

JAPAN

PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

A. ATMOSPHERE/AIR POLLUTION

Government focal point(s): Ministry of the Environment
Ministry of Agriculture, Forestry and Fisheries

Responding ministry/office(s): Ministry of the Environment
Ministry of Agriculture, Forestry and Fisheries

Decision Making

? Measures on Stationery Source

1. Concrete actions taken and progress made in implementation

In Japan, the Air Pollution Control Law, which regulates the emission of air pollutants aiming at conserving the ambient environment, was enacted in 1968. Current status of air pollution has been improved compared to the period of severe environmental pollution. However, further measures should be taken to eliminate SPM and photochemical oxidants because of the status of air pollution by these substances. Voluntary efforts by business entities as well as measures on stationery sources and mobile sources under the Law are attributed to the improvement of the status.

An issue in improving ambient environment is that the achievement status of EQSs regarding photochemical oxidants remains low. Total number of days of which the photochemical oxidant warning was issued was 189, increased by approximately 75% to FY 2003. Air pollution by Suspended Particulate Matter (SPM) has been improved in FY 2004, with the compliance rate of 98.5% for ambient air pollution monitoring stations (APMSs) and 99.6% for roadside air pollution monitoring stations (RAPMSs) respectively. However, it's not enough because there still remains areas where regional air pollution occurs.

In this context, measures to control volatile organic compounds (VOC) emission, the material causing photochemical oxidants and SPM, is crucial.

To this end, the Air Pollution Control Law was revised in May 2004 to include VOC measures. The revised law calls for the promotion of reduction measures on VOC emissions by factories through Policy Best Mix approach in which legal emission regulation and voluntary efforts by business entities are combined. In FY 2004, relevant councils and committees discussed on the facilities to be covered by the regulation as well as on the emission criteria. As a result, relevant ministerial ordinances were revised in May and June 2005. The legal emission regulation is to be effective on April 1 2006.

2. Lessons learned and good practices

Number of experts from industrial sector participated in the discussion on the VOC emissions reduction scheme, and the importance of the cooperation between government and the industry was all the more acknowledged. The Government of Japan (GoJ) has asked members of the councils and committees to further discuss on future direction of voluntary efforts. Currently, efforts have been made by business entities for emissions reduction such as the development of low-VOC products.

3. Trend and emerging issues

Progress in voluntary efforts in VOC emissions reduction is crucial in FY 2005. To realize this, discussions have been made on the direction of voluntary efforts. Appropriate scheme for the implementation of voluntary efforts should be discussed and developed by each sector including business entities, enterprises and business unions. Also, information disclosure/examination scheme as well as comprehension and assessment by government and agencies are considered to be needed. Future issue to be addressed includes establishment of measures on small and medium business entities.

4. Constraints and challenges

None

? Measures to Reduce Emissions from Vehicles (Measures for Motor Vehicle Structure)

1. Specific action and the process of the implementation

The government of Japan (GoJ) has been imposing stringent regulations including that was enforced during 1960s on carbon monoxide (CO) of gasoline vehicles. Recently, GoJ shall take more stringent measures in order to further improve atmospheric environment giving due consideration in severe atmospheric environment. GoJ launched the world most stringent measures to reduce emissions from diesel motor vehicles starting in October 2005. Also, the Future Policy for Motor Vehicle Emission Reduction (Eighth Report) was submitted by the Central Environment Council, the consultative body of the GoJ. Based on this report, GoJ (Ministry of the Environment and MoE) will enhance the regulation on diesel vehicles by setting in 2009 the target to the same level as that of gasoline motor vehicles.

2. Lessons learned and good practice

GoJ has been working on the measures to improve atmospheric environment with a target to meet. However, atmospheric environment is still in a serious condition in areas including big cities due to the increase in automobile ownership and so on. Since further promotion of measures on motor vehicle emissions such as nitrogen dioxide and suspended particulate matter (SPM) is necessary, important emission targets have been enhanced. In addition, GoJ has been promoting a shift of owned cars to those complying with new regulation in urban areas as well as dissemination of LEVs.

3. Trend and emerging issues

Based on the report, enhanced regulations are to be implemented for new long-term. Coordination among international community is needed in studying measures on nano-level particles which are not covered by existing regulations. Also international criteria for measuring method of motor vehicle emissions should be coordinated.

4. Constraints and challenges

Reduction of sulfur in diesel fuel is crucial in promoting technological development of exhaust after-treatment devices (catalyst systems or diesel particulate filter). To this end, enhancement of regulations on fuel (sulfur content in diesel fuel to be reduced below 10ppm) will be started in FY 2007. Distribution of the regulated diesel fuel has started in FY 2005 through voluntary efforts by oil industry.

? Non-road Special Motor Vehicle Exhausts Regulation

1. Specific action and the process of the implementation
Regulations on special motor vehicles which drive on public road have been implemented since FY 2003. Also, the Non-road Special Motor Vehicles Exhausts Regulation Law was promulgated in May 2005 to be enforced in FY 2006. This law stipulates the regulations on non-road special motor vehicles exhausts.
 2. Lessons learned and good practice
GoJ has been working on measures to improve atmospheric environment, setting up a target to basically accomplish environment quality standards for air management by FY 2010. Among others, further promotion of measures on motor vehicle emission such as nitrogen dioxide and suspended particulate matter (SPM), and measures for motor vehicle structure have been enhanced. In addition, GoJ has been promoting in urban areas the replacement of cars in use with those complying with new regulation as well as promotion of LEVs.
 3. Trend and emerging issues
In June 2003, the Central Environment Council, the consultative body of MoE, submitted the Future Policy for Motor Vehicle Exhaust Emission Reduction (sixth report). Based on the report, emission standards will be set up. Examination is needed on the issue whether the vehicle that is not subject of the regulation should be covered by the regulation.
 4. Constraints and challenge
Since no-road special motor vehicles high-mix low-volume production, it is crucial not to impose excessive obligation to the manufacturers and users.
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? Promotion of Low Emission Vehicles (LEVs)

1. Specific action and the process of the implementation
In July 2001, the Ministry of the Environment, the Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure and Transportation jointly established "Action Plan for LEVs Development and Promotion". The plan stipulates the target of popularizing 10 million units or more of LEVs in practical use in the earliest stage possible before FY 2010. In line with this plan, GoJ has been promoting measures including ministries and agencies taking initiative in the introduction of LEVs, promotion of full-scale support for private sector for purchasing LEVs, subsidies, preferential tax treatment and low interest financing by government financial institutions.
2. Lessons learned and good practice
- Shift official vehicles into LEVs
The Prime Minister has directed that the entire fleet of government-owned official vehicles should be replaced with LEVs within a targeted time frame of three years, beginning in FY2002. Concerning the official vehicles for state ministers and other senior government officials, replacement of official vehicles with LEVs was completed by FY2004 (4,236 vehicles).

- Accelerating promotion of LEVs

Number of LEVs owned increased from approximately 630,000 units at the end of FY2000 to approximately 9.68 million units at the end of FY2004. With this, the target stipulated in the plan is expected to be achieved ahead of the targeted time frame.

3. Trend and emerging issues

Promotion of LEVs is considered to have accelerated due to the government's initiative in the replacement of official vehicles and introduction of greening of automobile tax. In order to further accomplish popularization of LEVs, it might be necessary to review the action plan.

4. Constraints and challenge

GoJ is aiming at promoting total of 50,000 fuel cell vehicles (FCVs) by FY 2010. In June 2005, type approval for FCVs was conducted for the first time in the world. However, current status of promotion has not been advanced due to number of issues such as cost.

? Transboundary air pollution

Decision-Making

1 . Acid deposition

Acid precipitation is a growing concern in Japan, and the contribution of transboundary air pollution to this phenomenon is increasing in importance. The average of the rain and snow pH at each monitoring site throughout the whole period (20 years) ranged from pH 4.49 (Ijira Lake) to pH 5.85 (Ube), while the overall average was pH 4.77. Rain and snow with a pH of less than 3, which may cause acute damage to plants, was not observed. However, studies carried out from JFY 2000 to JFY 2002 indicated that about 5% of samples had a pH of less than 4. Thus, precipitation throughout Japan is classified as acidic, and presents pH levels similar to those measured in areas of Europe and North America where acidification damage has occurred.

Sulfate and nitrate deposition varied with season. The maximum value was observed in winter on the Japan Sea side of the main island of Japan. In the Japan Sea side area, the supply of sulfur and nitrogen oxides is considered to increase in the atmosphere in winter, suggesting that pollutants may originate from the Asian Continent.

A nationwide increase in ozone concentration was observed in spring, and the same trend was observed on the Japan Sea side. Therefore, transboundary air pollution is strongly suspected.

At present, there is no clear evidence of significant damage by acid deposition to forest ecosystems and soil in Japan. However, physical and chemical changes suspected to be caused by acid deposition were observed in rivers flowing into Ijira Lake in Gifu Prefecture, and in surrounding soil. In this water catchments basin, continuous and intensive monitoring is being conducted to investigate possible changes.

2 . Dust and Sandstorms

Dust and sandstorms (DSS), which devastate northeast Asia and whose damages are aggravating significantly, are the common concerns for Japan, South Korea, China and

Mongolia. The prevention and the control of DSS events become, therefore, emergent issues among these countries.

Ministry of the Environment, Japan set up a special committee on DSS issues in December 2002, which aims to accumulate and summarize the scientific knowledge on DSS issues, and to elaborate future programs of Japan. In September 2004, the special committee reported the progress of the committee based on the discussions among committee members as an interim report.

Monitoring of DSS is mainly conveyed by Ministry of the Environment and Japan Meteorological Agency.

Ministry of the Environment maintains a network of air monitoring stations, including DSS monitoring. There are 1,541 in the network conducting continuous PM10 monitoring. Ministry of the Environment also regards the TSP and LIDAR (Light Detection and Ranging; so-called, Laser Radar) data are principal indicators of DSS monitoring, so that the Ministry has also installed LIDAR systems in Japan and conveys a monitoring campaign of DSS, mainly to trap the aerosols to be analyzed its ingredient, in cooperation with local government and National Institute of Environmental Studies (NIES). The LIDAR being important equipment for DSS monitoring, NIES has developed its original compact LIDAR system to be used in East Asia. DSS monitoring is currently carried out at 11 NIES-LIDAR Observation site in Japan, Korea and China, and the data can be viewed in real time by registered users.

Japan Meteorological Agency (JMA) has 103 meteorological sites throughout Japan where DSS phenomena are monitored. The release of DSS aerosol dust forecasts started in January 2004. DSS aerosol distribution that could affect transportation and the daily activities of people are provided by JMA over the internet and broadcasted by weather companies.

Capacity Building –Information and Development

The monitoring data of acid deposition and its effect on ecosystems in Japan in past 20 years can be obtained in CDROM.

The monitoring data related to DSS can be obtained in the internet which are provided by related Ministries and institutes.

Cooperation

1 . Acid deposition - Acid Deposition Monitoring Network in East Asia (EANET)

The Acid Deposition Monitoring Network in East Asia (EANET), one of the first region-wide, co-operative networks to be established in the region, was established largely at the initiative of Japan. Its overarching aim is to create a common understanding of the state of the acid deposition problems in East Asia, and to thus provide useful inputs for decision making at various levels aimed at preventing or reducing adverse impacts on the environment caused by acid deposition. The ten original participating countries (China, Indonesia, Japan, Malaysia, Mongolia, Philippines, the Republic of Korea, Russia, Thailand and Vietnam) were joined by Cambodia in 2001 and Lao PDR in 2002. Monitoring became fully operational in 2001.

The participating countries have declared to discuss the future EANET activities in order to contribute to development of international cooperative efforts for preventing or reducing adverse environmental impacts of acid deposition in past Intergovernmental

Meetings, especially in related to the financial contribution from participating countries to the Secretariat of the EANET.

The Sixth Session of the Intergovernmental Meeting (IG6) held in 2004 decided the work plan for the "Working Group on Future Development of EANET (WGFD). As one of the tasks mentioned in the work plan, WGFD is supposed to conduct a feasibility study on an appropriate instrument on acid deposition to provide a sound basis for financial contribution by studying on the existing relevant instruments. According to the work plan, the report will, after discussion on it at the Second Session of WGFD, be submitted to IG7 held in autumn 2005 for the consideration and adoption.

2 . Dust and Sandstorms

Japan, South Korea, China and Mongolia and four international organizations have formed ADB/GEF project to prevent and control DSS as Technical Assistance for the Prevention and Control of Dust and Sandstorms in Northeast Asia Project (RETA6068). One of the main purposes of this project is to report a regional master plan for the alleviating DSS. The contents of the master plan was reported in the Ministerial Conference in a side event of the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific 2005 (MCED 2005) held in Seoul, Korea in March 2005. The master plan clearly states the need of phase program for establishing a regional monitoring and early warning network for DSS.

Bilateral cooperation projects are also promoted. The Sino-Japan Friendship Environmental Protection Center and NIES have undertaken joint research on DSS. JICA has conveyed a technical assistance project on capacity development of weather forecasting with Mongolia which includes DSS monitoring capacity building with supply of LIDARs and related monitoring equipment.