**Audit on the implementation of environmental policy**

Board of Audit of Japan

**1. Introduction**

This country paper is prepared by the Board of Audit of Japan (hereafter “the Board”) for “audit on implementation of environmental policy”, one of the themes of the 6th Seminar on Environmental Auditing to be held in India in October 2016, according to the guidance sent from CNAO prior to the Seminar.

This paper reviews the environmental policies in Japan as well as the policies on renewable energy related to the audit case explained in the later chapter. Then, this paper will illustrate how the Board has coped with programs related to the environmental conservation and introduce a relevant audit case.

**2. Background Information**

(1) Environmental policies in Japan

a. Basic Environment Act and basic environment plans

The environmental policies in Japan are based on the Basic Environment Act. This act aims to complehensively and systematically promote measures for environmental conservation to ensure healthy and cultured living for both the present and future generations of citizens as well as to contribute to the welfare of mankind, through articulating basic principles for environmental protection, clarifying the responsibilities of the State, local governments, business enterprises and citizens, and prescribing basic matters pertaining to environmental conservation measures.

On the basis of the Basic Environment Act, the State formulates a basic environment plan stipulating the outline of integrated and long-term measures for environmental conservation. The fourth basic environment plan formulated in April 2012 sets down nine priority areas including “Greening of Economy and Society, and Green innovation” and “Climate Change Policy”. In the plan, renewable energy is referred to in relation to climate change policy. The plan indicates, as the basic direction of measures concerning renewable energy, that accelerating the introduction of renewable energy as mid- to long-term national measures, and that local governments are to introduce, as a task they are expected to accomplish, renewable energy, etc., which utilizes regional resources.

b. Environmental Conservation Expenditure

In Japan, various measures for environmental conservation have been implemented by the Ministry of the Environment (“MOE”) and other ministries and agencies including the Ministry of Economy, Trade and Industry (“METI”), the Ministry of Agriculture, Forestry and Fisheries (“MAFF”), and the Ministry of Land, Infrastructure, Transport and Tourism (“MLIT”). MOE coordinates policies applied to ministries’ and agencies’ estimation for budget requests, in order to ensure that environmental conservation measures carried out by them are expanded in an efficient and effective manner as the entire government’s measures, and organizes expenses incurred for the conservation of the global environment, the prevention of pollution, the protection and maintenance of the natural environment as environmental conservation expenditure. The budget for environmental conservation expenditure in FY 2016 is as shown in the table below.

## Table 1: Breakdown of Environmental Conservation Expenditures (Initial Budget for FY 2016)

|  |  |  |  |
| --- | --- | --- | --- |
| Policy Fields | Expense | | Proportion (%) |
| JPY (billion) | USD (million) |
| (1) Conservation of the global environment | 554.1 | 4,617 | 26.0 |
| (2) Conservation and sustainable use of biodiversity | 145.0 | 1,208 | 6.8 |
| (3) Sound material-cycle society | 97.5 | 812 | 4.6 |
| (4) Conservation of water, soil, and ground environments | 89.4 | 745 | 4.2 |
| (5) Conservation of atmospheric environment | 188.6 | 1,571 | 8.8 |
| (6) Establish and promotion of comprehensive chemical substance measures | 4.9 | 40 | 0.2 |
| (7) Prevention from environmental pollution by radioactive materials | 928.6 | 7,738 | 43.5 |
| (8) Policies that form the foundation for respective policies | 125.6 | 1,046 | 5.9 |
| Total | 2,133.7 | 17,780 | 100.0 |

c. Renewable energy: Japan’s policies, etc., for renewable energy

Differing from fossil energy forms whose resources are limited, such as oil, coal and natural gas, or from nuclear power, renewable energy is a type of energy which is inexhaustible and permanent since it utilizes natural phenomena on earth, including solar power, wind power, hydropower, biomass and geothermal energy. The main forms of use of renewable energy are power-generating and heat utilization.

The fourth strategic energy plan concerning energy supply and demand, which was formulated in April 2014 on the basis of “the Basic Act on Energy Policy” enacted in 2002, regards renewable energy as a promising, multi-characteristic and important energy source which can contribute to energy security as it can be domestically produced free of greenhouse gas emissions, although it has various challenges in terms of stable supply and cost at this moment. Further, the direction of policies has been set as “Accelerate the introduction of renewable energy as far as possible for three years since 2013 followed by continuous active promotion.” In order to materialize it, the government steadily proceeds with the reinforcement of power grids, streamlining of regulation, research and development for cost reduction etc.

With regard to the annual electricity generated in Japan in FY 2015 (885 billion kWh), the electricity generated by renewable energy sources amounted to 126.7 billion kWh, accounting for 14.3%; the breakdown is that approximately 9.6% was generated by hydraulic power, and approximately 4.7% by other renewable energy sources.

(2) Overview of environmental audits conducted by the Board

a. Basic policies on audit and audit objectives of the Board

In order to conduct audits in a more efficient and effective manner on the basis of socioeconomic trends, etc., and to precisely accomplish its missions, the Board annually formulates its “Basic Policy on Audit “. In turn, each audit division prepares its own “audit plan” in accordance with the “Basic Policy on Audit” and systematically implements its audits in line with the plan. “Environmental conservation” has been continuously stipulated as one of the policy areas for the Board to focus its audit activities on every year.

The Board conducts audits, including environmental audits, with the objectives of accuracy, regularity, economy efficiency, effectiveness, or other objectives necessary for the audit according to the provision of article 20, paragraph 3 of Board of Audit Act.

b. Audit divisions in charge of environmental audits

For the purpose of responding to the increasing significance of environment-related measures within the government, the Board established the Environment and Regional Development Audit Division by integrating and upgrading the relevant offices during the organizational restructuring in April 2009, which takes charge of auditing projects carried out by MOE. In addition, aside from environmental conservation measures implemented by MOE, each auditing division audits such measures of each ministry or agency of which the division is in charge. Further, the Board has audit divisions with no specific ministries or agencies subject to their mandatory audit and conduct flexible and cross-cutting audits that have audited the environmental policy across ministries. This audit case is explained in the later section.

c. Audit cases pertaining to environmental policies

The number of audit cases of the Board pertaining to environmental policies in the past 3 years (FY 2012 – FY 2014) categorized by ministries and agencies and by the field of expertise is as follows:

**Table 2　Results of Environmental Audit（2012‐2014JFY）**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fields  Ministries | Conservation of the global environment | Conservation of Biodiversity | Material recycle | Radio-active Materials | Others | Total |
| MOE |  | 1 |  | 2 |  | 3 |
| METI | 1 |  |  |  |  | 1 |
| MAFF | 2 |  | 3 |  |  | 5 |
| Ministry of Education and Science | 1 |  |  |  |  | 1 |
| Cross-ministries | 1 |  |  | 1 | 1 | 3 |
| Japan Highway Co. |  |  | 1 |  |  | 1 |
| Total | 5 | 1 | 5 | 3 | 1 | 14 |

**3. Audit case: The implementation status of the projects related to renewable energy** (Special Report to the Diet and the Cabinet FY 2014)

(1) Objectives, focuses, subjects, and method for audit

a. Audit objectives and focuses

The organizations that implement projects relating to renewable energy are the Cabinet Office, the Ministry of Education, Culture, Sports, Science and Technology (“MEXT”), MAFF, METI, MLIT, and MOE (hereinafter collectively, “the six ministries”), and the New Energy and Industrial Technology Development Organization (hereinafter, “NEDO”; and the six ministries and NEDO are collectively referred to as “the seven governmental organizations.”).

Further, with regard to renewable energy, the State has set the direction of its policies, “Accelerate the introduction of renewable energy as far as possible for three years since 2013 followed by continuous active promotion,” in the strategic energy plan. Accordingly, the budget including project expenditure of the seven governmental organizations, in relation to renewable energy reaches a high amount in each fiscal year. In addition, the number of facilities for renewable energy that the seven governmental organizations, directly installed, and that prefectures, municipalities and private bodies (hereinafter collectively, “local governments, etc.”) installed by using national subsidies granted by seven governmental organizations, has increased significantly.

Besides, since the introduction of the feed-in tariff system[[1]](#footnote-1) in July 2012 on the basis of the Renewable Energy Act, there has been an increase in the number of local governments, etc., that, under the aforementioned system, sell electricity generated through renewable energy power generating facilities installed by using national subsidies.

In the case where a local government is to install renewable energy facilities by using national subsidies, it is important to utilize the installed facilities in an efficient manner, implement measures in conformity with national measures, and at the same time, formulate a plan for the implementation of measures that are suitable for the actual circumstances of the area concerned.

Against this background, the Board conducted audits on the progress status of the renewable energy projects by the seven governmental organizations, with the objectives of economy, efficiency, effectiveness, etc. focusing on the following points:

a) whether renewable energy facilities installed by seven governmental organizations, etc., and local governments, etc., were used in conformity with the purpose of such installation;

b) whether national subsidies under the feed-in tariff system based on the Renewable Energy Act were properly handled by the six ministries; and

c) whether local governments formulated appropriate plans for the introduction, etc., of renewable energy.

b. Subjects and methods

The subjects of the audit were facilities for generating electricity from renewable energy (solar light, wind power, hydraulic power, biomass, and geothermal heat; hereinafter, “renewable energy power-generating facility”), and facilities for utilizing heat generated by renewable energy sources (solar heat, snow and ice heat, biomass heat, thermal energy generated by temperature difference, underground heat, air heat, and heat from hot springs; hereinafter, “renewable energy utilization facility”), where seven governmental organizations, etc., directly installed such renewable energy power-generating/energy-utilization facilities, or where local governments, etc., installed such renewable energy power-generating/energy-utilization facilities by using national subsidies, during the period from FY 2009 to FY 2013.

The Board conducted the audit of the progress status of the renewable energy projects at the seven governmental organizations, and 44 prefectures, except for three prefectures[[2]](#footnote-2) that had suffered enormous damage from the Great East Japan Earthquake, by field audit and review of the documents submitted by these organizations, prefectures, etc.

(2) Audit results

a. Progress status of projects on renewable energy

From FY 2009 to FY 2013, the number of renewable energy power-generating facilities and renewable energy utilization facilities that the seven governmental organizations installed on their own initiatives or as a requesting party was 47 and 39, respectively, costing JPY 19,161.99 million (approximately USD 159.6 million[[3]](#footnote-3)) and JPY 3,923.51 million (approximately USD 32.6 million), respectively. The number of renewable energy power-generating facilities (subsidized) and renewable energy utilization facilities (subsidized) that local governments, etc., installed by using national subsidies from the seven governmental organizations was 6,628 and 1,122, respectively, costing JPY 180,885.57 million (approximately USD 1,507.3 million) and JPY 50,902.57 million (approximately USD 424.1 million), respectively[[4]](#footnote-4).

b. Status of abolition and discontinuance of renewable energy facilities

In relation to the facilities the use of which was abolished between FY 2009 and FY 2013 among the renewable energy facilities that the seven governmental organizations installed on their own initiatives or as a requesting party, or that local governments, etc., installed by using national subsidies, and further among the facilities whose durable years prescribed in “Ministerial Ordinance Concerning the Durable years of Depreciable Assets” had not expired (in the case of the national government) or whose period of disposal restriction prescribed for disposal-restricted assets by the Act on Regulation of Subsidies had not expired (in the case of local governments, etc.), eight facilities had been abolished. According to the operating bodies of these abolished facilities, all of these facilities had operated for a certain period of time, and the main reason for such abolition was their breakage.

Besides, among the facilities installed during the period from FY 2009 to FY 2013, the use of 41 facilities was discontinued as of the end of March 2014. According to the operating bodies of these discontinued facilities, the main reasons for such discontinuance were that investigations into the causes of their breakdown were being carried out (16 facilities), and that repairing or the procurement of parts, etc., was taking time (five facilities). In addition, among these 41 facilities, the use of eight facilities had been discontinued for one year or more.

c. Overlapping of renewable energy projects implemented by the seven governmental organizations

There are many similar nationally subsidized projects pertaining to renewable energy, among projects carried out by the seven governmental organizations, etc., and the information on each national-subsidy project is released by each ministry and agency. According to the audited local governments’ views on this situation, understanding such information and the comparison and analysis of similar projects were very time-consuming, which led them to consider this situation as a problem attributable to the negative effects of the so-called vertical segmentation of projects.

Since schools account for approximately 60% of the total number of the places where photovoltaic facilities are installed, the ministries and agencies in charge of the national subsidies which were granted to local governments, etc., for the installation of photovoltaic facilities in schools were examined. From this examination, five ministries and agencies provided national subsidies worth JPY 54,624.45 million (approximately USD 455.2 million) for a total of 3,830 facilities, and the breakdown of the subsidies is as follows: national subsidies worth JPY 48,315.52 million (approximately USD 402.6 million) from MEXT, for 3,506 facilities; JPY 2,894.76 million (approximately USD 24.1 million) from MOE, for 145 facilities; JPY 2,725.07 million (approximately USD 22.7 million) from the Cabinet Office, for 121 facilities; JPY 570.99 million (approximately USD 4.7 million) from METI, for 46 facilities; and JPY 118.39 million (approximately USD 0.98 million) from MLIT, for 12 facilities.

Furthermore, the purposes of nationally subsidized projects implemented by each ministry and agency are diverse. For instance, the purpose of projects carried out by MEXT is for ecological education, whereas that of projects by MOE is to maintain disaster-prevention facilities’ functions.

Local governments that have installed photovoltaic facilities welcome the idea that each ministry and agency arranges various nationally subsidized projects for different purposes, as shown above, since this widens their choice. On the other hand, as multiple ministries and agencies take charge of different nationally subsidized projects, some local governments point out the problem that it is difficult to collect information on which ministry or agency carries out what nationally subsidized projects.

d. Handling of national subsidies for renewable energy power-generating facilities by Seven Governmental Organizations, etc., following the enforcement of the feed-in tariff system

a) Purchase price and purchase period for renewable energy electricity under the feed-in tariff system

In accordance with the Renewable Energy Act, METI prescribes a purchase price and a purchase period for the feed-in tariff system.

A purchase price is to be prescribed, as the price which enables a stable supply of renewable energy electricity generated through renewable energy power-generating facilities throughout the purchase period, by taking account of the supply quantity of renewable energy electricity in Japan, appropriate profits that parties who are to supply renewable energy electricity by using renewable energy power-generating facilities should receive, etc., on the basis of the costs which are regarded as normally incurred for efficient supply of such electricity. METI has made public notice of purchase prices since FY 2012.

Purchase prices include the construction price for renewable energy power-generating facilities. Also, profits that renewable energy business enterprises earn by selling electricity at a higher price compared with a normal price are borne by electricity users in the form of a levy and thus ultimately by the people of Japan. Considering these points, in order to prevent renewable energy business enterprises from, in a manner, doubling their income from the overlapping of a national subsidy provided to them for renewable energy power-generating facilities with their profits earned from selling electricity, an amount equivalent to national subsidies is deducted from the purchase price in relation to the electricity generated through the renewable energy power-generating facilities that such renewable energy business enterprises installed by using such national subsidies granted by METI, if the policy purpose of such subsidies overlaps with the purpose of the introduction of the feed-in tariff system (the promotion of the use, etc., of renewable energy sources).

b) Handling of national subsidies for renewable energy power-generating facilities by the six ministries following the enforcement of the feed-in tariff system

With regard to the handling status of national subsidies for facilities approved under the feed-in tariff system and installed with the help of such subsidies, there were 41 nationally subsidized projects in total, which prefectures, etc., utilized for the installation of such facilities. As to how national subsidies for facilities were handled in these 41 nationally subsidized projects, 17 projects, which was the greatest proportion, did not have any provision on the handling of national subsidies.

Meanwhile, there were four projects for four subsidies, in each of which an amount equivalent to the relevant national subsidy was deducted from the purchase price. Additionally, in some nationally subsidized projects, the return of an amount equivalent to the national subsidy was ordered, or the use of earnings from selling electricity generated through relevant facilities was limited.

According to facilities, in the total of 853 facilities, no return of any national subsidy was required for 470 facilities (55.0% of the total of 853 facilities); no provision on the handling of national subsidies was stipulated for 169 facilities (19.8%); the use of earnings from selling electricity was limited for 95 facilities (11.1%); an amount equivalent to the relevant national subsidy was required to be deducted from the purchase price under the feed-in tariff system, in relation to 84 facilities (9.8%); part of an amount equivalent to the relevant national subsidy was required to be returned, for example, after proportionally dividing the electricity for personal consumption and the electricity to be sold, in the case of 26 facilities (3.0%); and for 3 facilities (0.3%), the entire amount of the relevant national subsidy was required to be returned since selling electricity was not covered by the subsidized project.

Accordingly, there were many nationally subsidized projects for which no provision on the handling of national subsidies used for the installation of facilities was stipulated, or in which national subsidies were not required to be returned. In relation to 639 facilities in these projects, electricity was sold without any amount equivalent to the national subsidy deducted from the purchase price, or the national subsidy was not returned, for example, for the reason that the relevant policy purpose was different from the purpose of the feed-in tariff system.

However, the purchase price includes the amount for the construction of renewable energy power-generating facilities, and profits that renewable energy business enterprises earn are ultimately to be borne by the people of Japan in the form of a levy. For this reason, in the case where a national subsidy is used for installing renewable energy power-generating facilities, and where electricity is sold under the feed-in tariff system, it is necessary to arbitrarily check that the purpose for which the subsidy was provided is not deviated.

e. Local governments’ formulation of plans for the introduction of renewable energy

Local governments are expected to, on their own initiatives, incorporate matters on the introduction, etc., of renewable energy, when formulating a local government basic environment plan, etc., pursuant to the provisions of applicable laws and regulations (hereinafter, formulated plans, etc., incorporating matters on the introduction, etc., of renewable energy are collectively referred to as “plan for promoting renewable energy introduction”).

Accordingly, a total of 1,659 groups consisting of 44 prefectures audited as above and 1,615 municipalities were examined in terms of their formulation of plans for promoting renewable energy introduction. Among these local governments, 966 groups (58.2% of 1,659 groups in total) had formulated plans for promoting renewable energy introduction. However, the remaining 693 groups (41.7%) had not specifically formulated such plans; especially, more than half of the towns and villages had not prepared ones. In addition, with respect to objectives for the introduction of renewable energy set in plans for promoting renewable energy introduction formulated by the 966 groups, 466 local government groups had specific quantitative targets, for example a target year and a target figure, whereas 500 local government groups had only a qualitative target: for example, striving to introduce renewable energy to the possible extent as expeditiously as possible.

f. Problems with the expansion of renewable energy introduction in regions

A total of 63 groups consisting of 44 prefectures and 19 government-ordinance-designated cities were interviewed about problems with the expansion of renewable energy introduction in local governments’ areas, and as a result, a wide diversity of opinions was gathered. Many of the problems pointed out were associated with nationally subsidized projects. In particular, 68 items, which made up the highest number of items raised, were on subsidies and financial assistance: for example, “Is it possible to integrate various state aid lists concerning renewable energy, or make block grants available for them?” Further, problems with information disclosure were raised: for example, “It is difficult to gather information as multiple bodies take control of nationally subsidized projects.”

(4) Audit findings

On the basis of the above audit, the Board presented an opinion that the State and NEDO should pay attention to the following points:

i. The ministries and agencies taking control of national subsidies for renewable energy should arbitrarily require a report from local governments, etc., on their renewable energy power-generating facilities (subsidized) and renewable energy utilization facilities (subsidized) whose use is suspended for a long time during the period of disposal restriction, should understand the operation status of such facilities, and should have these local governments, etc., to promptly repair and resume the operation of such facilities, or advise them to take other procedures such as abolition when such resumption is not possible.

ii. The State should consider integrating information on various national subsidies for renewable energy under the control of multiple ministries and agencies, and disclosing such information to local governments, etc.

iii. Where a renewable energy business enterprise is, on the basis of the feed-in tariff system, to sell electricity generated through the facilities that the business enterprise installed by using a national subsidy, the ministry or agency in charge of the national subsidy should arbitrarily check that the purpose for which the subsidy was provided is not deviated.

iv. The State should consider whether to advise local governments that have not formulated a plan for promoting renewable energy introduction to formulate one.

v. When a project relating to renewable energy is to be implemented, the State and NEDO should strive to collect information on problems with the expansion of renewable energy arising in the relevant area, and take measures against such problems if necessary.

The Board is to continue to pay attention to the implementation status, etc., of renewable energy projects in Japan in the future.

**4. Experience and Challenges**

Environmental policies are not implemented by a single ministry; rather, multiple ministries and agencies implement policies in cooperation with each other. For that reason, inter-ministerial approaches are necessary for auditing as well. On this basis, as shown in the audit report case, it is possible to grasp and assess the full picture of a specific area of an environmental policy, and examine whether there are any negative effects of the so-called vertically segmented administrative system. This further leads audit results to be extensive and have a greater impact, compared with cases where each project of each government agency is audited individually and points are raised separately.

Besides, since a long period of time is required from the planning and implementation stages of environmental policies until the stage where their effects come out, it is necessary, when an audit is conducted, to continuously engage in such an audit from a long-term perspective. Given limited audit resources such as budgets and personnel, what remains to be solved is how to determine the most effective timing, subjects, perspectives, etc., for audits.

1. The feed-in tariff system: for the purpose of promoting the use of renewable energy sources as sources of electrical energy, the system was introduced in July 2012, under which electric power suppliers are obliged to procure electricity generated through renewable energy sources (hereinafter, “renewable energy electricity”) at the price per 1 kWh prescribed by the State (“purchase price”) during the period in which the purchase price is applicable (“purchase period”). [↑](#footnote-ref-1)
2. Iwate, Miyagi and Fukushima prefectures [↑](#footnote-ref-2)
3. Calculated at 120 yen to USD 1 [↑](#footnote-ref-3)
4. The photovoltaic facilities excluded small-scale power generation facilities with the capacity of less than 10kWh. The hydropower facilities are the facilities with the capacity of less than 30,000kW. Biomass power generation facilities include the facilities for purification of biomass to provide the resources from biomass to the power generation facilities. [↑](#footnote-ref-4)