



Independent Assurance Report

To the Board of Directors of Panasonic Corporation

We were engaged by Panasonic Corporation (the “Company”) to undertake a limited assurance engagement of the environmental performance indicators listed in the table below for the period from April 1, 2013 to March 31, 2014 (the “Indicators”) included in its Sustainability Report 2014 posted in the Company’s website (http://www.panasonic.com/global/corporate/sustainability/en/downloads/back_number/pdf/2014/sr2014e.pdf) (the “Report”) for the fiscal year ended March 31, 2014.

Table: The Indicators subject to independent assurance and corresponding page number in the Report

Indicators	Page	Indicators	Page
CO ₂ emissions from the use of major products	45	CO ₂ emissions from non-manufacturing sites	58
CO ₂ emissions in production activities	55	CO ₂ emissions from domestic transportation within Japan	61
Total GHG emissions (CO ₂ -equivalent) in production activities	58	Total wastes	75
Total GHG emissions (CO ₂ -equivalent) in production activities (Scope 1 emissions)	58	Amount of water consumption in production activities	78
Total GHG emissions (CO ₂ -equivalent) in production activities (Scope 2 emissions)	58	Release/Transfer of substances requiring management	84

The Company’s Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Company’s website (http://www.panasonic.com/global/corporate/sustainability/en/downloads/back_number/pdf/2014/review2014e.pdf), which are derived, among others, from the Environmental Reporting Guidelines of Japan’s Ministry of the Environment.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’, ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’, issued by the International Auditing and Assurance Standards Board, and the ‘Practical Guidelines for the Assurance of Sustainability Information’ of the Japanese Association of Assurance Organizations for Sustainability Information. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing with the Company’s responsible personnel to obtain an understanding of its policy for the preparation of the Report and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and also recalculating the Indicators.
- Visiting to one of the Company’s production sites selected on the basis of a risk analysis.
- Evaluating the overall statement in which the Indicators are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company’s reporting criteria.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.

Osaka, Japan

July 14th, 2014

Panasonic Group Sustainability Report 2014

Standards for Calculating Main Environmental Performance Indicators

Reporting period

April 1, 2013- March 31, 2014

Scope of this report

Product-related: All products developed during the reporting period

Factory-related: Manufacturing sites in and outside Japan that have established Environmental Management Systems

Others: Scope according to individual initiatives.

Standards

Item	Indicator	Calculation method
Reducing CO ₂ Emissions	Size of contribution in reducing CO ₂ emissions through energy-creating products	Solar panel: Total power-generating capacity of panels shipped during the current fiscal year (kW) x 20 (years) x Power generation of model per unit (1,193 kWh/kWh) x CO ₂ emission factor (0.3145 kg-CO ₂ /kWh) Fuel cell: Power generation of the current fiscal year model per unit (1,143.9 kWh/year) x 10 (years) x Total shipping quantity of the current fiscal year x CO ₂ emission factor (0.410 kg-CO ₂ /kWh)
	Size of contribution in reducing CO ₂ emissions through energy-saving products	(Annual power consumption of FY2006 base model - Annual power consumption of the current fiscal year model) x Product life x Shipping quantity of the current fiscal year x CO ₂ emission factor
	CO ₂ emissions from the use of major products	Lifetime CO ₂ emissions from major products*1 with large amounts of energy use. Lifetime CO ₂ emissions = Annual power consumption of a model sold*2 x Sales quantity x product life*3 x CO ₂ emission factor *1 Household air conditioners, commercial air conditioners, household fluorescent lamps, LED lamps, household refrigerators, commercial refrigerators, LCD TVs, plasma TVs, washing/drying machines, fully-automatic washing machines, clothes dryers, dish washer and dryers, IH cooking heaters, EcoCute, bathroom ventilator-driers, dehumidifiers, air purifiers, extractor fans, vending machines, electronic rice cookers, microwave ovens, warm-water washing toilets, clothing irons, hair dryers, under-rug heaters, vacuum cleaners, BD recorders, electric thermal pots, extractor hoods, etc. From the present fiscal year, products in the professional-use area on which Panasonic is focusing have been included in the tabulation. Regions covered for tabulation have also been expanded for some other products from this fiscal year. *2 For each product category, the model that was sold in the largest quantity in the region was selected *3 Number of years during which spare parts for the product are available (defined by Panasonic).
	Size of contribution in reducing CO ₂ emissions through production activities	(FY2006 CO ₂ emissions per basic unit - CO ₂ emissions per basic unit of the current fiscal year) x Production of the current fiscal year
	CO ₂ emissions in production activities	CO ₂ emissions from the use of fuel + CO ₂ emissions associated with purchased electricity and heat
	CO ₂ emissions per basic unit in production activities	Calculated with the weighted average of the improvement rate for CO ₂ emissions per basic unit of nominal production (= CO ₂ emissions / nominal production) for each factory. The amount of CO ₂ emissions for each factory based on the assumption that there was no improvement is used for weighting.
	Emissions of GHGs other than CO ₂ in production activities	GHGs specified in the Fourth Assessment Report (2007) of the Intergovernmental Panel on Climate Change (IPCC) were calculated and converted into CO ₂ emissions using the Global Warming Potentials referred to in this Report.
	Scope 1 CO ₂ emissions	CO ₂ emissions from the use of fuel + Emissions of GHGs other than CO ₂
	Scope 2 CO ₂ emissions	CO ₂ emissions associated with purchased electricity and heat
	CO ₂ emissions from non-manufacturing sites	CO ₂ emissions from the use of fuel + CO ₂ emissions associated with purchased electricity and heat. The sites covered by this calculation are non-manufacturing sites (owned by Panasonic) with 100 or more employees in each fiscal year. Until the last fiscal year, the figures of past fiscal years were corrected based on the sites that became subject of the calculation according to the most recent fiscal year's conditions. Therefore the figures in this fiscal year are different from the previous year.
	CO ₂ emissions from the use of fuel	Used CO ₂ emission factors provided in the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment
	CO ₂ emission associated with purchased electricity and heat	<Japan> CO ₂ emission factor for electricity purchased every fiscal year in Japan is fixed at 0.410 (kg-CO ₂ /kWh).
		<Outside Japan> Used numerical values for respective countries listed in the Calculation Tools in the GHG Protocol website by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI). The 2002 numerical values listed in the "Electricity-Heat SteamPurchase_tool1.0_final" are used as fixed values for all fiscal years.
	Energy consumption in transportation	Applied the concept specified in the Energy Conservation Law Guidebook for Consigners edited by the Agency for Natural Resources and Energy, Japan. (Applicable scope: transportation during which cargo is owned by the Panasonic Group) Energy consumption in international logistics is also tabulated by adopting the concept specified in the guidebook.
	CO ₂ emissions in transportation	Based on the energy consumption and other data calculated in the process specified above, the corresponding value was calculated in accordance with the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment.

Item	Indicator	Calculation method
Resources Recycling	Total resources used	Amount of resources directly used in production activities of a product. Total resources used is calculated in the following two methods: (1) Method of calculating by identifying the amount of purchased materials (including sub-materials). (2) Method of calculating by identifying amount of: shipped products + sub-materials + waste*. *The figure used for amount of waste is that disclosed in the Sustainability Report 2014 as waste or valuable items.
	Total recycled resources used	Sum of both intentionally and socially recycled resources - Intentionally recycled resources: Refer to: recycled resource materials where Panasonic independently manages the cycle of generation, collection, and recycling; recycled resource materials where Panasonic intentionally specifies and procures the resources; and biological materials such as controlled wood/bamboo and plant-oriented materials. - Socially recycled resources: Refer to: resources where its recycling system is generally present in the society regardless of Panasonic's intentions, for instance metals, paper and cardboards. For the purpose of calculation, the concentration of each recycled resources material is set according to a unique investigation by Panasonic.
	Recycled resource utilization ratio	Recycled resources used / Total resources used
	Recycled amount of four kinds of home appliances in Japan	Applies to the recycling defined in the Home Appliance Recycling Law in Japan, and refers to the weight of components and materials of separated products which can be used by oneself, or made into a state available for sale or free of charge.
	Amount of used products covered by the WEEE Directive collected in Europe	Weight of collected products per collection system x Panasonic's weight-based share of products put on the market within the applicable collection system.
	Amount of used electronic products collected in the USA	Amount of equipment collected in accordance with state laws and through voluntary measures.
	Amount of total wastes including revenue-generating waste from factories	Total amount of generated industrial and general waste and revenue-generating waste.
	Revenue-generating waste	Waste that can be sold to recycling or disposal companies for profit.
Water	Factory waste recycling rate	Amount of resources recycled / (Amount of resources recycled + Amount of final disposal) (The recycled amount does not include thermal recycling. The final disposal amount takes account of residue left after incineration).
	Amount of water consumption in production activities	Total water consumed for production (total amount of consumed municipal water, industrial water, river/lake water, and groundwater).
Chemical Substances	Substances requiring management	Based on the Chemical Substances Management Rank Guidelines (for factories). Including the substances in the Japanese Law of the Pollutant Release and Transfer Registers (PRTR Law).
	Release of substances requiring management	Release amount includes emissions to air, public water areas, and soil.
	Transfer of substances requiring management	Transfer amount includes transfer as waste and discharge into the sewage system. Recycling that is free of charge or recycling where Panasonic pays a fee for treatment under the Waste Management Law is included in "Transfer." (Different from the transferred amount reported under the PRTR Law.)
	Substances subject to calculation of Human Environmental Impact from factories	Chemical substances specified in the Chemical Substances Management Rank Guidelines (for factories).
	Human Environmental Impact	Human Environmental Impact = Hazard factor* x (Amount of covered substances released + Amount of covered substances transferred) *Hazard factors: Given by Panasonic, after classification according to the impact on human health and the environment. Factors are set as A: 10,000, B: 1,000, C: 100, D: 10, and E:1, according to the hazardous level. - Emission amount of covered substances: Includes emissions to the atmosphere, public waters, and soil. - Transfer amount of covered substances: Includes transfer as waste and discharge to the sewage system (not including those recycled free of charge or charged under the Waste Management and Public Cleansing Law).
Eco-conscious products	Definition of Strategic GPs	Products/services that accelerate the transition to a sustainable society: (1) Products/services that reduce environmental impact with top-level environmental performance in the industry (2) Products/services whose promotion and dissemination lead to reducing environmental impact (3) Products/services that reduce environmental impact on a specific region, or support measures to address environmental impact
	Percentage of sales for Strategic GPs	Sales of Strategic GPs / Panasonic consolidated sales
Collaboration with Stakeholders	Number of environmental education program participants	Total number of participants of education programs provided at schools and through extracurricular activities, visits to showrooms and factories, eco picture diary programs, etc. (Cumulative figure from fiscal 2010)
	Number of trees planted	Total number of trees planted being linked to sales activities and through tree planting initiatives on the company's premises and in local communities(Cumulative figure from fiscal 2008).
	CO ₂ emissions from suppliers	CO ₂ emissions of 37 suppliers in their production activities. As for fuels, CO ₂ emission factors provided in the Guideline for Calculation of Greenhouse Gas Emissions (version 2.2) published by the Japanese Ministry of the Environment were used. CO ₂ emission factor for electricity purchased in Japan is fixed at 0.410 (kg-CO ₂ /kWh) for electricity purchased every fiscal year.