Panasonic Ecology Systems (Thailand) Co.,Ltd.

Panasonic Group Site Report 2013
FY2013 :April 1, 2012 - March 31, 2013

Address	101 Moo 2 Teparak Rd. T.Bangsaothong,A. Bangsaothong,Samutprakan 10540 Thailand.				
Lot area	12872m²	Total floor area	10329㎡		
Establishment day	1996/12	Employees	452persons		
ISO14001certification date	2011/06	ISO14001 renewed	2014/03		
Major Products	The manufacture of electrical fan , ventilating fan , mini sirocco, industrial electrical fan , industrial ventilating fan, industrial air moving equipment and accessories				
Environmental Information disclosure	0items	CommunicationFY2013 visitors on factory tour	200persons	collaboration with municipality	3items
Contact	ISO Management			TEL:	+66 (0) 27233000 ext 4527

Message from Compliance Administrator

The company is located in Samutprakarn province. We performed environmental friendly promotion in site of PTHC(Panasonic Thailand Co.,Ltd）Group. Our products are Electric fan, ventilating fan, mini sirocco, industrial electric fan, industrial ventilating fan, industrial air moving equipment and accessories. Our factory was certified by ISO14001:2004 "Environmental Management System" Since1998 and OHSAS 18001:2007 " Occupational Health and Safety since August 2008.FY2011, We had been assessed certified as meeting the requirements of ISO 50001:2011 "Energy Management System" to manage an efficiency energy consumption and prevention the environmental degradation. In addition, We raised the employees thru an environmental and energy saving activities.

Compliance Administrators
Mr.Kazuyoshi KAJITA

Main activities in FY2013

Target	Result
CO_2 Emission Plan FY2013 = 1,400 Ton	CO_2 Emission Result = 1,626 Ton (Data from Apr'12-Mar'13)
Factory waste recycling ratio = 97.5 %	Factory waste recycling ratio = 99.91 %

Products of Environmentally-conscious information

Ventilating Fan :
Ventilating Fan helps air ventilation by intake & exhaust functions.

Point of environmentally-conscious
Usage of low electricity consumption Motor. Produced at less global environmental effect process. Comply with RoHS

Electrical Fan :
Electrical Fan produces wind and creates cool and comfortable living environment.

Point of environmentally-conscious
Energy saving at the top rank (No.5) in Thailand (Reference to TIS.)

Air Moving Equipment (AME) :
Air Moving Equipment is suitable for ventilation in the large space such as in an office or a factory.

Point of environmentally-conscious
Ventilation in a large space.This

Fine Factory Fan :
Fine Factory Fan helps adjusting temperature in working environment especially in factory and warehouse by intaking fresh air from outside into the building and exhausting hot air out of the building.

Point of environmentally-conscious
This Product comply with RoHS standard

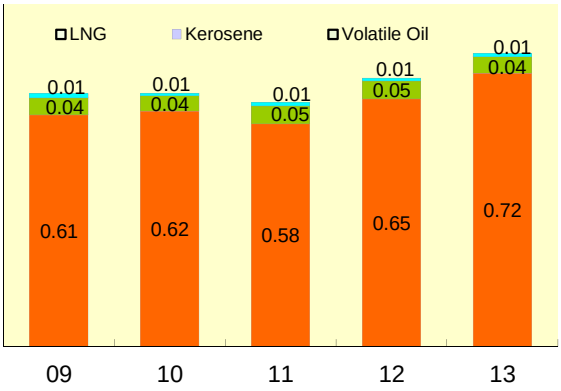
->http://pesesth.panasonic.co.th/eng/default.aspx

Environmental performance data

Year displayed in graph ex) 2013: April 1, 2012 - March 31, 2013

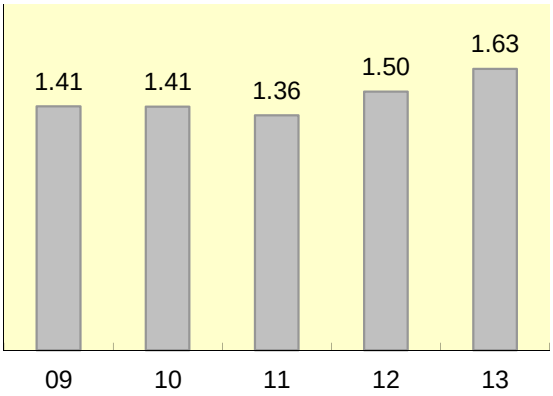
Energy

Unit: 1000kl



CO2 Emission

Unit: 1000t-CO2



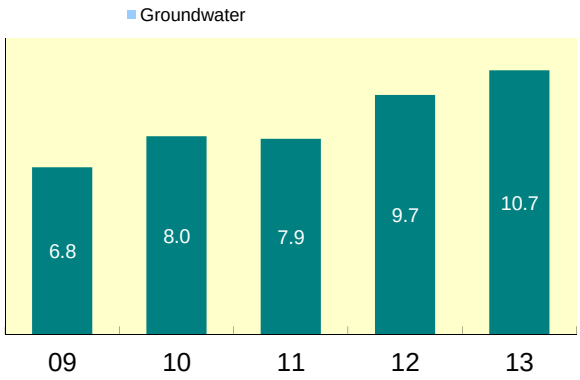
Natural Energy	FY2013
	0.00 1000kW/h

Calculation standards

CO2 emission =[(Amount of electrical power use(kWh) x 0.5385 kgCO2/kWh) + (Amount of LPG(kg) x 3.000kgCO2/kg) + (Amount of heavy oil(l) x 2.710 kgCO2/l)]

Water

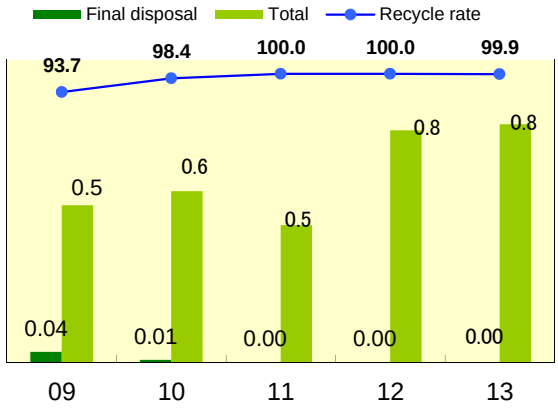
Unit: 1000m³



Circulated water		Rain-water	FY2013
12,586.00	m³	N/A	m³

Waste

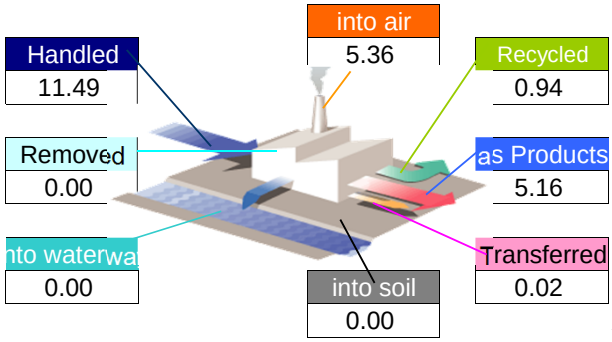
Unit: 1000t, %



Chemical substances

Unit:t

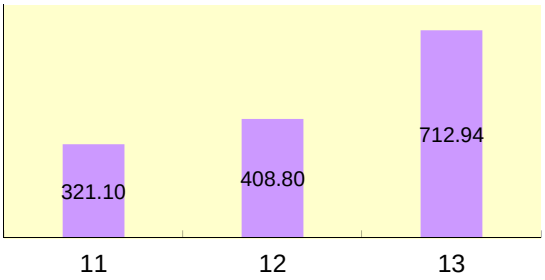
Material balance of controlled substances FY2013



Chemical substances

Unit:Count

Human/Environment Impact



About The Panasonic Group's Chemical Substances Management in Factories
http://panasonic.net/eco/factory/chemical_substance/

About the above data

There are no items to report

Compliance FY2013

<Air pollutant measurement results>

	Unit	Facility name	Legal limit	Voluntary limit	Average measured	Maximum measured	Measuring frequency
SOx	Nm³/h	N/A					
NOx	ppm	N/A					
Particulate	g/Nm³	Die Casting : Burner	320.00	5.18	5.18	5.18	Once a year
		Dust Collector for Di	320.00	99.17	99.17	99.17	Once a year

<Water pollutant measurement results>

	Unit	Facility name	Legal limit	Voluntary limit	Average measured	Maximum measured	Measuring frequency
COD	mg/l	N/A					
BOD	mg/l	N/A					
Nitrogen	mg/l	N/A					
Phosphorus	mg/l	N/A					

<Noise and vibration>

	Unit	Measurement Area		Legal limit	Voluntary limit	Average measured	Maximum measured	Measuring frequency
Noise	dB	DT	Stator E-Fan(Wc	90.00	74.90	74.90	79.30	Leq5 min
		NT	Press AMADA 5(	90.00	84.00	84.00	116.00	Leq8 hr.
Vibration	dB	DT	N/A					
		NT	N/A					

*Legal limit: The strictest value out of those specified by laws, ordinances or agreements.

*N/A(not applicable):The meaning when the facility is exempted from the regulation.

About excess of legal limit value

Improvement of direction by government, or point outs by neighbor

Occurrence situation	Countermeasure
There are no items to report	

Environmental Policy

1) Complying with environmental legal and other requirement which the company subscribes.
2) Preventing and controlling water and air pollution from our performances.
3) Promoting an energy saving policy and minimizing the resource consumption.
4) Minimizing the waste by implementing the waste management program.
5) Reviewing the environmental management system in accordance to the condition changes to ensure continual improvement of our environmental performance.
6) Communicate to employees at all relevant functions and level including all persons working for or on behalf of the company to understand the environmental policy and performance by providing appropriate training in awareness and competence including bulletin board postings.
7) Promoting our environmental policy and activities to the public, advertising in important areas by the distribution of a variety of printed material (board posting, brochures, etc.)

Occupational Health and Safety Policy

1) Complying with occupational health and safety legal and other requirement which the company subscribes.
2) Make all persons including employees, contractors and other visitors aware the importance of safety and keep safety is the basis of their performance.
3) Continually control, improve and protect hazard from our process and activities including health and property by controlling risk to be at the acceptable level
4) Supporting resources for implementation occupational health and safety management system to ensure its continual improvement.
5) Promoting safety training and activities for employee's knowledge and awareness.
6) Reviewing the occupational health and safety management system in accordance to the condition changes to ensure continual improvement of occupational health and safety.
7) Communicate the occupational health and safety policy for understanding and performance overall company and available to interested parties.

Energy Policy

1) The energy conservation had been implemented as part of the company's operation and it is the responsibility of all executives and staffs at all level to cooperate in the maintaining the company's policy and procedure.
2) Complying with energy conservation legal and other requirement which the company subscribes.
3) To support necessary resource for implementation energy management system including procurement of product, services and design in order to enhance energy saving and continual improvements.
4) Control and utilize resources and energy with effectiveness and efficiency.
5) Reviewing the energy management system in accordance to the condition changes to ensure that continual improvement of energy management system.
6) Communicate the energy policy for understanding and performance overall company and available to public.

Aiming to reduction of environmental impact

Installation Fine Factory Fan at Assy line.

Before

Energy use	732,078.08 kwh /year
Electricity	2,525,669.38 Baht/year
CO2 Emissions	394.59 ton-CO2/year

◆ Air conditioner Split type (PAC) 160,000 BTU/set.
Totally 8 sets at Assembly production.

After — PESESTH

Energy use	557,647.36 kwh /year
Electricity	1,923,883.39 Baht/year
CO2 Emissions	300.57 ton-CO2/year

Usage : Air Distribution to the No-Wind Area
Results :
Solve Still Air Problem from Obstacles Such as Machines. Bring in New Fresh Air

◆ Air conditioner Split type (PAC) 160,000 BTU/set.
Totally 6 sets and Fine factory fan 550 W/Set.
Totally 8 sets.

Result		
	Reduction in electricity cost	601,785.99 Baht/year
	Reduction in CO_2 emission	94.02 ton-CO_2/year

Change to auto mode of machine dryer at control room

Before

Energy use	32,313.6	kWh/year
Electricity	122,791.6	Baht/year
CO2 Emissions	17.42	ton-CO2/year

After — PESESTH

Implement on Dec'12

Energy use	16,156.8	kWh/year
Electricity	61,395.84	Baht/year
CO2 Emissions	8.71	ton-CO2/year

Result		
	Reduction in electricity cost	61,395.76 Baht/year
	Reduction in CO_2 emission	8.71 ton-CO_2 /year

FF-FAN For reducing CO2 and dealinfg with factory heat.

Before implement the project ; We used the air conditioner split type (PAC) totally 8 sets. After implement the project we used the " air conditioner split type(PAC) 160,000 BTU/set. only 6 sets & installed Fine Factory Fan 8 Sets.The energy consumption is reduce to 557,647.36 kWh/year and CO2 Emissions

Change to auto mode of machine dryer (compressor)

Before improvement we have turned 2 machines dryer on at control room. After, Air dryer is operate direct variation with Air compressor. Air compressor is install by group control one by one with Air dryer. When the production demand(air pressure) is more than the one air compressor 's work load. The air compressor and air dryer no.2 will operate to maintain the air pressure.When the air pressure is stable the compressor and air dryer no.2 will stop.Can save energy use up to 30-40%.

Environmental Communication

Tree planting and agriculture education.

Employees and their family join the tree planting and agriculture education at the Golden Jubilee Museum on

Panasonic Eco Learning Project.

PTHC Group conducted the Eco Learning Program for 100 students from grade 4, grade 5 and grade 6 in Ban Tong Kung School
(Primary). In this programme, students were taught the cause and effect of global warming and they brainstormed ideas through
group work on how to save energy in electronic product in their lifestyles at home and school.

Group Photo of WWF (Thailand)& Panasonic Group

Group photo in Outreach for Secondary

Group photo SMART ENERGY CAMP

Low Carbon School Network (LCSN)

Panasonic group : Low Carbon School Network (Collaborated Eco Education with WWF Thailand & BMA) : SMART Energy Camp for Primary & Secondary School(Period Nov2012-Feb2013)

Emergency preparedness and response

The company establish and maintain procedure to identify potential and respond to accidents and emergency including the way for preventing and mitigating the environmental impacts that may be associated with them. The potential emergency cases of the company that have to be provided testing of the emergency plan are :

1) Fire fighting and evacuation practice.
2) Gas spread and leakage practice.
3) Leakage/spillage of chemical and hazardous waste practice.

Fire fighting and evacuation practice.

Gas spread and leakage practice.

Leakage/spillage of chemical and hazardous waste practice.