

Environmental Technology
Verification (IWG-ETV Forum)
Seoul, Korea
12th September 2012

Japan
Environmental
Technology
Verification
ETV Ministry of the
Environment
<http://www.env.go.jp/policy/etv/>

Projects Demonstrating the Current Situation of Environmental Technologies in Japan

Office of Environmental Research and Technology
Ministry of the Environment, Japan

 環境省
Ministry of the Environment
Government of Japan

Outline

- I. Overview of Japan ETV Program**
- II. Report of Program in FY2010 and FY2011**
- III. Current Issues Japan ETV faces**
- IV. Measures for tackling current issues**
- v. New Target Technologies field and way forward**



Overview of Japan ETV Program

- In FY2003, the Ministry of the Environment (MOE) implemented the Pilot Project.
- The Pilot Project shifted into the Full-scale Project in FY2008.
- Performance of environmental technologies are verified by third parties.
- The Logo and Verification Number are issued to the verified technologies.





Report of Program in FY2010 and FY2011

- By FY2011, about 443 technologies had been verified.
- In FY2010, 49 technologies were verified at 8 verification testing organizations.
- The budget for FY2012 is 108 million yen.
- In FY2012, 8 technological fields are carried out as shown below:


“Fee-based system” - 7 fields

“Government-sponsored system” - 1 field

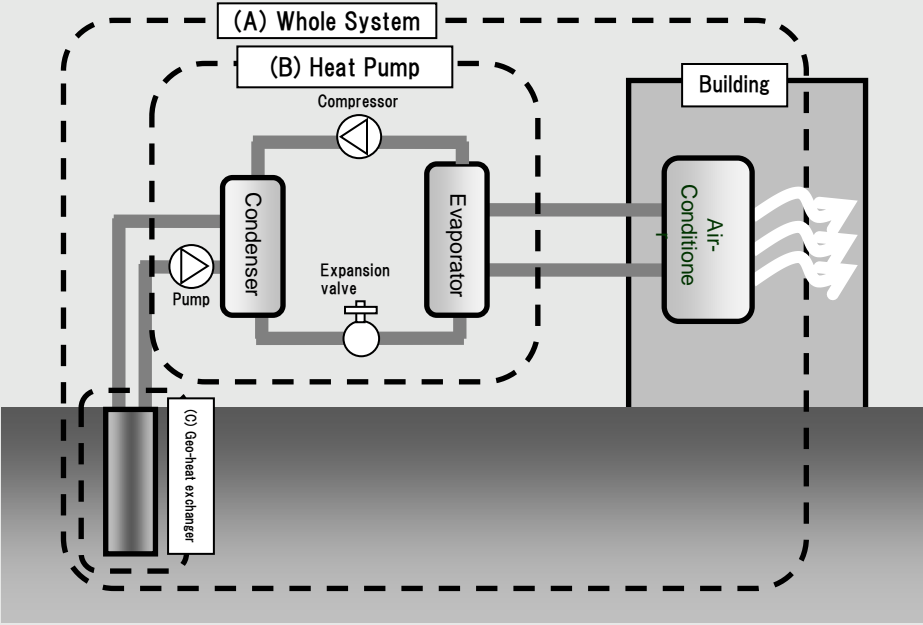
7 Cases under fee charging system

Technology field		Description	Verified	verifying
Organic waste water treatment for small scale generators		Technologies for the treatment of organic wastewater.	2	3
Treatment technologies for night soil generated in nature area		Technologies for human night soil in the areas with no sewage, drainage, or electricity supply.	2	1
Water quality improving technology for lakes and reservoirs		Technologies for directly removing accumulated pollutants in water, benthic mud, etc., or for preventing internal production of pollutants within enclosed lakes and reservoirs.	1	1
Water Environment Improvement Technologies in Enclosed Coastal Seas		Technologies contributing directly to improve water quality and benthic condition or environmental conditions for marine life in enclosed coastal seas.	1	0

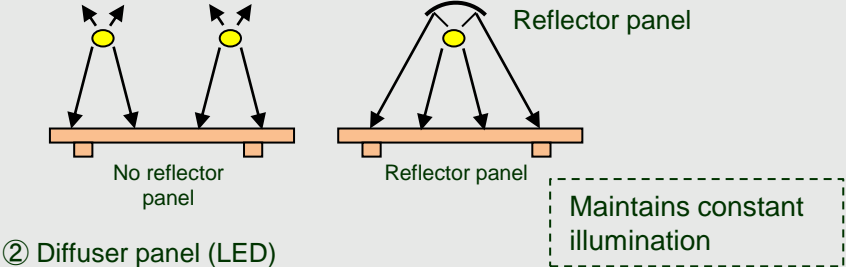
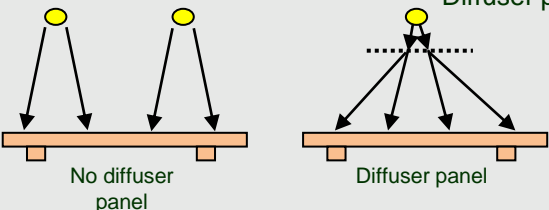
7 Cases under fee charging system

Technology field	Description	Verified	verifying
Heat-Island Mitigation Technologies to Reduce Air Conditioning and Other Loads by using Building Envelope Systems	 <p>Technologies of enveloping buildings with films, etc. after construction for heat island effect mitigation by reducing indoor heating and cooling loads and suppressing anthropogenic heat radiation.</p>	58	36
Simplified VOC measuring technology	<p>Featured with simple operation & management and fast quantification, the technology is useful for voluntary VOC emission reduction in plants using VOCs such as process management or device management.</p>	1	0

7 Cases under fee charging system

Technology field	Description	Verified	verifying
<p>Heat-Island mitigation technologies for through Building Envelope Systems</p>	<p>A heat-pump air-conditioning system using ground source, groundwater or sewage is intended to provide efficient heating and cooling performance compared with a system based on air heat. By making the most of the properties of groundwater, it can thereby contribute to reductions in artificial exhaust heat from buildings.</p>  <p>The diagram illustrates a geothermal heat pump system. It is divided into three main sections: (A) Whole System, (B) Heat Pump, and (C) Geo-heat exchanger. (A) Whole System is a dashed-line boundary encompassing the entire setup. (B) Heat Pump is a dashed-line boundary around the compressor, condenser, expansion valve, and evaporator. (C) Geo-heat exchanger is a dashed-line boundary around the ground loop. The system includes a pump, a compressor, a condenser, an expansion valve, and an evaporator. The evaporator is connected to an Air-Conditioning unit inside a Building, which is shown with arrows indicating air flow. The ground loop is shown as a vertical pipe in the ground.</p>	7	3

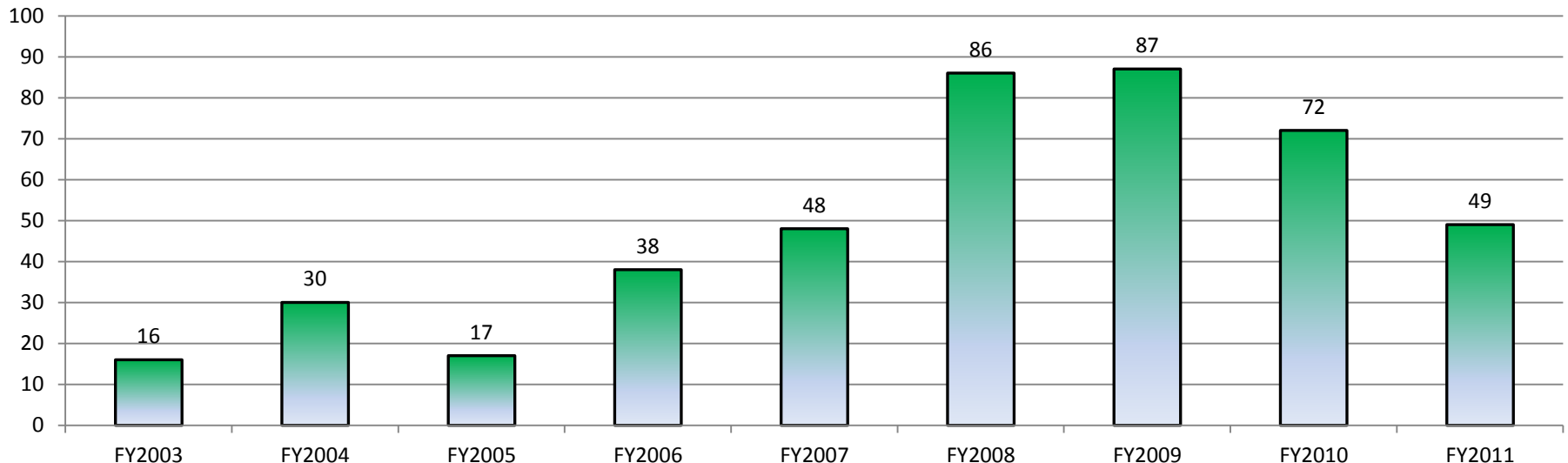
Case under Government-sponsored system

Technology field	Description	Verified	verifying
<p>Global warming mitigation technologies (energy reduction for lighting (reflector panel, diffuser panel, etc.))</p>	<p>Usage of reflector and diffuser panels in lighting fixtures can reduce energy consumption and greenhouse gases</p> <p>① Reflector panel (Fluorescent light)</p>  <p>② Diffuser panel (LED)</p> 	-	5

Current Issues Japan ETV faces

Due to the current economic downturn, the Japan ETV program faces the challenges below:

- Verification cases remain at the same level and even decreases
- Difficulty in securing sufficient budget



- Urgent tasks are to revitalize and to review the framework
- Based on the above mentioned points, collaborating with foreign partners are under consideration (Joint and co-verification, etc.)

Measures for tackling current issues

■ Projects revitalizations

➤ Upgrade verification advantages

-Increase publicity (Using logo, etc.)

-Add more value to verifications results for applicants.

■ Review the framework

➤ Simple and efficient application processes are consideration and active collaboration with private sector

➤ Point at Issue

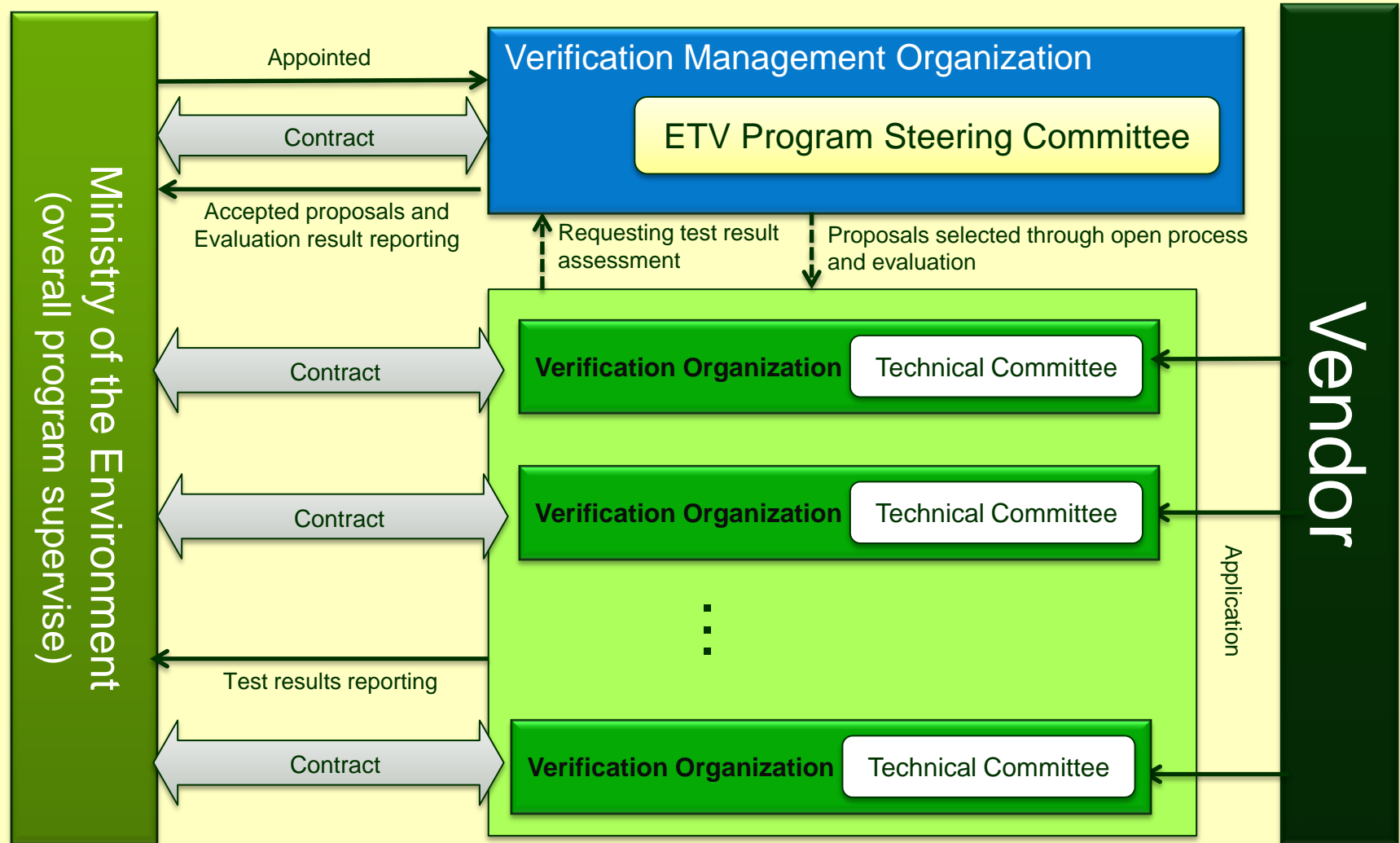
-How to ensure the quality of verification testing procedures and results, or to manage projects continuity, etc.

Issues related implementing scheme

- Verification Management Organization and Verification Organization were operated in each technology field, cooperation among each field was NOT sufficient.
- Role of Working Group and Technology Panels were overlapping, which caused high program operating cost and delayed decision making for effective program management.
- Modification was needed for overcoming the issues and foreseeing possible future international harmonized ETV program.

 **Thus improved scheme is necessary**

Newly modified implementing scheme



- Verification Management Organization, operation hub for ETV program (planning and public activities, etc.)

- Verification Organization are established in respective technology field

Role of respective entities

Ministry of the Environment [Management function]

- Operate and supervise the overall project,
- Select target verification technology fields
- Select Verification management organization
- Conduct technical development of the test methodologies
- Prepare Protocols(verification test guidelines)
- Approve selected verification organizations
- Approve test results
- Publish verification test results and related information on the website
- Issue a Logo and a verification number



Select

Verification Management Organization [Operating function]

- Planning and public activities to spread ETV
- Assess the activities of verification organizations
- Investigate and consider to set the technology field
- Prepare the revised Protocol
- Select Verification Organizations
- Create contents on ETV website

Steering Group on ETV program

Established by the verification management organization to discuss and provide technical expertise relating with implementing tasks the verification management organization has



Select

Verification Organization [Technical function]

- Prepare the Protocols
- Establish categories for fees associated with verification tests
- Issue open invitations for target verification technologies to corporations with other entities
- Select technologies to be targeted for verification
- Prepare Verification Test Plans
- Verify technologies(implement verification tests)
- Prepare verification test result reports

Technical Committee

Established by the verification organization to provide technical expertise relating with implementing tasks the verification organization has

Recent activity for overcoming difficulties

【Status of the activities for overcoming the recent difficulties】

- Efforts for creating specific outcome through verification
Verification test result report summary is made to promote the report to be utilized for the subsidized project by local government level and to expect the vendor can use the promotional activity
- Needs oriented projects operation reflecting the needs of vendors applying for verification and prospective users
- Understanding pros and cons of ETV's international collaboration

Steering Group on ETV program

Established by the verification management organization to discuss and provide technical expertise relating with implementing tasks the verification management organization has

International Sub Committee

Discussing possible measures for ETV/ISO and other international collaborations

Technology field revising Sub Committee

- Identifying the focused technology field
- Classifying the individual technology sub field
- Identifying and studying possible promising technology field

Verification test report utilizing Sub Committee

Discussing the measures for creating objective user friendly verification test report which vendors can use for the promotional activity

Expected results through new implementing scheme

- Effective operating ETV program through streamlining administrative tasks
- By avoiding roles overlapped among involving entities, promote the speedy decision making and save the management cost
- By clearly defining role of each entities, facilitate the readiness for possible internationally harmonized ETV program

New Target Technologies field and way forward

■ Planned new global warming mitigation technologies

➤ **“Natural lighting” technologies**

- Window fixtures and skylights allow sunlight to enter for reducing energy consumption of lighting

➤ **Automatic Light Dimming Technologies**

- With automatically adjusting light level by sensing daylight volume and human activities, energy consumption of lighting can be efficiently reduced

■ Combining different key technologies for energy saving and/or low-carbon emission technologies

■ Pollution control technologies and co-benefits technologies which allowing global heating mitigation and pollution abatement for overseas developing countries

For further information please visit:
<http://www.env.go.jp/policy/etv>

The screenshot shows the homepage of the Environmental Technology Verification (ETV) program. At the top, it features the text '環境省 環境技術実証事業' (Ministry of the Environment, Environmental Technology Verification Project) and navigation links for 'HOME', 'サイトマップ', and 'お問い合わせ'. The main banner displays 'Environmental Technology Verification' over a background of green leaves. Below the banner, there are two buttons: '環境技術を探す(実証試験の結果はこちらから)' and '実証結果一覧表はこちらから'. A row of six small images represents various technologies: '自然地形トイレ' (Natural terrain toilet), '排水処理' (Wastewater treatment), '川・海・湖の環境改善' (River, sea, and lake environment improvement), 'VOC対策' (VOC countermeasures), 'ヒートアイランド対策' (Heat island countermeasures), and '化学物質の測定' (Measurement of chemical substances). The main content area is divided into two columns. The left column contains the ETV logo and buttons for '申請する(実証申請者)' and '参加する(実証機関, 実証運営機関)'. The right column has a section titled '環境技術実証事業とは' (What is Environmental Technology Verification?) with a paragraph explaining the program's purpose and a section titled '環境技術実証ロゴマークについて' (About the Environmental Technology Verification Logo Mark) with a paragraph explaining the logo mark.

Office of Environmental Research and Technology
Policy and Coordination Division
Environmental Policy Bureau
Ministry of the Environment, Japan

Japan
Environmental
Technology
Verification
ETV
Ministry of the
Environment
<http://www.env.go.jp/policy/etv/>