

# ***IEEJ e-NEWSLETTER***

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## **Contents**

### **Summary**

#### **Energy Policy in Japan**

1. Energy Policy: Review of Energy Policies in the Third General Subcommittee Meeting
2. Release of a Product Carbon Footprint Standard (ISO/TS 14067)
3. “Biomass Industrial City” Initiative: Expectations for Government Leadership

#### **Our View of the Global Situation**

4. International Oil Market Changing Dramatically due to Increased Production in North America  
(IEA’s Medium-term Outlook for Oil Demand)

## **Summary**

### **1. Energy Policy: Review of Energy Policies in the Third General Subcommittee Meeting**

The third meeting of the General Subcommittee was held on May 20, focusing on the distribution stage of energy, and discussed: (1) the reforms of the electric power system and their effects, (2) the current situation of the gas industry and its challenges, and (3) the domestic supply chain of petroleum products and liquefied petroleum gas.

### **2. Release of a Product Carbon Footprint Standard (ISO/TS 14067)**

ISO/TS (Technical Specification) 14067, a new specification for the carbon footprint of a product (CFP), was released. The technical specification was drawn up in preparation for establishing an international standard for the quantification and “visualization” of the CFP. While it is a key step toward international standardization, it is also important to promote understanding among developing countries, which are concerned about its impact on trade and have less technical understanding.

### **3. “Biomass Industrial City” Initiative: Expectations for Government Leadership**

Seven ministries and agencies including the Ministry of Agriculture, Forestry and Fisheries announced the start of accepting entries for the “Biomass Industrial City” initiative. This initiative will help 100 municipalities to start using biomass. This type of bottom-up approach will effectively assist the introduction of biomass which is often highly diverse. The government is expected to take the lead in using the regional know-how accumulated through this initiative as a common asset to draft and execute a national renewable energy policy.

### **4. International Oil Market Changing Dramatically due to Increased Production in North America (IEA’s Medium-term Outlook for Oil Demand)**

The massive increase in the production of oil in the US and Canada will trigger changes throughout the international oil market. The excess production capacity of OPEC will expand as a result of the increase in non-OPEC production, resulting in greater pressure to ease the supply and demand balance. The petroleum supply will shift to lighter fuel containing less sulfur. American refineries become more competitive and change the patterns of product trade through increased product exports.

## 1. Energy Policy: Review of Energy Policies in the Third General Subcommittee Meeting

Akira Yanagisawa, Senior Economist  
Energy Data and Modelling Center

The third meeting of the General Subcommittee was held on May 20, focusing on major issues in the distribution of energy, and discussed: (1) the reforms of the electric power system and their effects, (2) the current situation of the gas industry and its challenges, and (3) the domestic supply chain of petroleum products and liquefied petroleum gas.

Together with the updated version of the “Background and Key Points of the Discussions on the Basic Energy Plan” and the international energy situation, the secretariat explained the handout on the above three issues, and the members presented their opinions. Unlike the Fundamental Issues Committee, its predecessor, this meeting has rarely seen any clashes of opinion among the members. Many of the comments were about the expressions and wording used in the handout.

Many of the members’ comments concerned the reforms of the electric power system. Their comments were related to the electric power industry where the reforms are about to take place and its compatibility with the gas industry, problems with service stations in depopulated areas, and the issue of universal service, as well as transformation to a comprehensive energy company combining electricity, gas and oil. However, many of the opinions focused on narrow perspectives (evaluation axes) among the various categories of the discussion such as production and procurement, distribution, and consumption, raising concerns that the range of the discussions may be too narrow. There were, however, some members who spoke from a broad perspective, and thus the request by METI Minister Motegi to the Subcommittee to “present as wide a variety of options as possible, rather than the pros and cons of particular areas” seems to be still alive.

IEEJ CEO and Chairman Masakazu Toyoda commented in the meeting as follows:

Regarding the six broader issues, it appears that the target and the means are not written as clearly as they should be, making the 3E policy perspective particularly vague, as if it has been changed to 2E. It is important how to present messages concerning the policy goals.

Regarding climate change issues, Japan should take a bottom-up approach focusing on energy intensity which it is good at, rather than pursuing an unrealistic, top-down reduction target. Japan should seek to establish its own environmental measures including using the non-binding framework of APEC in which Japan was closely involved.

Regarding deregulation and more competition, greater attention should be paid to the fact that developing an internationally competitive energy industry will benefit consumers. In the UK, government involvement is becoming important for securing investment in a deregulated environment and promoting measures to prevent climate change. Care is needed to avoid the negative aspects of deregulation.

Regarding measures concerning the gas business, the view that building a pipeline would promote domestic competition is correct. However, it is unrealistic to imagine that the pipeline can be built solely by the market; some government involvement is required.

The Great East Japan Earthquake certainly highlighted the convenience of petroleum products, and it is important what kind of measures will be taken to reinforce the supply chain. We need to strengthen the structure of the oil industry, and a policy to move away too excessively from oil could erode the competitiveness of the industry.

## **2. Release of a Product Carbon Footprint Standard (ISO/TS 14067)**

**Hiroki Kudo**, Assistant to Managing Director  
Global Environment and Sustainable Development Unit

ISO/TS 14067 (Requirements and Guidelines (Technical Specification) for the Quantification and Communication of the Carbon Footprint of a Product (CFP)), which has been studied since 2008, was released on May 21. This specification was drawn up to internationally standardize the requirements and guidelines for quantifying and communicating the CFP, that is, the GHG emissions over the entire supply chain of a product including materials procurement, shipment, production and disposal.

The management of GHG emissions in an organization such as a company is generally done based on direct emissions from the facilities owned by the organization and indirect emissions generated when producing the electricity and heat purchased from other companies. The CFP expands the scope of quantification to the entire supply chain of the products and services that the company provides, and quantifies the GHG emissions through Lifecycle Assessment method. This enables the organization to understand its GHG emissions outside its own facilities, and hence consider a greater variety of GHG reduction options. Further, “visualizing” the CFP would prompt consumers to choose products and services with lower carbon emissions. Moreover, the quantified environmental (cost) risk of the entire supply chain can be used for environmental regulations in Japan and other countries, and for controlling the risks of energy price fluctuations. In Japan, the ISO specification was tested while it was still under review, and a program tailored to Japan has been in operation since 2012.

The development of the ISO/TS 14067 has been led primarily by developed countries. The purpose was to internationally standardize the usage of CFP to reduce the emissions over the entire product supply chain amid the increasing international division of labor. However, developing countries considered that (1) an international CFP standard could act as a non-tariff barrier and impact the exports of developing countries, (2) LCA is technically difficult and its values are uncertain, and (3) the relationship of the specification to international frameworks such as UNFCCC is not clear, and so it was decided to temporarily release the specification as a Technical Specification (TS), which is ranked below an International Standard (IS), and to continue the reviews toward releasing an IS in future.

In the discussions on the future framework in the UNFCCC, concepts such as Pledge and Review and the bottom-up approach are gathering attention. Accordingly, it is not clear whether the CFP international standardization as a tool will be accepted by the international community as the new framework develops. It may be necessary to use the TS temporarily to build acceptance among the international community.

### **3. “Biomass Industrial City” Initiative: Expectations for Government Leadership**

**Hisashi Hoshi**, Board Member, Director

New and Renewable Energy & International Cooperation Unit

In March this year, seven ministries and agencies including the Ministry of Agriculture, Forestry and Fisheries announced the start of accepting entries for the “Biomass Industrial City” initiative. This initiative will select 100 municipalities and help them build “an integrated system with proven economic efficiency consisting of production of biomass materials and gathering, transportation, production and usage of biomass” for 10 years.

A similar initiative called the “Biomass Town Initiative” was started in 2002 as part of the Biomass Nippon Strategy, for which nearly 300 municipalities were selected, but it was not successful. According to the Ministry of Internal Affairs and Communications which evaluated the policy, the efforts by the municipalities reached only one third of the anticipated level, with less than 20% of the municipalities being able to track their total stock of biomass materials, which is essential for measuring the degree of achievement.

Learning from these lessons, the Industrial City Initiative focuses heavily on attracting feasible entries. Applicants are required to state numerical targets such as the rate of biomass utilization, build a system for implementation, and report the method of follow-up, in addition to making an interim appraisal after five years.

Although biomass is a renewable energy, unlike photovoltaic power and wind power, it offers a wide variety of options at each stage in terms of resources, technologies and usage (electricity, heat, transportation fuel), and also varies greatly among regions. For example, even in terms of resources alone, there are various types such as wastes, unused biomass and fuel crops. The available resources vary greatly depending also on the regional industry and infrastructure.

Further, as biomass is generally closely linked to the production and economic activities of the region, the use of biomass is inevitably restricted by such activities. For example, unless the cycle of timber production runs smoothly, the wood from thinning forests will be left lying in the forest. Most of the 8 million tonnes of timber offcuts is left unused in Japan every year; such offcuts alone cannot be treated as a resource.

Considering the diversity and regional differences of biomass, the most effective way to provide policy support for introducing biomass could be a bottom-up approach, which has been tested in the Biomass Town Initiative, rather than providing the same subsidy nationwide. The Industrial City Initiative seems to follow this approach.

However, merely providing subsidies to successful entries individually is not an adequate energy policy for an entire nation. Each entry contains ideas for biomass usage tailored to the local region. Such knowledge must be used in the national policy as a shared asset. Fortunately, the first requirement for entries for the Biomass Industrial City is that the concept can “serve as an example, as a model, for other areas of Japan”. The government must take the lead in promoting its renewable energy policy through a bottom-up approach.

#### **4. International Oil Market Changing Dramatically due to Increased Production in North America (IEA's Medium-term Oil Market Report)**

**Yoshikazu Kobayashi**, Manager  
Oil Group, Oil and Gas Unit

On May 14, the International Energy Agency (IEA) released its "Medium-term Oil Market Report". The document highlights the prospects for various areas including the supply and demand of oil, petroleum refining, inventory and trade for the next five years. In particular, it focuses on the increase in oil production in North America. Of the estimated growth in world oil production capacity of 8.4 million B/D in the next five years, American light tight oil and Canadian oil sands account for 2.8 million and 1.24 million B/D, respectively, or 40% in total of the overall growth.

Non-OPEC producers are expected to add 6 million B/D of production capacity, including new developments in deep-sea production in the US and Brazil. In addition to recent technical developments such as hydraulic fracturing (fracking), the recent high oil price environment certainly helps to promote costly oil developments in non-OPEC countries

It is estimated that the production "capacity" of OPEC will increase by 2.4 million B/D in the next five years due mainly to new developments in Iraq. Because of the increased production in non-OPEC countries, however, the increase in actual production "volume" of OPEC will be limited, and so OPEC's spare capacity is expected to expand from 5.76 million B/D in 2013 to 6.38 million B/D in 2018. This will be the first time for OPEC's excess capacity to exceed 6 million B/D since after Lehman shock in 2008, when demand slumped while production capacity kept increasing, and so the global supply-demand balance is expected to ease significantly.

On the demand side, the average growth in global demand for oil for the next five years is estimated at 1.2%. This is slightly higher than the latest growth rate of 1.0% for 2012, and demand is expected to grow moderately. In the US where gas prices have fallen, ways of using natural gas in the transportation sector are being studied, but the supply infrastructure will be insufficient. The share of natural gas in the transportation sector will grow only to 2.5% in 2018 from 1.4% in 2010.

If the crude oil market behaves as predicted in the outlook, the average quality of crude oil will become lighter with sweeter (less sulfur). The US will then become a center of petroleum refining. Buoyed by the falling price of natural gas used in homes and the increased supply of cheap domestic crude oil, the American refining sector is quickly gaining international competitiveness. With bright prospects for petroleum product exports, US exports are set to rise also for naphtha and gasoline in addition to diesel oil, the main product, with some naphtha likely to find its way to Asian markets.

The increasing production of light tight oil is likely to continue, and so these changing trends are merely the beginning. It will become increasingly important to accurately capture the trend and impact of such changes.

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