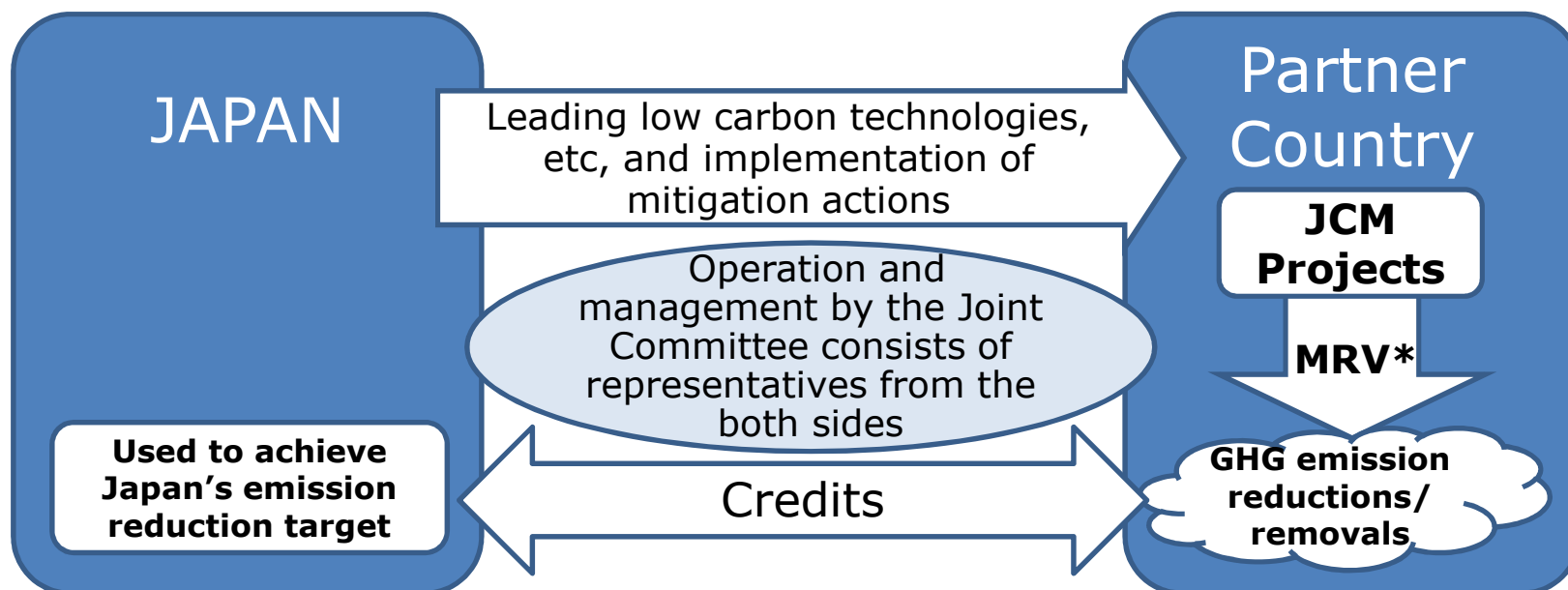


Diffusion of Low-Carbon Technology through Joint Crediting Mechanism

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Ministry of the Environment
Government of Japan

Basic Concept of the JCM

- Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- Appropriately evaluating contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan's emission reduction target.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals.



*measurement, reporting and verification 2

Statement by Prime Minister Shinzo Abe at the COP21



The second component of Japan's new set of contribution is innovation. The key to acting against climate change without sacrificing economic growth is the development of innovative technologies. (snip)

In addition, many of the advanced low-carbon technologies do not generally promise investment-return to developing countries.

Japan will, while lowering burdens of those countries, promote diffusion of advanced low carbon technologies particularly through implementation of the Joint Crediting Mechanism (JCM).

JCM Partner Countries

- Japan has held consultations for the JCM with developing countries since 2011 and has established the JCM with Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar and Thailand.



Mongolia
Jan. 8, 2013
(Ulaanbaatar)



Bangladesh
Mar. 19, 2013
(Dhaka)



Ethiopia
May 27, 2013
(Addis Ababa)



Kenya
Jun. 12, 2013
(Nairobi)



Maldives
Jun. 29, 2013
(Okinawa)



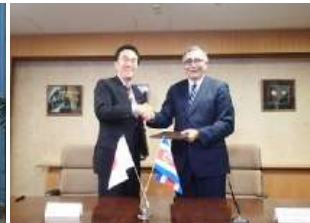
Viet Nam
Jul. 2, 2013
(Hanoi)



Lao PDR
Aug. 7, 2013
(Vientiane)



Indonesia
Aug. 26, 2013
(Jakarta)



Costa Rica
Dec. 9, 2013
(Tokyo)



Palau
Jan. 13, 2014
(Ngerulmud)



Cambodia
Apr. 11, 2014
(Phnom Penh)



Mexico
Jul. 25, 2014
(Mexico City)



Saudi Arabia
May 13, 2015



Chile
May 26, 2015
(Santiago)



Myanmar
Sep. 16, 2015
(Nay Pyi Taw)



Thailand
Nov. 19, 2015
(Tokyo)

Three (3) JCM projects between Indonesia and Japan, one (1) JCM project between Palau and Japan, two (2) JCM projects between Mongolia and Japan and one (1) JCM project between Viet Nam and Japan have been registered respectively. 4

Japan's INDC (Excerpt)

Japan's INDC

- Japan's INDC towards post-2020 GHG emission reductions is at the level of a reduction of 26.0% by fiscal year (FY) 2030 compared to FY 2013 (25.4% reduction compared to FY 2005) (approximately 1.042 billion t-CO₂eq. as 2030 emissions), ensuring consistency with its energy mix, set as a feasible reduction target by bottom-up calculation with concrete policies, measures and individual technologies taking into adequate consideration, *inter alia*, technological and cost constraints, and set based on the amount of domestic emission reductions and removals assumed to be obtained. .

Information to facilitate clarity, transparency and understanding

- The JCM is not included as a basis of the bottom-up calculation of Japan's emission reduction target, but the amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan's reduction.

Reference information

GHG emissions and removals

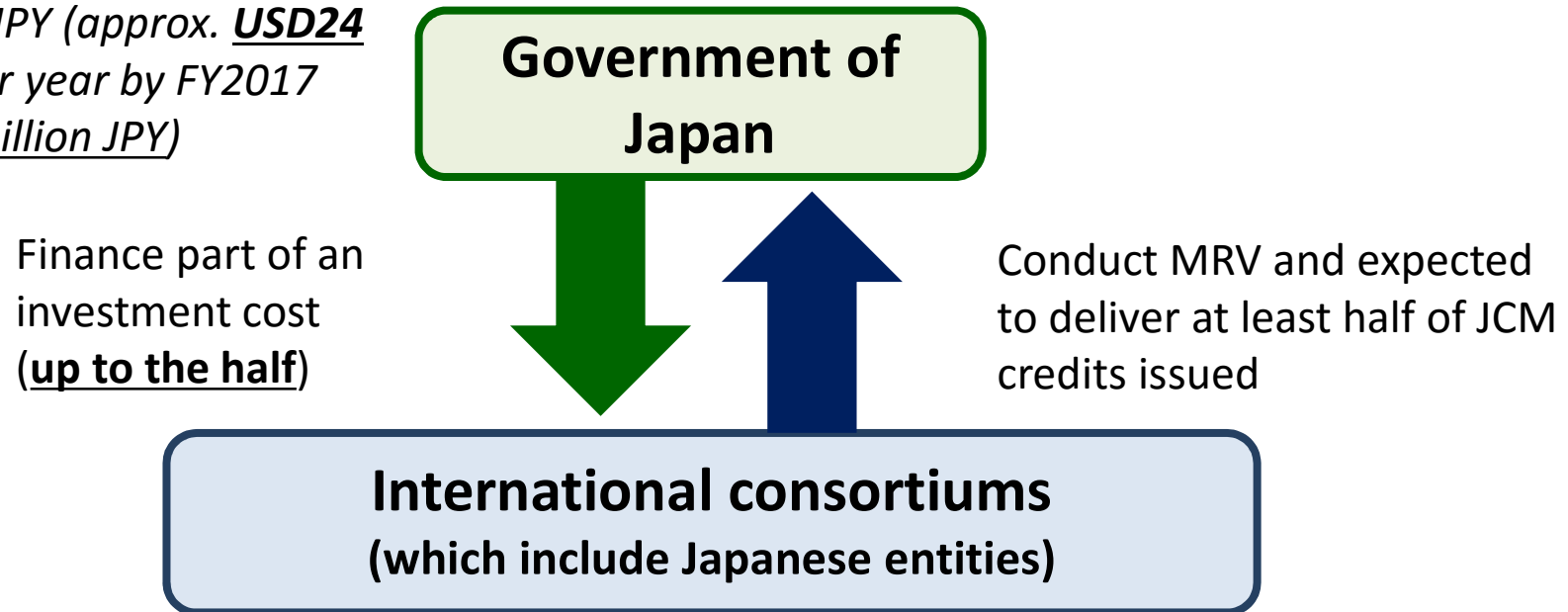
JCM and other international contributions

- Japan establishes and implements the JCM in order both to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner achieved through the diffusion of low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan's emission reduction target.
- Apart from contributions achieved through private-sector based projects, accumulated emission reductions or removals by FY 2030 through governmental JCM programs to be undertaken within the government's annual budget are estimated to be ranging from 50 to 100 million t-CO₂

Partner Country	Number of Joint Committee meetings	Number of Approved Methodologies	Number of registered projects	Number of selected projects in JCM Financing Program and JCM Demonstration Projects
Mongolia	3	2	2	2
Bangladesh	2			3
Ethiopia	1			1
Kenya	1			1
Maldives	2	1		2
Viet Nam	4	5	1	9
Laos	1			2
Indonesia	5	10	3	19
Costa Rica	1			
Palau	3	1	1	3
Cambodia	1			1
Mexico	1			1
Saudi Arabia	1			
Chile				
Myanmar				1
Thailand				5
total	26	19	7	50

JCM Model Projects by MOE

*The budget for FY 2015
2.4 billion JPY (approx. **USD24 million**) per year by FY2017
(total 7.2 billion JPY)*



- Scope of the financing: facilities, equipment, vehicles, etc. which reduce CO₂ from fossil fuel combustion as well as construction cost for installing those facilities, etc.
- Eligible Projects : starting installation after the adoption of the financing and finishing installation within three years.

Support Program Enabling “Leapfrog” Development (Finance/ADB) by MOE

Collaborative Financing Programme

Budget for FY 2015[Budget for FY2014]

1.8 billion JPY (approx. USD18 million) per year by FY2018 (total 7.2 billion JPY) [4.2 billion JPY]

Scheme

To finance the projects which have the better efficiency of reducing GHG emission in collaboration with other projects supported by JICA and other governmental-affiliated financial institute.

Purpose

To expand superior and advanced low-carbon technologies for building the low carbon society as the whole city wise and area wise in the wider fields, and to acquire credits by the JCM.

ADB Trust Fund (JF JCM)

Budget for FY 2015[Budget for FY2014]

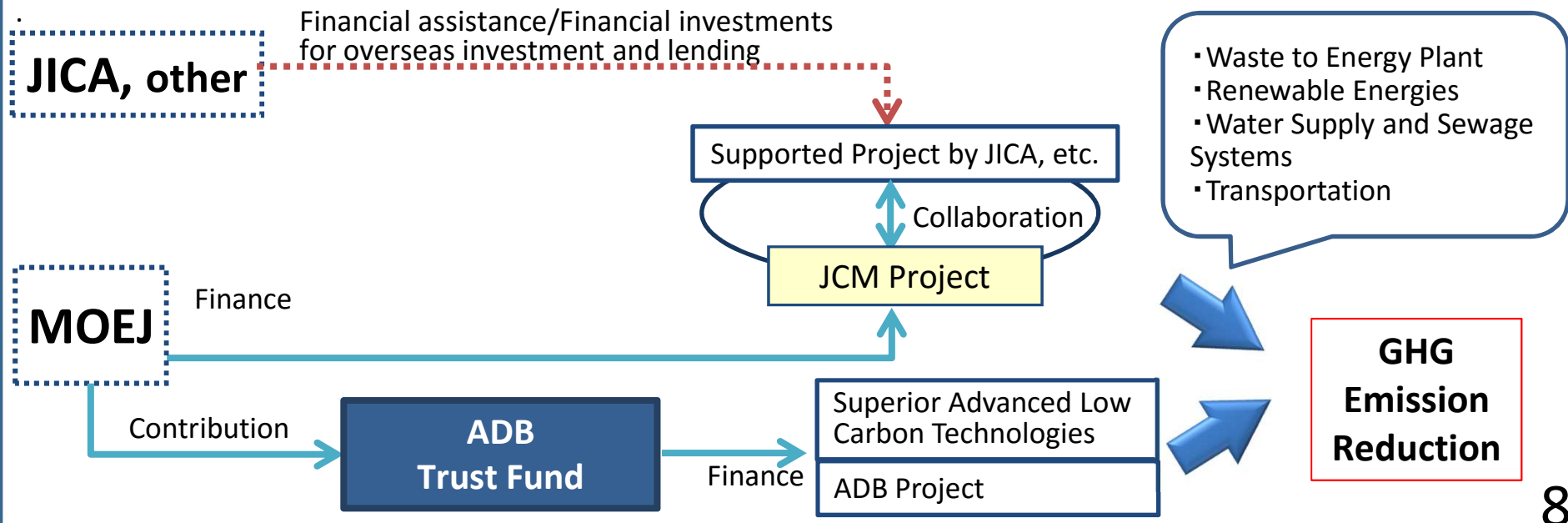
1.8 billion JPY (approx. USD18 million)[1.8 billion JPY]

Scheme

To provide the financial incentives for the adoption of the advanced low-carbon technologies which are superior in GHG emission reduction but expensive in ADB- financed projects.

Purpose

To develop ADB projects as the “Leapfrog” developments by the advanced technologies and to show the effectiveness of the JCM scheme by the acquisition of credits of the JCM.



JCM REDD+ Model Projects by MOE

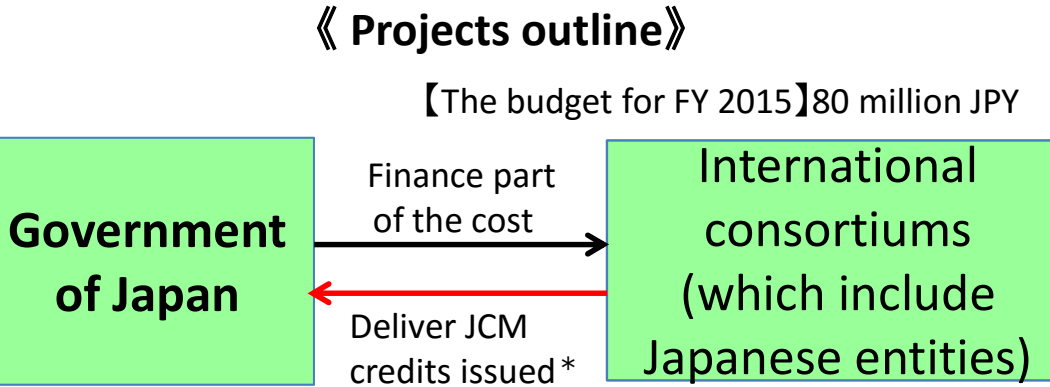


【Background】

- Deforestation and forest degradation in developing countries
- 17 demonstration feasibility studies from 2011 to 2014

【Expected outcome】

- Participatory monitoring of illegal logging, disaster prevention, and forest restoration
- Provision of alternative livelihoods



*At least half of JCM credits issued are expected to be delivered to the government of Japan except the amount which is allocated to the partner country based on its legislation.

※These projects may be implemented in cooperation with other organizations such as JICA

※REDD+ (Reducing Emissions from Deforestation and Forest Degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries)

Purpose

Implement activities for REDD+ and use them for contributing to achieve Japan's emission reduction target through the JCM.

Project budget and implementation term

Up to 40 million JPY/year (fixed)

Eligible Companies

Japanese corporation(the representative of international consortiums)

Selected Projects in 2015

- ① Representative : Waseda University
Partner country : Laos
Project name : REDD+ project in Luang Prabang Province through controlling slash-and-burn
- ② Representative : Kanematsu Corporation
Partner country : Indonesia
Project name : REDD+ project in Luang Prabang Province through controlling slash-and-burn

JCM Financing programs by MOEJ (FY2013/2014/2015)

Thailand:

- Energy Saving at Convenience Stores with High Efficiency Air-Conditioning and Refrigerated Showcase
- Introduction of Solar PV System on Factory Rooftop
- Reducing GHG Emission at Textile Factory by Upgrading to Air-saving Loom (Samutprakarn)
- Energy Saving for Semiconductor Factory with High Efficiency Centrifugal Chiller and Compressor
- Installation of Co-Generation Plant for On-Site Energy Supply in Motorcycle Factory

Myanmar:

- Introduction of Waste to Energy Plant in Yangon City

Bangladesh:

- Energy Saving for Air Conditioning & Facility Cooling by High Efficiency Centrifugal Chiller (Suburbs of Dhaka)
- Installation of High Efficiency Loom at Weaving Factory
- Introduction of PV-diesel Hybrid System at Fastening Manufacturing Plant

Ethiopia:

- Introduction of Biomass CHP Plant in Flooring Factory

Kenya:

- Solar Diesel Abatement Projects

Maldives:

- Solar Power on Rooftop of School Building Project
- Smart Micro-Grid System for POISED Project in Addu Atoll

Malaysia:

- PV power generation and relevant monitoring system for the office building

- Model project in FY 2013 (3 countries, 7 projects)
- Model project in FY 2014 (7 countries, 15 projects)
- ADB project in FY 2014 (1 country, 1 project)
- Model project in FY 2015 (8 countries, 18 projects)
- REDD+ Model Project in FY 2015 (2 countries, 2 projects)

Total 14 countries, 43 projects

The underlined projects have been registered as the JCM projects (7 projects)

※these projects account for 2 registered JCM projects respectively, as they're operating in different sites

Mongolia:

- Upgrading and Installation of Centralized Control System of High-Efficiency Heat Only Boiler (HOB)※

Viet Nam:

- Anaerobic Digestion of Organic Waste for Biogas Utilization at Market
- Eco-driving with the Use of Digital Tachographs
- Introduction of amorphous high efficiency transformers in power distribution systems
- Introduction of High Efficiency Air-conditioning in Hotel
- Energy Saving in Lens Factory with Energy Efficient Air-Conditioners
- Energy Saving in Acid Lead Battery Factory with Container Formation Facility

Laos:

- REDD+ project in Luang Prabang Province through controlling slush-and-burn

Cambodia:

- Introduction of High Efficiency LED Lighting Utilizing Wireless Network

Palau:

- Small-Scale Solar Power Plant for Commercial Facilities in Island States Project
- Small-Scale Solar Power Plants for Commercial Facilities Project II
- Solar PV System for Schools Project

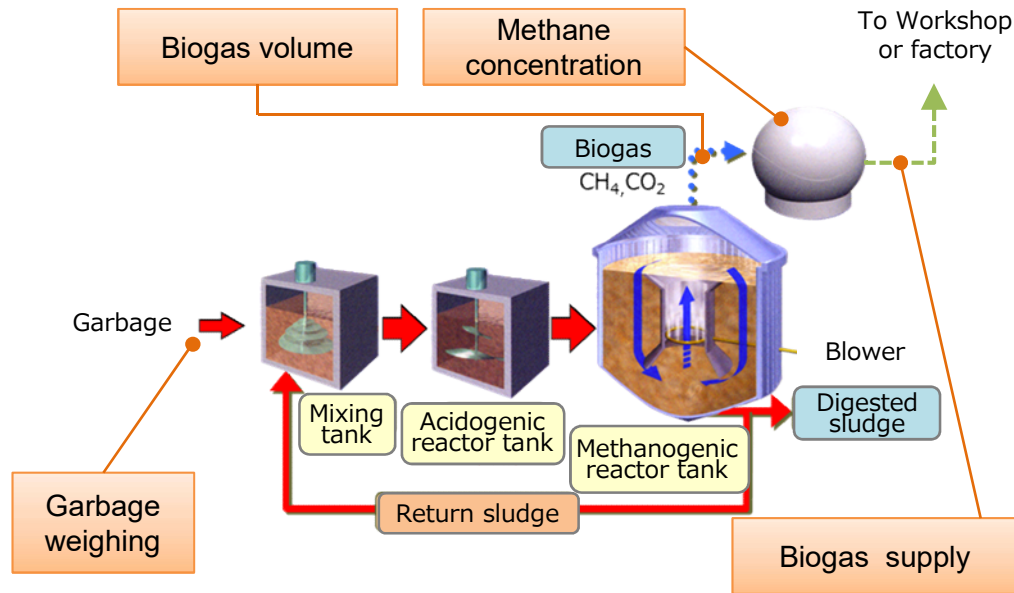
Mexico:

- Domo de San Pedro II Geothermal Power Generation

Indonesia:

- Energy Saving for Air-Conditioning and Process Cooling at Textile Factory (in Batang city)
- Energy Savings at Convenience Stores
- Energy Efficient Refrigerants to Cold Chain Industry※
- Energy Saving by Double Bundle-Type Heat Pump at Beverage Plant
- Energy Saving for Air-Conditioning and Process Cooling at Textile Factory
- Power Generation by Waste Heat Recovery in Cement Industry
- Solar Power Hybrid System Installation to Existing Base Transceiver Stations in Off-grid Area
- Energy Saving through Introduction of Regenerative Burners to the Aluminum Holding Furnace of the Automotive Components Manufacturer
- Energy Saving for Textile Factory Facility Cooling by High Efficiency Centrifugal Chiller
- Introduction of high efficient Old Corrugated Cartons Process at Paper Factory
- Reducing GHG emission at textile factories by upgrading to air-saving loom
- Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller
- Energy Saving for Industrial Park with Smart LED Street Lighting System
- Introduction of High Efficiency Once-through Boiler System in Film Factory
- Installation of Gas Co-generation System for Automobile Manufacturing Plant
- REDD+ project in Boalemo District

JCM projects and Pipeline projects by Kansai Business Sector



Biogas Utilization at Market in Viet Nam (Hitachi Zosen)



Energy-Efficient Air Conditioners in factory in Viet Nam (Daikin)