



Experiences with application of Low Carbon Technologies and replication through the JCM

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Scaling up Energy Projects in Asia to Trigger NDC Implementation

COP24 Japan Pavilion by MoEJ & OECC, 4th December 2018, 10:30-12:00



Roles of Thailand Greenhouse Gas Management Organization: TGO

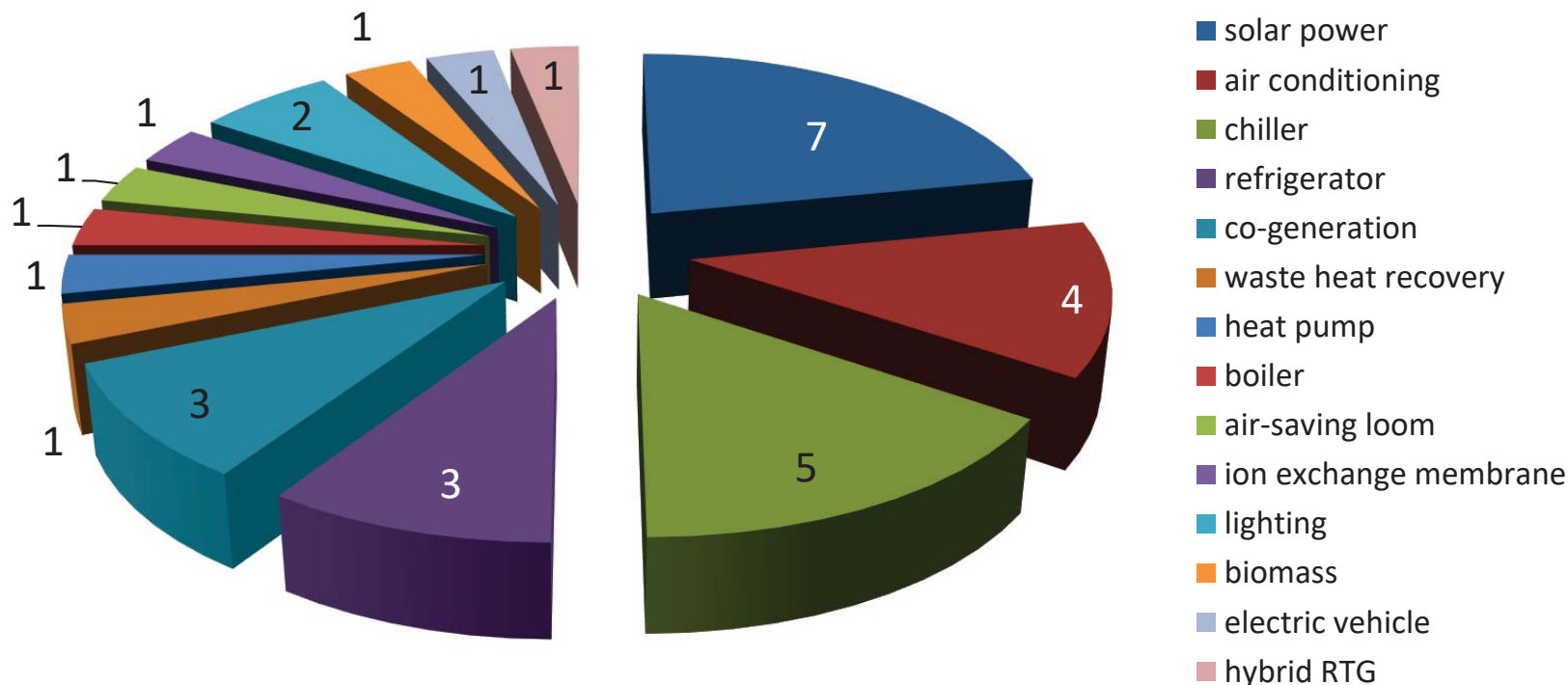
Thailand Greenhouse Gas Management Organization is a public organization under the Ministry of Natural Resources and Environment (MoNRE) and is designated by the cabinet to be a secretariat of the JCM of the Thai side. TGO serves the Joint Committee by performing the work for the implementation of the JCM since November 2015. Besides, TGO also

- check the completeness and correctness of
 - draft methodologies
 - Project Design Documents (PDDs)
 - monitoring reports
- check the qualification of the Third Party Entity (TPE)
- participate the local stakeholder consultation meetings
- on-site visit JCM Model Projects
- promote the development of JCM projects in Thailand
- organize/co-organized seminars/workshops on JCM
- publish data about JCM on website

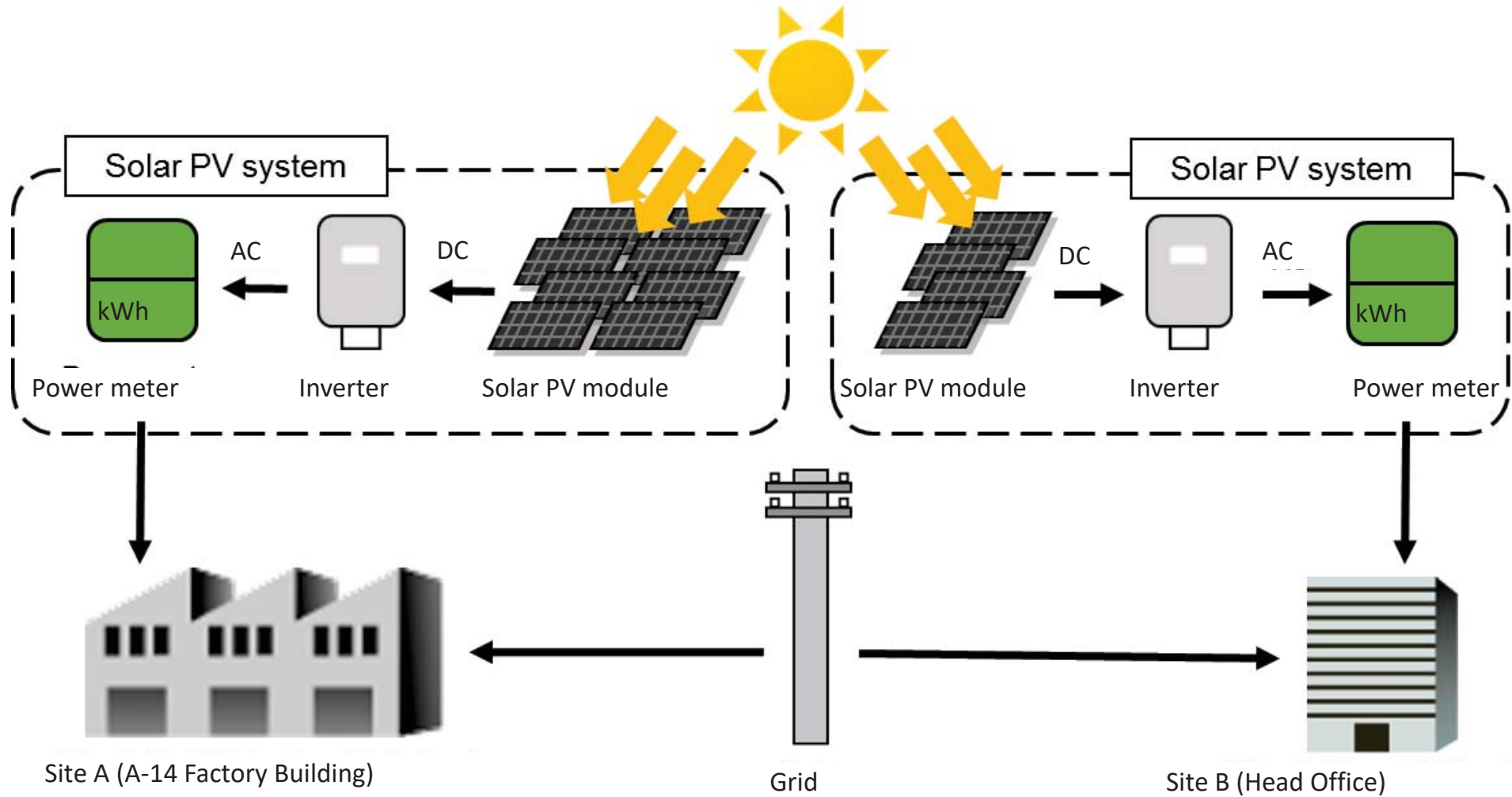
Type of JCM Model Projects

Project type	Number of projects	GHG reduction (tCO ₂ /y)
Energy efficiency	18	90,592
Renewable energy	8	39,080
	26	129,672

number of project categorized by technology



Installation of Solar PV System



Source : Siam Steel International PLC

High Efficiency Centrifugal Chiller

- High-efficiency centrifugal chiller for air conditioning

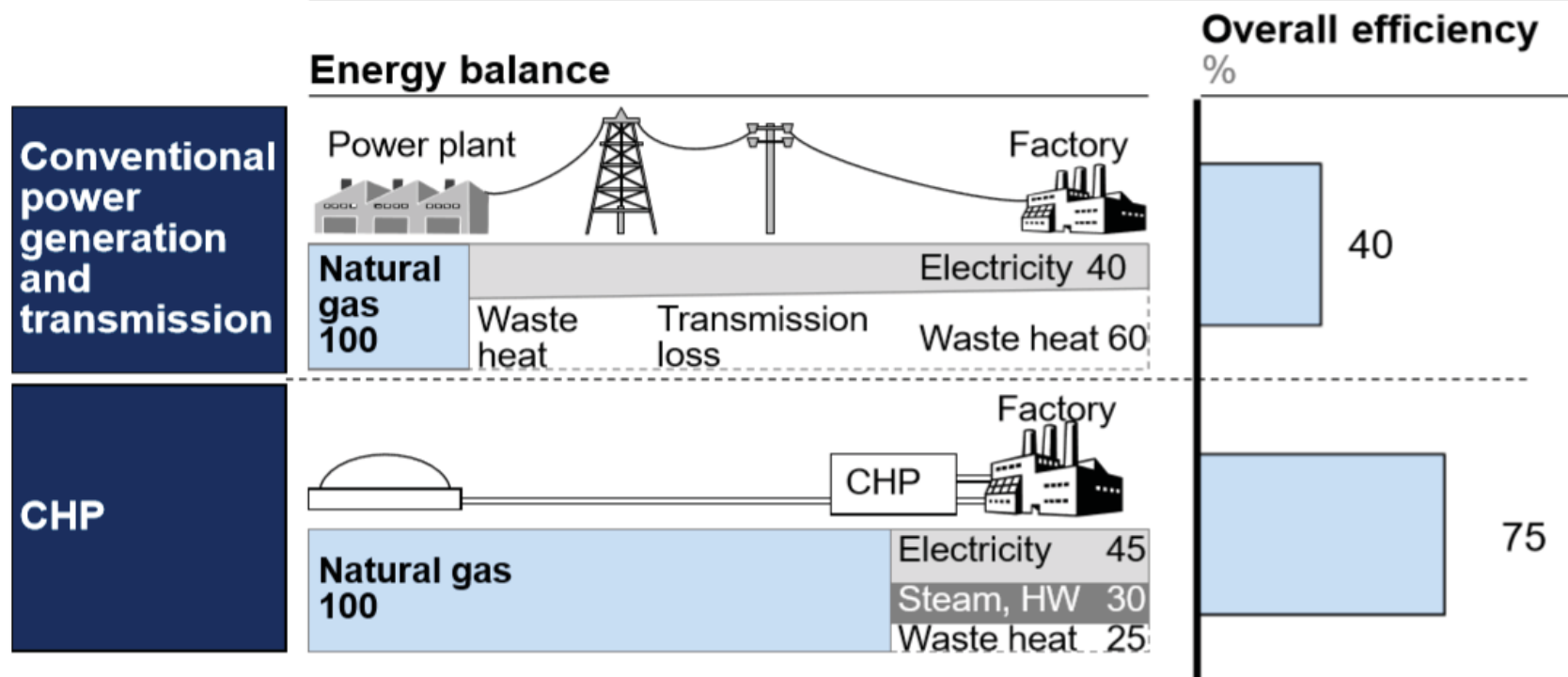


- High COP (high energy efficiency)
- ODP of the refrigerant (HFC-134a) used is zero for the ozone layer protection

Co-generation plant

CHP attains highly efficient energy use by the maximum use of waste heat generated in power generation process.

Schematic illustration

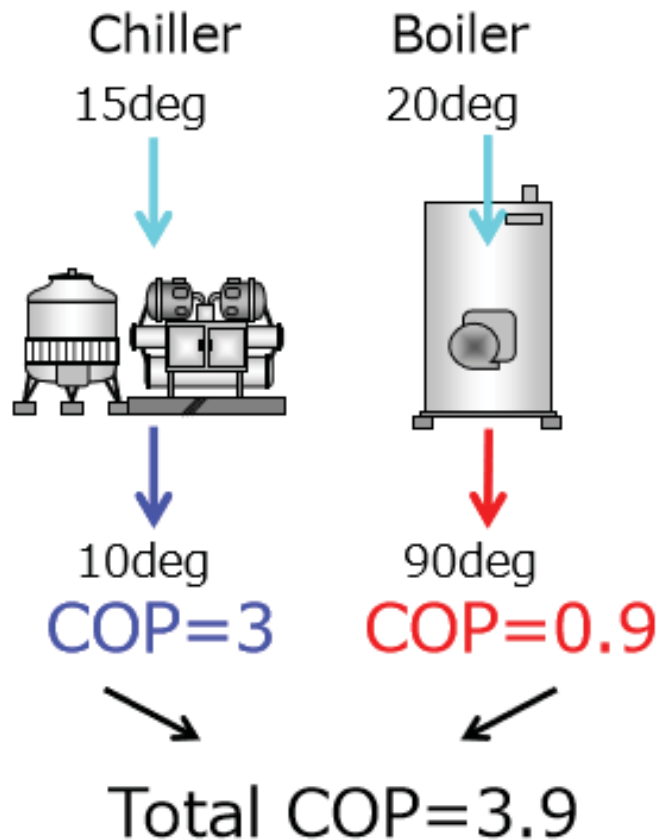


- Cost reduction caused by energy saving
- CO2 emission reduction

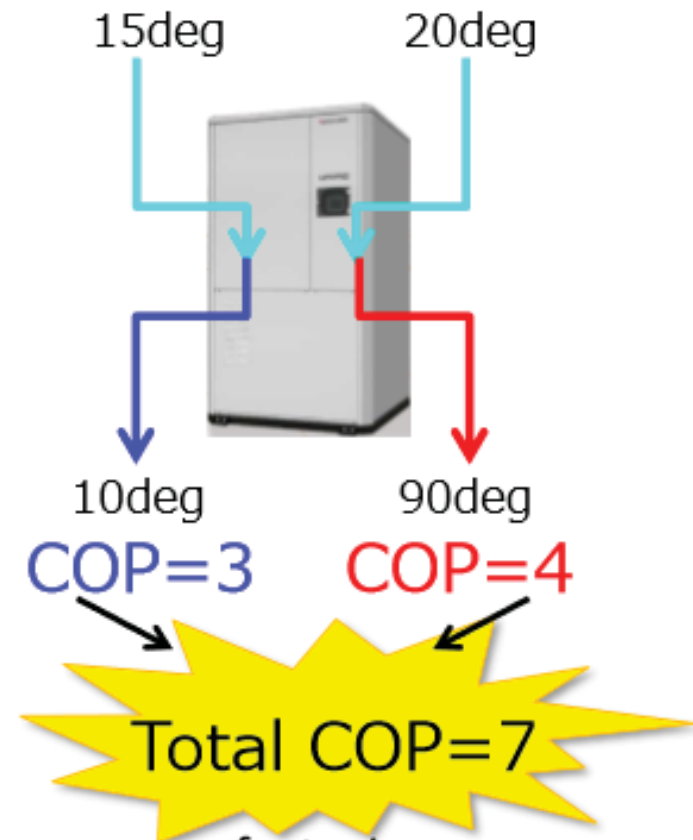
Source: NS-OG Energy Solutions (Thailand) Ltd. , September 2018

Installation of heat pump in food factory

Standard System

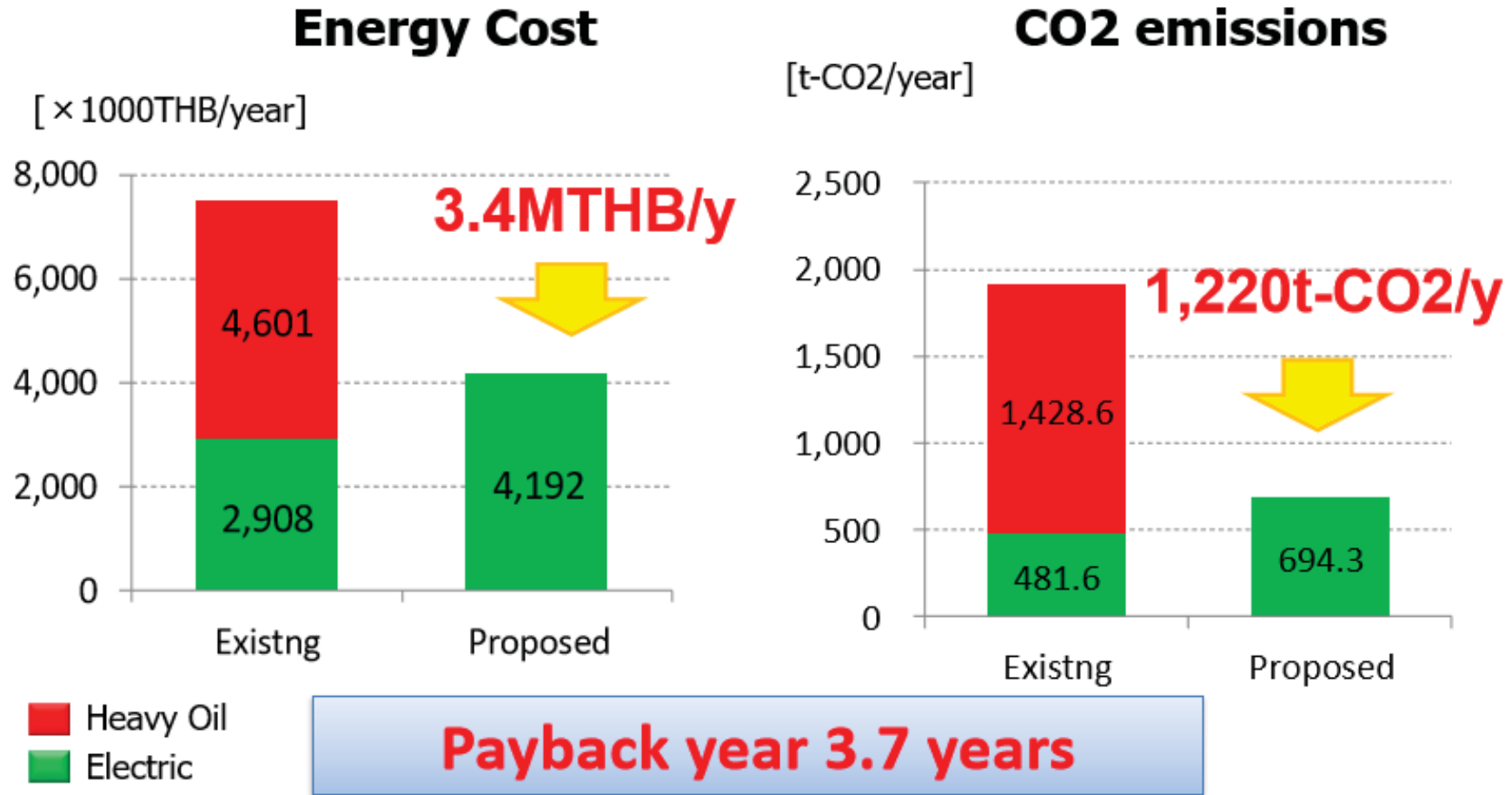


Heat Recovery Heat pump System



Source: CPF (Thailand) Public Company Limited , September 2018

Installation of heat pump in food factory



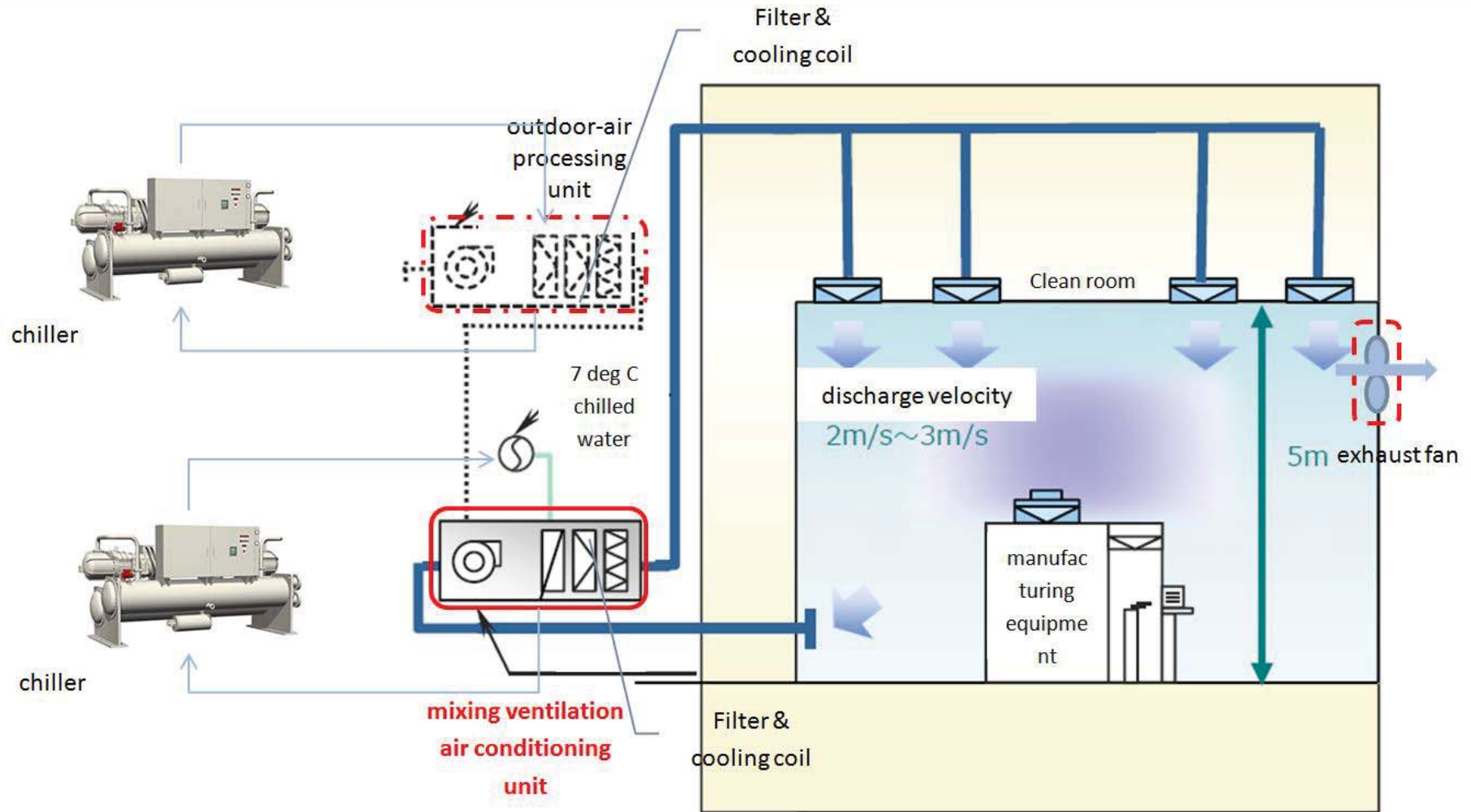
Energy Cost Rate : Electricity 3.42THB/kWh, Heavy Oil 9.67 [THB/L]
 Calorific Value : Heavy Oil 0.03977 [GJ/L]
 CO₂ Emission Rate : Electricity 0.56643 [t-CO₂/MWh], Heavy Oil 0.0755t-CO₂/GJ
 Boiler efficiency 80%, Chiller COP3.48

Fuel of Boiler	Heavy Oil
Heat Pump Q'ty	8
Running Hours	6000[h/year]

Source : CPF (Thailand) Public Company Limited , September 2018

Installation of Displacement Ventilation Air Conditioning Unit in the Cleanroom of Semiconductor Manufacturing Factory

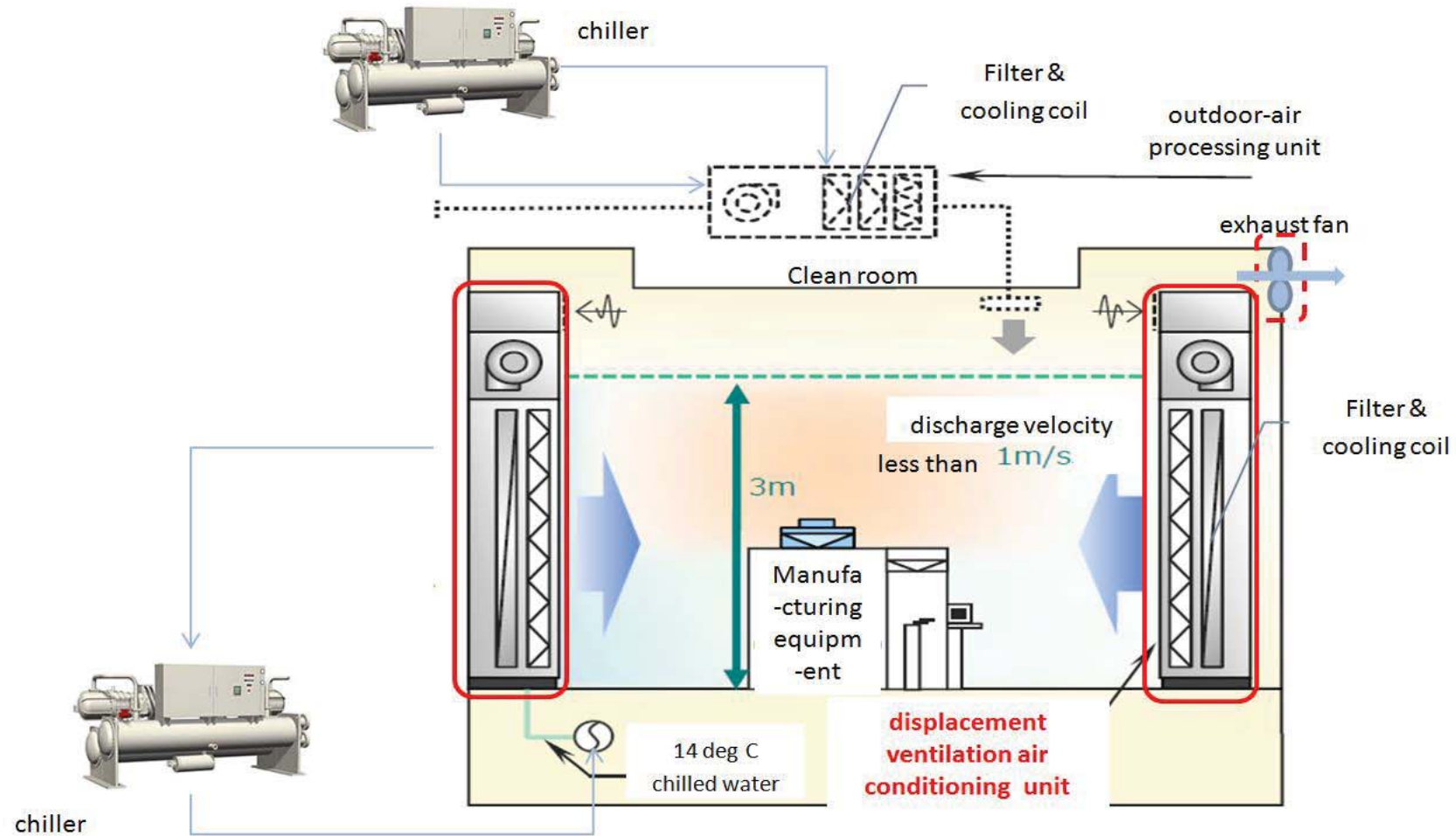
Outline of the reference technology



Source : Sony Device Technology (Thailand) Co., Ltd.

Installation of Displacement Ventilation Air Conditioning Unit in the Cleanroom of Semiconductor Manufacturing Factory

Outline of the technology applied



Source : Sony Device Technology (Thailand) Co., Ltd.

Thailand Greenhouse Gas Management Organization (Public Organization): TGO

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<http://ghgreduction.tgo.or.th/jcm/>

