ENVIRONMENTAL PRODUCT DECLARATION

LG Electronics

LG 43LW310C
LG Full HD LED TV

According to ISO 14025

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

PROGRAM OPERATOR	UL Environment
DECLARATION HOLDER	LG Electronics
DECLARATION NUMBER	4787430447.101.1
DECLARED PRODUCT	LG Full HD LED TV 43LW310C
REFERENCE PCR	EDP 003.TV (2013/00/130923). Environmental Declaration of Products_Product Category Rules(PCR) for Television by Ministry of Environment, Korea.
DATE OF ISSUE	August 1, 2016
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications

The PCR review was conducted by:	PCR Review Panel
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories ☐ INTERNAL ☒ EXTERNAL	Wade Stout, UL Environment
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomal Gloria, Industrial Ecology Consultants

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Life Cycle Impact Assessment

The target system was assessed by using the eco-indicators developed by the Ministry of Knowledge Economy (Ministry of Knowledge Economy, Korea), as shown in tables and figure below.
LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

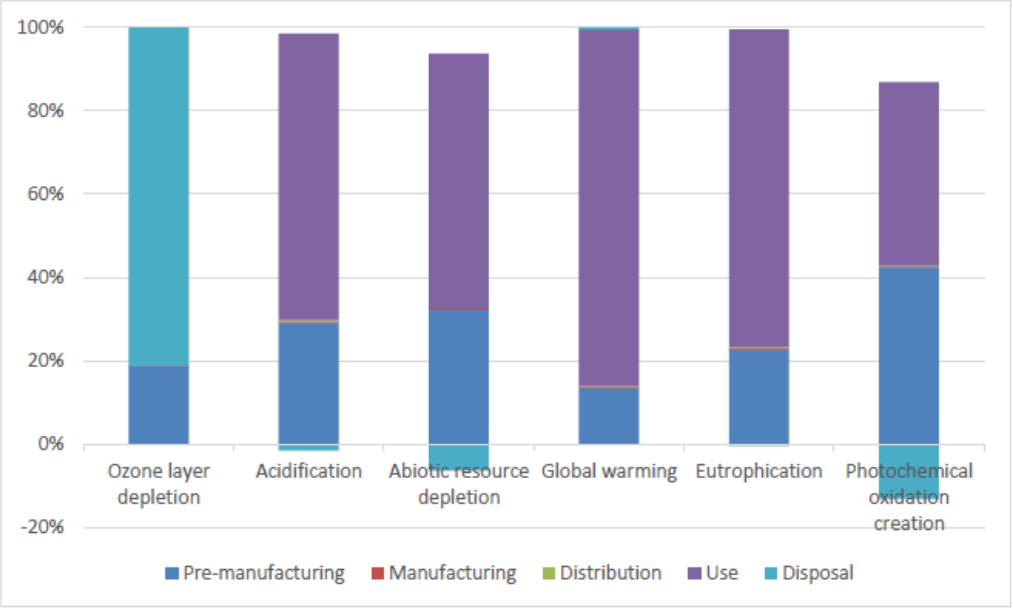
<Table> The potential impacts per life cycle stage

Impact category	Unit	Total	Pre-manufacturing	Manufacturing	Distribution	Use	Disposal
Ozone layer depletion	kg CFC11	1.48.E-04	2.78.E-05	5.71.E-10	4.75.E-08	1.20.E-07	1.20.E-04
Acidification	kg SO2	4.09.E-01	1.23.E-01	1.39.E-03	1.26.E-03	2.90.E-01	-6.64.E-03
Abiotic resource depletion	1/yr	8.59.E-01	3.18.E-01	2.87.E-03	1.29.E-03	6.00.E-01	-6.29.E-02
Global warming	kg CO2	2.01.E+02	2.72.E+01	8.22.E-01	1.51.E-01	1.72.E+02	1.01.E+00
Eutrophication	kg PO43-	7.02.E-02	1.60.E-02	2.58.E-04	2.23.E-04	5.41.E-02	-3.76.E-04
Photochemical oxidation creation	kg Ethylene	2.14.E-02	1.24.E-02	6.12.E-05	4.80.E-05	1.28.E-02	-3.84.E-03

<Table> Percentage of the environmental impact of the stage to the impact category

Impact category	Pre-manufacturing	Manufacturing	Distribution	Use	Disposal
Ozone layer depletion	18.75%	0.00%	0.03%	0.08%	81.13%
Acidification	30.09%	0.34%	0.31%	70.88%	-1.62%
Abiotic resource depletion	36.99%	0.33%	0.15%	69.84%	-7.31%
Global warming	13.54%	0.41%	0.08%	85.48%	0.50%
Eutrophication	22.78%	0.37%	0.32%	77.07%	-0.54%
Photochemical oxidation creation	57.67%	0.29%	0.22%	59.74%	-17.92%

<Figure> Percentage of the environmental impacts of the stages to the impact category



The public Disclosure of Secondary data source used in the LCA

1) These are specific LCD databases that have been used to implement UL Environmental Product Declaration (EPD) Type III Label for 43LW310C
2) Usage : Output mount from input (ex. Material, etc.) is multiplied by the corresponding dataset, and the summed.

No	LCI DB	Source of Data	Year
1	Printed circuit board	Ministry of Knowledge Economy, Korea	2005
2	electronic galvanized steel sheet	Ministry of Environment, Korea	2005
3	Plate glass	Ministry of Environment, Korea	2000
4	PMMA Powder(PolyMethyl Methacrylate Powder(PMMA Powder))	Ministry of Knowledge Economy, Korea	2002
5	Polycarbonate	Ministry of Knowledge Economy, Korea	2005
6	polyethylene terephthalate, PET	Ministry of Environment, Korea	1999
7	Copper rod	Ministry of Knowledge Economy, Korea	2000
8	Steel Cord	Ministry of Environment, Korea	1999
9	ethylene propylene diene monomer rubber, EPDM	Ministry of Environment, Korea	1999
10	ABS powder	Ministry of Knowledge Economy, Korea	2002
11	ferric oxide, Fe2O3	Ministry of Environment, Korea	2001
12	Aluminum strip	Ministry of Knowledge Economy, Korea	2001
13	Aluminum chemical condenser 10ϕ×12.5mm	Ministry of Knowledge Economy, Korea	2002
14	Copper rod	Ministry of Knowledge Economy, Korea	2000
15	General Purpose Polystylene	Ministry of Knowledge Economy, Korea	2000
16	Epoxy resin	Ministry of Knowledge Economy, Korea	2005
17	Rosin flux cored Solder Sn62/Pb36/Ag2	Ministry of Knowledge Economy, Korea	2003
18	Diode PN-type 6A, 1A, 120mA	Ministry of Knowledge Economy, Korea	2003
19	Transistor (200mW, 10K, 10K, SC-70)	Ministry of Knowledge Economy, Korea	2003
20	Polyamide 66	Ministry of Knowledge Economy, Korea	2003
21	resistor	Ministry of Knowledge Economy, Korea	2002
22	High Impact Polystyrene	Ministry of Knowledge Economy, Korea	2000
23	polybutylene terephthalate, PBT	Ministry of Environment, Korea	2004
24	Printing paper-containing waste paper below 50%	Ministry of Knowledge Economy, Korea	2003
25	Alkaline battery AA Type	Ministry of Knowledge Economy, Korea	2007
26	Expandable PolyStyrene	Ministry of Knowledge Economy, Korea	2001
27	Electricity	Ministry of Knowledge Economy, Korea	2003
28	15.1-18ton truck	Ministry of Environment, Korea	2003
29	Hazardous waste incineration	Ministry of Environment, Korea	2003
30	Waste plastic incineration	Ministry of Knowledge Economy, Korea	2002
31	Recycling steel and iron	ECOINVENT	2008
32	Recycling glass B250	BUWAL250	2003
33	Waste Plastic Recycling	Ministry of Knowledge Economy, Korea	2001
34	Recycling paper B250	BUWAL250	2003
35	Disposal, steel, 0% water, to inert material landfill	ECOINVENT	2007
36	Disposal, glass, 0% water, to inert material landfill	ECOINVENT	2007
37	LA chemical landfill per kg (process specific)	ECOINVENT	2003
38	Disposal, plastic plaster, 0% water, to sanitary landfill	ECOINVENT	2007
39	Disposal, paper, 11.2% water, to sanitary landfill	ECOINVENT	2007
40	Disposal, steel, 0% water, to municipal incineration	ECOINVENT	2007
41	Waste Plastics Incineration	Ministry of Knowledge Economy, Korea	2002
42	Incin. Paper 2000 B250	BUWAL250	2003
43	Disposal, hazardous waste, 25% water, to hazardous waste incineration	ECOINVENT	2007
44	Disposal, glass, 0% water, to municipal incineration	ECOINVENT	2007