the world and Japan have changed since the formulation of the Framework for Nuclear Energy Policy. It should be noted, in particular, that despite the growing importance of international business development, the strengths of the Japanese nuclear industry have not been sufficiently recognized.

b) The government and business organizations should be more united, with the government playing a more active role at the forefront in supporting nuclear energy and the industry's efforts for international expansion. To facilitate international development, the government should take the initiative in consolidating the three plant manufacturers as well as the electric utilities.

c) Greater efforts should be made in incorporating nuclear energy into CDM and JI programs as well as on other issues. At the same time, more proactive proposals should be made on international schemes in fields such as the stockpiling of enriched uranium or nuclear waste management, recognizing the need to supply power plants and fuels as a package.

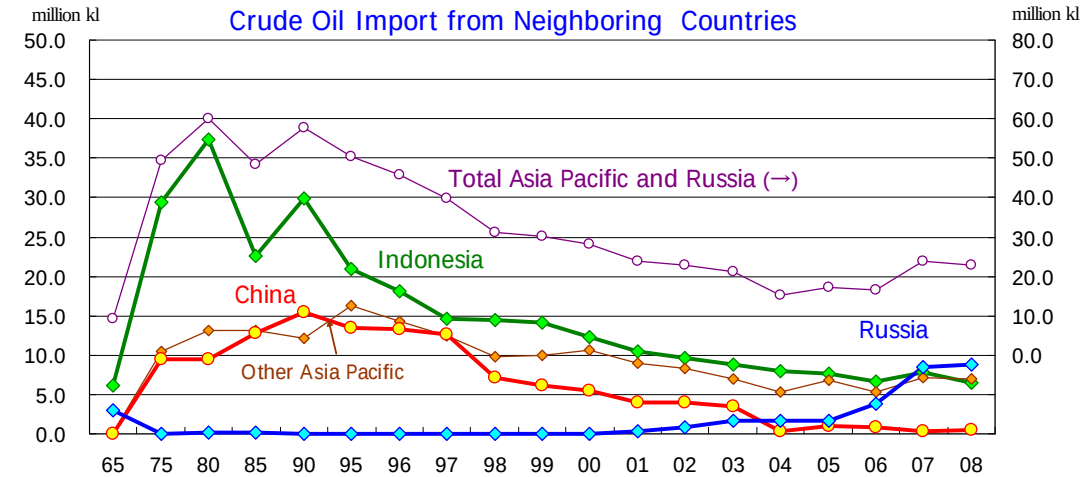
d) In addition to the five points mentioned above, two other points, i.e. "energy security" and "human resource development" must be discussed as well. For energy security, consideration should be given to various aspects such as the ratio in Japan's total power

supply that should be produced by nuclear energy, plans to improve the capacity utilization ratio to meet the goal, and drafting of an R&D roadmap. With regard to the international expansion of Japanese enterprises, it is necessary that they strive for winning the main contractors' position and fortify fuel cycle technologies. For human resource development, we need people who are competent at the forefront of international business development. It is necessary to foster an environment that encourages such people to choose the nuclear industry for their life-long career.

Energy in Japan & Asia

Russia is now No.6 Supplier of Crude Oil for Japan

Russia overtook Indonesia in crude oil supply to Japan in 2007 as export shipments of Sokol crude oil from the Sakhaline-1 Project started in October 2006. Indonesia and China used to be the major oil suppliers to Japan among neighboring countries. However, due to declining production and increasing domestic demand, Indonesian crude export to Japan haves decreased below one fifth of the past peak (6.42 million kl in FY2008). China virtually stopped export of Daqing crude oil in 2004 due to rising domestic demand. Crude oil imports from Brunei and Malaysia are also declining fast, while those from Vietnam and Australia remain stable.



Source: Petroleum Association of Japan

Japan's Crude Oil Import

	Source	FY2008	Share
		Kbpd	%
1	Saudi Arabia	1,140	28.2
2	UAE	922	22.8
3	Iran	480	11.9
4	Qatar	445	11.0
5	Kuwait	337	8.3
6	Russia	151	3.7
7	Indonesia	111	2.7
	Total	4,171	100.0

In FY2008, Japan imported 4,171 thousand barrels per day (bpd) of crude oil, of which crude oil import from Russia was 151 thousand bpd or 8.73 million kl accounting for 3.7 percent of the total crude oil imported into Japan, including 5.01 million kl of Sokol, 2.79 million kl of Straight-run fuel ex Nakhodka and 0.75 million kl of Vityaz. They were all exported from ports in the Russian Far East, while import of Ural Blend has now stopped. Though it was less than one half of the import volume from Kuwait, the fifth largest exporter to Japan, there is a good potential that Russia will rank with the Middle East countries in the near future.

In the Russian Far East, export of Vityaz crude oil from the Sakhalin-2 Project started in 2001 via a temporary FSO operating only in the ice-free period. The permanent export facility at

Prigorodnoye started year-round operation in December 2008, substantially increasing the crude oil shipping capacity. While the crude oil production in 2008 was only 29 thousand bpd, it is expected to rise to 150 thousand bpd once the project reaches full operation. LNG export from the Sakhalin-2 Project also started in March this year. Prior to this, the Sakhalin-1 Project completed a crude oil export facility with a capacity of 250 thousand bpd at De-Kastri facing Tatarsky Proliv, and started export shipments of Sokol crude oil in August 2006. Sakhalin crude oils are light (API 39 - 40°) with a medium-low sulfur (>0.5%) level, making them favorable for processing.

In addition to Sakhalin-1 and Sakhalin-2 projects with a combined production capacity of 400 thousand bpd, Siberian crude oil export from Nakhodka via the East Siberia Pacific Ocean (ESPO) pipeline is scheduled to start partial operation after 2012. Once the ESPO pipeline is fully completed, one million bpd of crude oil will be exported from the new export terminal located at Kozmino bay, east of Nakhodka, in addition to 600 thousand bpd of export to China. Thus, the Russian Far East will become an important crude supply base for Japan as well as for China and Korea.

No.6 reactor at Kashiwazaki nuclear station restarted

On August 31, Tokyo Electric Power Co., Ltd. restarted the No.6 reactor (1.36 GW) at the Kashiwazaki-Kariwa nuclear station. Full load test operation of the plant was completed successfully on September 14. All seven nuclear reactors at the power station with a total capacity of 8.21 GW have been stopped since July 2007 when the province was hit by a severe earthquake. This is the second unit to operate following the No.7 reactor (1.36 GW) that re-started in May.

However, TEPCO plans to advance shut down of the No.7 reactor originally slated for January next year as leakage from a fuel rod was detected. The plant will be shut down at the end of September for two months. The company is yet to work out start-up plans for the more seriously affected No.1 - 5 reactors.

New System for Purchase of Solar Power starts in November

On August 31, METI issued directives for implementation of the New Purchase System for Solar Power-Generated Electricity under the Law for Upgrading the Energy Supply Structure (the Law on the Promotion of the Use of Nonfossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers), including ministerial ordinances and notifications. The New Purchase System will be launched on November 1, 2009.

The new system obliges electric utilities to purchase excess electricity generated through solar power generation facilities at specified prices. For example, electricity from households will be purchased at ¥48/kWh and that from non-households at ¥24/kWh. It is expected to significantly accelerate popularization of solar power systems among Japanese houses without hindering introduction of other new energies, in particular, fuel cells.

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Energy Indicators of Japan

IEEJ Homepage Top