



Independent Assurance Report

To the Board of Directors of Panasonic Corporation

Purpose and Scope

We were engaged by Panasonic Corporation (the "Company") to provide limited assurance on its 'eco ideas' Report 2011 posted in the Company's website (http://panasonic.net/eco/env_data/back_number/pdf/panasonic_eiR2011e.pdf) (the "Report") for the fiscal year ended March 31, 2011. The purpose of our assurance engagement was to express our conclusion, based on our assurance procedures, on whether:

- 1) the environmental indicators listed in the table below for the period from April 1, 2010 to March 31, 2011 described in "Green Plan 2018" included in the Report (the "Indicators") are prepared, in all material respects, in accordance with the Company's reporting criteria; and
- 2) all the material environmental information defined by the Japanese Association of Assurance Organizations for Sustainability Information ("J-SUS") is included in the Report.

The content of the Report is the responsibility of the Company's management. Our responsibility is to carry out limited assurance procedures and to express our conclusion.

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

Indicators	Page No.	Indicators	Page No.
Percentage of sales for No. 1 eco-conscious products	7	Recycled resources used / Total resources used	17
The size of contribution in reducing CO ₂ emissions through energy-saving products	10	Waste recycling rate	21
The size of contribution in reducing CO ₂ emissions through energy-saving products	11	Amount of water consumption	22
The size of contribution in reducing CO ₂ emissions through production activities	13	Release/transfer of key reduction-target substances	25
CO ₂ emissions from non-manufacturing sites	15	Result of environmental education and tree planting (environmental education)	31
Year-on-year reduction rate of CO ₂ emissions per basic unit from international and domestic transportation	16	Result of environmental education and tree planting (tree planting)	31

Criteria

The Company applies its own reporting criteria as described in the Company's website (http://panasonic.net/eco/env_data/back_number/pdf/review2011e.pdf). We used these criteria to evaluate the Indicators. For the completeness of material environmental information, we used the 'Criteria for Granting an Environmental Report Assurance and Registration Symbol' of J-SUS.

Procedures 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' issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines of Sustainability Information Assurance' of J-SUS. The limited assurance engagement on the Report consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviews with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report and reviews of the Company's reporting criteria.
- Inquiries about the design of the systems and methods used to collect and process the Indicators.
- 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 a recalculation of the Indicators.
- Visits to factories and administrative offices of the Company and its affiliates selected on the basis of a risk analysis.
- Assessment of whether or not all the material environmental information defined by J-SUS is included in the Report.
- 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:

- 1) the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report; and
- 2) all the material environmental information defined by J-SUS is not included in the Report.

We have no conflicts of interest with the Company that are specified in the Code of Ethics of the Japanese Association of Assurance Organizations for Sustainability Information.

KPMG AZSA Sustainability Co., Ltd.

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Osaka, Japan

July 22nd, 2011

Panasonic Group 'eco ideas' Report 2011

Standards for Calculating Environmental Performance Indicators

Reporting period

April 1, 2010 - March 31, 2011

Scope of this report

'eco ideas' for Lifestyles : All products developed during the reporting period.

'eco ideas' for Business-styles : Factory-related: Manufacturing sites in and outside Japan that have established environmental management systems

Others : Scope according to individual initiatives.

Item	Indicator	Calculation method
Reducing CO ₂ Emissions	Size of contribution in reducing CO ₂ emissions through energy-creating products	Photovoltaic power generation panel: Size of contribution in reducing CO ₂ emissions = (Power generation of FY 2006 base model - Power generation of the current fiscal year model (1,193 kWh/kWh) x 20 (years) x Total power-generating capacity of panels shipped during the current fiscal year (kW) x CO ₂ emission factor (0.3145 kg CO ₂ /kWh) Fuel cell: Size of contribution in reducing CO ₂ emissions = (Power generation of FY 2006 base model (0) - Power generation of the current fiscal year model per unit (1,080.5 kWh/year)) x 8 (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	Size of contribution in reducing CO ₂ emissions = (Annual power consumption of FY 2006 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 emission factor: The value is 0.410 (kg CO ₂ /kWh) for Japan. For outside Japan, a representative country in each region is selected, and the corresponding numerical values for respective countries listed in the Calculation Tools on the GHG Protocol website by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) are used.
	Size of contribution in reducing CO ₂ emissions through production activities	(FY 2006 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 with 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 factor for purchased electricity	<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.
	CO ₂ emissions per basic unit in production activities	<Global> 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 greenhouse gases other than CO ₂ in production activities	Emissions of each gas were converted into CO ₂ emissions using the Global Warming Potentials specified in the Second Assessment Report (1995) of the Intergovernmental Panel on Climate Change (IPCC).
	CO ₂ emissions from non-manufacturing sites	Used 0.410 (kg CO ₂ /kWh) as the CO ₂ emission factor for purchased electricity. As for CO ₂ emission factors of 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.
	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.
Year-on-year reduction rate of CO ₂ emissions in transportation per basic unit	$1 - (\text{CO}_2 \text{ emissions of the current fiscal year} / \text{Weight of products (components) transported during the current fiscal year}) / (\text{CO}_2 \text{ emissions of the previous fiscal year} / \text{Weight of products (components) transported during the previous fiscal year})$	
Resources Recycling	Total recycled resources used / Total resources used	Refers to the ratio of the total recycled resources used to the total resources used. For resources in which recycled resources are mixed at specified rates (copper, iron, aluminum, paper, cardboard, rock wool insulation, etc.) and wood produced from appropriately managed forests, calculate the total recycled resources used from the total resources used based on specified recycled resource mix rates.
	Recycled amount of four specified kinds of home appliances	Applies to the recycling defined in the Home Appliances Recycling Law in Japan, and refers to the weight of components and materials of separated products which can be used by oneself or to make into a state available for sale or free of charge.
	Amount of collected products subject to the EU WEEE Directive	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 waste electronic equipment 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.
	Recycling rate of total wastes including revenue-generating waste from factories	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).

Item	Indicator	Calculation method
Water	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 Substance	Key reduction-target substances at factories	Out of the chemical substances specified in the Chemical Substances Management Rank Guidelines Ver. 3.1, 368 substances that have a large impact on the environment (substances with a large amount of release and transfer, and substances that cause air pollution or global warming).
	Release of key reduction-target substances	The amount includes release to the atmosphere, public waterways and soil.
	Transfer of key reduction-target substances	The amount includes transfer as waste and discharge to the sewage system (not including those recycled free of charge or for a fee under the Waste Management and Public Cleansing Law).
	Management of chemical substances at factories	Chemical substances specified in the Chemical Substances Management Rank Guidelines Ver.3.1.
	Removal treatment amount of substances subject to	The amount of substances converted into other substances through neutralization, decomposition, or other chemical treatment within the factory.
	Recycled amount of substances subject to management	The amount of substances recycled for profit, as well as those recycled free of charge or for a fee under the Waste Management and Public Cleansing Law in Japan (the amount is different from the transferred amount under the PRTR Law in Japan).
	Consumption amount of substances subject to management	The amount of substances that have been changed to other substances as a result of chemical reactions, and/or those that are contained in or accompanied with products and shipped out of factories.
Increase the percentage of No.1 eco-conscious product sales to 30%	Environmentally-Conscious Products	The basic concept is given below. Details are specified in the FY 2011 Panasonic Group Green Product (GP) Certification Criteria. Meets at least one of the following requirements of (1) to (4). 1. Global warming prevention: Meet either of the following requirements. A. Internal evaluation results showed that the product is superior to former models and comparative evaluations with competitors' models showed that the product is ranked in the industry's top 10%. B. Internal evaluation results showed that the product is superior to former models, comparative evaluations with competitors' models showed that the product is ranked in the industry's top 30%, and its GHG factor is 2.00 or higher (compared with the FY 2001 model). 2. Chemical substance management: A is a mandatory criterion. A. PVC resin substitution has been completed for the internal wiring of all products for the Japanese market (excluding exempted products). Meets any of the requirements of B to E. Products must have appealing points for C to E. B. Elimination of all PVC internal wiring by material substitution (for markets outside Japan). C. PVC substitution other than internal wiring (only products that used PVC in FY 2001). D. Substitution of components/materials that are exempted in the RoHS Directive and specified in the E. Substitution of unspecified brominated flame retardants (only products that used PVC in FY 2001) (E.g. Housings/cabinets and printed circuit boards of set products) 3. Efficient use of resources: Sets; Meets any of the following criteria of A to F. If any of the criteria from B to F is selected, then meeting G becomes mandatory. Devices; Meets any of the following criteria of B to G. Products must have appealing points for D to F. A. Product mass is ranked in the industry's top 10%. (Batteries: Evaluation of mass or volume is acceptable).
	Number of Superior GP models	Eco-conscious products that also satisfy the following Superior GP certification criteria. The level of products must surpass the industry's No. 2 model by 10% or more, i.e. possess an environmental performance advantage, and if criteria are set by product, then such criteria must be met. If a popular zone is set, then make assessments within the zone.
	Breakdown of energy-saving models	Products that have been certified as Superior GPs by meeting the global warming prevention criteria.
	Sales ratio of No. 1 eco-conscious products	Sales of Superior GP / Panasonic's 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.
	Number of planted trees	Total number of trees planted being linked to sales activities (campaign in FY 2011: plant one tree for every ECONAVI product sold) and through tree planting initiatives on the company's premises and in local communities.
	CO ₂ emissions of suppliers	CO ₂ emissions of about 100 Panasonic Kyoaikai (co-prosperity) association member 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.
Management of Factory Environment	NO _x emission amount	Total weight of nitrogen oxide emitted from smoke-generating facilities regulated by the Air Pollution Control Law (similar facilities outside Japan), which is calculated for NO ₂ .
	SO _x emission amount	Total weight of sulfur oxide emitted from smoke-generating facilities regulated by the Air Pollution Control Law (similar facility outside Japan), which is calculated for SO ₂ .
	COD pollution load	Total weight of the chemical oxygen demand of waste water discharged from a business unit, which is regulated by law, ordinance or agreement, to public waters.
	Nitrogen pollution load	Total weight of nitrogen in nitrogen oxide of waste water discharged from a business unit, which is regulated by law, ordinance or agreement, to public waters.
	Phosphorous pollution load	Total weight of phosphorous in phosphorus compound of waste water discharged from a business unit, which is regulated by law, ordinance or agreement, to public waters.