ZENITH

Environmental Product Declaration

In accordance with ISO 14025 for:

Estate Tables & Workstations



AUSTRALASIA EPD®
ENVIRONMENTAL PRODUCT DECLARATION

Environmental Product Declaration (EPD)
in accordance with ISO 14025
EPD Registration No. x-x-xxxxx | Version x.x
Issued xx xxxxx xxxx | Revised xx xxxxxx xxxx | Valid until xx xxxxx xxx

Company Information

Zenith Interiors designs, manufactures, and distributes leading-edge products for corporate and commercial environments that inspire people and organisations to excel (Zenith Interiors, 2019).

Product-related or management system-related certifications:

ISO 9001 – Quality management systems

ISO 14001 – Environmental Management Systems

AS 4801 Health and Safety

Name and location of production site: Zenith Interiors, Melbourne, Victoria.

Estate Collection

The extensive Estate offering provides a consistent design language across varying work zones which include individual and team centric work. This aligns with the notion that work zones support specific modes of working; occupants are encouraged to move to the setting which is most suitable for the task at hand. (Zenith Interiors, 2020).

UN CPC code: 3812/3813/3814 (EPD International, 2019).

Geographical scope: Final product produced in Melbourne, Victoria for the Australian market.

LCA Information

Functional unit / declared unit: One Plateau workstation (6-seater, 8-seater, 10-seater)

Scope: Cradle to grave life cycle of one Plateau workstation.

Reference service life: 15 years (EPD International, 2019).

Databases and LCA software used: AusLCI 2.2, ecoinvent 3.6, Industry Data 2.0 databases; SimaPro 9.1.0.11 software

Data collection period: July 2019 – February 2020

AUSTRALASIA EPD®
ENVIRONMENTAL PRODUCT DECLARATION

An Environmental Product Declaration, or EPD, is a standardised and verified way of quantifying the environmental impacts of a product that is based on a consistent set of rules known as Product Category Rules (PCR). EPDs within the same product category from different programs may not be comparable. This EPD is for a specific furniture product and follows the Product Category Rules 'Furniture, except seats and mattresses v2.01'.

Product Information

The Estate workstation comes in three different sizes as 6-seater, 8-seater and 10-seater. Each product is divided into three parts: tabletop, steel beam and steel column with height adjustable electric legs. The tabletop dimensions are 4350 mm x 1600 mm x 25mm for the 6-seater, 5800 mm x 1600 mm x 25 mm for the 8-seater and 7000 mm x 1600 mm x 25 mm for the 10-seater. The difference between 6-seater and 8-seater is only the size of tabletops while the 10-seater table has a bigger beam compared to the other types.



Background Data

Australian inputs were primarily modelled with the AusLCI database; the ecoinvent v3 database was used where suppliers were from overseas. All background data used was less than ten years old.

1. System Boundaries and Life Cycle Stages

Life Cycle Stages

This Environmental Product Declaration analyses the production of a Plateau workstation, including the raw material extraction, the manufacture of components from suppliers, the assembly of the screen as well as the end of its service life. The different Plateau components are transported to Sandringham, Victoria where the workstation is assembled. The product is then packed in cardboard boxes and supplied to showrooms as well as clients in Australia.

Table 1: Life cycle stages of Plateau workstation

Process	Module	Description	Life cycle stages	Declared modules
Upstream process	A1	Raw materials supply	A1-A3: Manufacturing stage	X
	A2	Components/raw materials manufacture		X
Core process	A3	Components transport to Zenith factory		X
	A4	Manufacturing of final products		X
Downstream process	B1	Transport of final product	B1: Final product transport	X
	B2	Maintenance	B2-B4: Usage stage	X
	B3	Replacement		X
	B4	Operational energy use		X
	C1	Transport	C1-C3: End-of-life	X
	C2	Manual dismantling		X
	C3	Waste disposal		X
Other Environmental Stage	D	Recycling	Other Environmental Stage	X

System Diagram

An 'upstream – core – downstream' flow is adopted in this study. The upstream processes include the flows of raw materials. The core processes include all activities which the manufacturing organisation is in control of, i.e. transportation of the components to the manufacturing factory and the actual process of manufacturing. The downstream processes include the steps that are controlled by the user and the disposal or recycling options of the products.

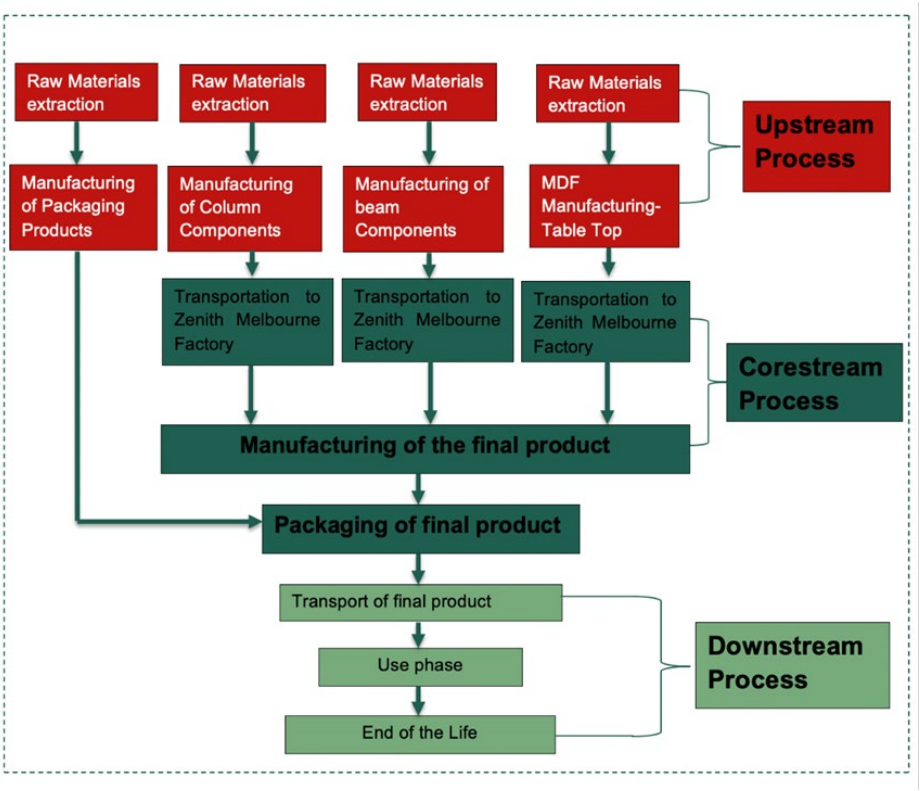


Figure 1: Process diagram Plateau workstation

2. End-of-life Scenarios

Zenith Interiors operates a take-back scheme for its furniture. Likewise, furniture owners resell or donate the furniture by themselves to extend its lifetime. In the end-of life for other environmental stages (represented as modules D**Error! Reference source not found.**), all aluminium and steel parts of the product are recycled after being manually dismantled. This is noted separately due to Polluter pays principle (PPP).

3. Data Quality, Temporal Scope and Geographical Scope

The modelling of Zenith products is of high quality as detailed company specific data about the product components, component suppliers, the annual energy consumption and the annual production rate was provided for this study. Data for upstream and downstream processes are retrieved from suitable averages in the AusLCI and ecoinvent databases.

The temporal scope of the study is the period for which the data was collected. The data collection process started with the visit to Zenith's Melbourne factory in July 2019. The energy consumption data taken into consideration range from September 2018 to 2019. The production volume data is for 2019. For the background data, temporal scope for AUSLCI V1.33, a shadow database of modified ecoinvent 2.2 processes is July 2020. For ecoinvent 3.6 the temporal scope is September 2019.

Table 2: Data sources, geographical scope and data quality

Materials/fuels		**Module**	**Data source**	**Geographical scope**	**Data quality**
Raw materials supply, components / raw materials manufacture, packaging	Materials and components for beam	A1, A2	Information provided by Zenith Interiors	Australia, China	High quality
	Materials and components for column				
	Components for height adjust leg				
	Medium Density Fibreboard for tabletop				
	Packaging of final product				
	Packaging from suppliers				
Components transport to Zenith factory, manufacturing of final products	Transportation of steel components for beam and column (Shanghai, China/Victoria, Australia)	A3, A4	Information provided by Zenith Interiors	Australia, China	High quality
	Transportation of components for height adjust leg (Shanghai, China)			China	
	Transportation of Medium Density Fibreboard for tabletop (Victoria, Australia)			Australia	
	Electricity consumption			Australia	
	Natural gas consumption				
Transportation of final product	Zenith Melbourne factory to client	B1	Assumption of average distance of 1,000 km according to	Australia	Medium quality

			Product Category Rules		
Usage stage	Maintenance	B2	Regular cleaning and dusting and motor replacement are recommended.	Australia	Medium quality
	Replacement	B3	Motor life span: 5 years		
	Operational energy use	B4	Electricity to operate adjustable leg motor and stand-by energy are considered.		
End-of-life without recycling	Transport	C1	Assumption of average distance of 1,000 km	Australia	Medium quality
	Manual dismantling	C2	No impacts observed for manual dismantling		
	Waste disposal	C3	Complete product along with packaging ends up in landfill.		
Other environmental stages	Recycling	D	Steel parts are recycled.	Australia	Medium quality

Allocations

No allocation between co-products in the core module was necessary as there were no co-products created during manufacturing.

The methodological choices for allocation for reuse, recycling and recovery have been set according to the polluter pays principle (PPP). This means that the generator of the waste shall carry the full environmental impact until the point in the product's life cycle at which the waste is transported to a scrapyard or the gate of a waste processing plant (collection site). The subsequent user of the waste shall carry the environmental impact from the processing and refinement of the waste, but not the environmental impact caused in the earlier life cycles. The cut-off system model from ecoinvent was used.

Content Declaration

Table 3: Materials used for Plateau workstation

Materials	**Quantity**			**Unit**
	6-seater	8-seater	10-seater	
Medium Density Fibreboard	0.172	0.232	0.28	m^3
Unalloyed steel in beam	256.572	256.632	398.83	kg
Unalloyed steel in column	147.344	147.344	147.344	kg
Steel alloyed type 1	22.03	22.03	22.03	kg
Steel alloyed type 2	0.032	0.032	0.032	kg
Steel alloyed type 3	0.028	0.028	0.028	kg
Steel alloyed type 4	3.0	3.0	3.0	kg
Acrylonitrile butadiene styrene	0.172	0.172	0.172	kg
Silicone	0.004	0.004	0.008	kg
Polyoxymethylene	0.1604	0.1604	0.1604	kg
Electronic component for motor	0.01	0.01	0.01	kg
Packaging materials from suppliers – plastic film	0.56	0.57	0.77	kg
Packaging materials from suppliers – cardboard box	2.25	2.29	3.1	kg
Packaging for final product – cardboard box	2.25	2.29	3.1	kg

Table 4: Energy consumption per product

Energy consumption	**Quantity**			**Unit**
	6-seater	8-seater	10-seater	
Energy during manufacturing – electricity	0.188	0.188	0.264	kWh
Energy during manufacturing – gas	1.34	1.34	1.889	MJ
Energy useage during use stage – electricity	3.0602	3.0602	3.0602	kWh

Environmental Performance

Environmental Impact Assessment Methods

Table 5: Overview of environmental impact assessment methods used in the study

Impact category		Unit	Assessment method
Global warming potential (GWP)	Fossil	kg CO_2 eq.	Greenhouse Gas Protocol V1.02
	Biogenic	kg CO_2 eq.	
	CO_2 eq. from land transformation	kg CO_2 eq.	
	Total	kg CO_2 eq.	
Abiotic depletion		kg Sb eq.	CML-IA baseline V3.6
Abiotic depletion (fossil fuels)		MJ	
Ozone layer depletion (ODP)		kg CFC-11 eq.	
Photochemical oxidation		kg C_2H_4 eq.	Recipe 2008 Midpoint
Acidification		kg SO_2 eq.	CML-IA baseline V3.6
Eutrophication		kg PO_4^{3-} eq.	
Water use		m^3	AWARE V1.01
Land use		species.yr	Recipe 2016 Endpoint V1.04
Human toxicity, cancer		CTUh	USEtox 2
Human toxicity, non-cancer		CTUh	
Freshwater ecotoxicity		CTUe	
Radioactive waste		kg	EDIP 2003 method
Hazardous waste		kg	EDIP 2003 method
Non-hazardous waste		kg	EDIP 2003 method (Sum of Bulk waste and Slag waste)
Primary energy resources Renewable	Use as energy carrier	MJ	Cumulative Energy Demand V1.11 method: calculated as sum of renewable – biomass, renewable – wind, solar, geothermal, and renewable – water.
	Use as raw materials	MJ	Manual calculation
Primary energy resources Non-renewable	Use as energy carrier	MJ	Cumulative Energy Demand V1.11 method: calculated as sum of non-renewable – fossil, non-renewable – nuclear, and non-renewable – biomass.
	Use as raw materials	MJ	Manual calculation
Secondary material resources		kg	Manual calculation
Renewable secondary fuels		MJ	0
Non-renewable secondary fuels		MJ	0
Net use of fresh water		m^3	Recipe 2016 Midpoint V1.04

Environmental Impacts

The following tables show the environmental impacts of the Plateau workstation with respect to upstream, core and downstream processes, including all processes listed in *Table* 1. The downstream processes are divided into the two end-of-life scenarios described in chapter 7.

Six different settings are analysed:

6-seater from Australian suppliers - 6-seater from overseas suppliers

8-seater from Australian suppliers - 8-seater from overseas suppliers

10-seater from Australian suppliers - 10-seater from overseas suppliers

6-seater from Australian suppliers

Table 6: Life cycle impacts – Plateau 6-seater from Australian suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.72E+03	1.80E+02	8.30E+02	2.73E+03	-4.97E+02
	Biogenic	kg CO_2 eq.	-2.01E+02	9.23E-02	6.32E+02	4.32E+02	7.57E-01
	CO_2 eq. from land transformation	kg CO_2 eq.	1.35E+00	3.05E-04	2.80E-03	1.35E+00	-3.18E-04
	Total	kg CO_2 eq.	1.52E+03	1.80E+02	1.46E+03	3.16E+03	-4.96E+02
Abiotic depletion		kg Sb eq.	3.10E-02	3.22E-04	6.65E-04	3.20E-02	2.84E-07
Abiotic depletion (fossil fuels)		MJ	1.84E+04	2.11E+03	1.11E+04	3.16E+04	-3.68E+03
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.06E-04	1.29E-05	1.24E-04	2.43E-04	-7.56E-06
Photochemical oxidation		kg NMVOC	8.06E-01	1.25E-02	2.49E-01	1.07E+00	-3.99E-01
Acidification		kg SO_2 eq.	6.44E+00	3.87E-01	3.80E+00	1.06E+01	-1.90E+00
Eutrophication		kg PO_4^{3-} eq.	3.52E+00	1.10E-01	8.38E-01	4.47E+00	-1.66E-01
Water use		m^3	3.17E+03	3.55E+03	1.48E+03	8.20E+03	-1.16E+03

Table 7: Resource use – Plateau 6-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D

Primary energy resources Renewable	Use as energy carrier	MJ	4.90E+03	6.74E+01	2.32E+01	4.99E+03	1.16E+01
	Use as raw materials	MJ	0	0	0	0	0
	Total	MJ	4.90E+03	6.74E+01	2.32E+01	4.99E+03	1.16E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.22E+04	2.34E+03	1.65E+04	4.11E+04	-3.87E+03
	Use as raw materials	MJ	2.28E+01	0	0	2.28E+01	0
	Total	MJ	2.22E+04	2.34E+03	1.65E+04	4.11E+04	-3.87E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	7.84E+01	8.25E+01	3.43E+01	1.95E+02	-2.71E+01

Table 8: Other impacts – Plateau 6-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	8.14E-07	4.18E-08	6.76E-08	9.24E-07	7.58E-09
Human toxicity, cancer	CTUh	5.93E-07	5.12E-09	2.25E-08	6.21E-07	-8.35E-08
Human toxicity, non-cancer	CTUh	1.37E-07	1.57E-09	1.19E-08	1.51E-07	1.33E-08
Freshwater ecotoxicity	CTUe	4.70E+00	6.29E-01	1.11E+00	6.44E+00	8.79E-01

Table 9: Waste flow categories – Plateau 6-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	5.07E-02	1.90E-04	1.73E-05	5.09E-02	-6.06E-06
Hazardous waste	kg	9.22E-02	1.86E-02	4.86E-03	1.16E-01	-7.46E-02
Non-hazardous waste	kg	3.12E+02	1.14E+01	3.63E+02	6.87E+02	-1.42E+01

Table 10: Output flow categories – Plateau 6-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Reuse	kg	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0

8-seater Plateau with Australian Supplier:

Table 11 to *Table 15* represents impacts of 8-seater Plateau with Australian Suppliers.

Table 11: Life cycle impacts – Plateau 8-seater from Australian suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.76E+03	1.80E+02	8.57E+02	2.79E+03	-4.97E+02
	Biogenic	kg CO_2 eq.	-2.87E+02	9.23E-02	6.53E+02	3.66E+02	7.57E-01
	CO_2 eq. from land transformation	kg CO_2 eq.	1.35E+00	3.06E-04	2.89E-03	1.35E+00	-3.18E-04
	Total	kg CO_2 eq.	1.47E+03	1.81E+02	1.51E+03	3.16E+03	-4.96E+02
Abiotic depletion		kg Sb eq.	3.11E-02	3.23E-04	6.87E-04	3.21E-02	2.84E-07
Abiotic depletion (fossil fuels)		MJ	1.89E+04	2.11E+03	1.15E+04	3.24E+04	-3.68E+03
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.07E-04	1.30E-05	1.28E-04	2.47E-04	-7.56E-06
Photochemical oxidation		kg NMVOC	8.13E-01	1.25E-02	2.57E-01	1.08E+00	-1.76E+00
Acidification		kg SO_2 eq.	6.54E+00	3.88E-01	3.92E+00	1.08E+01	-1.90E+00
Eutrophication		kg PO_4^{3-} eq.	3.54E+00	1.10E-01	8.65E-01	4.52E+00	-1.66E-01
Water use		m^3	4.09E+03	3.55E+03	1.52E+03	9.16E+03	-1.16E+03

Table 12: Resource use – Plateau 8-seater from Australian suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Primary energy resources Renewable	Use as energy carrier	MJ	6.02E+03	6.74E+01	2.39E+01	6.11E+03	1.16E+01
	Use as raw materials	MJ	0	0	0	0	0
	Total	MJ	2.81E+03	6.74E+01	2.39E+01	6.11E+03	1.16E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.18E+04	2.34E+03	1.22E+04	3.63E+04	-3.87E+03
	Use as raw materials	MJ	2.33E+01	0	0	2.33E+01	0
	Total	MJ	2.18E+04	2.34E+03	1.22E+04	3.63E+04	-3.87E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	9.77E+01	8.25E+01	3.54E+01	2.16E+02	-2.71E+01

Table 13: Other impacts – Plateau 8-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	9.30E-07	4.19E-08	6.98E-08	1.04E-06	-5.58E-08
Human toxicity, cancer	CTUh	6.79E-07	5.13E-09	2.33E-08	7.07E-07	-1.07E-07
Human toxicity, non-cancer	CTUh	1.39E-07	1.57E-09	1.22E-08	1.52E-07	1.00E-09
Freshwater ecotoxicity	CTUe	4.76E+00	6.29E-01	1.14E+00	6.54E+00	-2.26E-01

Table 14: Waste flow categories – Plateau 8-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	5.07E-02	1.90E-04	1.79E-05	5.09E-02	-6.06E-06
Hazardous waste	kg	9.19E-02	1.86E-02	5.02E-03	1.16E-01	-7.46E-02
Non-hazardous waste	kg	3.15E+02	1.14E+01	3.75E+02	7.01E+02	-1.42E+01

Table 15: Output flow categories – Plateau 8-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling	Total
		A1-A2	A3-A4	B1-C4		D	
Reuse	kg	0	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0	0

10-seater Plateau with Australian Suppliers

Table 16 to Table 20 represents 10-seater Plateau with Australian suppliers.

Table 16: Life cycle impacts – Plateau 10-seater from Australian suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2.32E+03	1.76E+02	1.16E+03	3.66E+03	-5.07E+01
	Biogenic	kg CO_2 eq.	-3.41E+02	8.95E-02	8.87E+02	5.46E+02	1.01E+00
	CO_2 eq. from land transformation	kg CO_2 eq.	1.78E+00	3.04E-04	3.91E-03	1.78E+00	4.57E-05
	Total	kg CO_2 eq.	1.98E+03	1.76E+02	2.05E+03	4.21E+03	-4.97E+01
Abiotic depletion		kg Sb eq.	3.95E-02	3.15E-04	9.30E-04	4.07E-02	3.78E-07
Abiotic depletion (fossil fuels)		MJ	2.49E+04	2.06E+03	1.56E+04	4.25E+04	-4.90E+03
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.41E-04	1.27E-05	1.73E-04	3.28E-04	-1.01E-05
Photochemical oxidation		kg NMVOC	9.54E+00	6.29E-01	2.55E+01	3.57E+01	-8.72E-01
Acidification		kg SO_2 eq.	8.64E+00	3.81E-01	5.31E+00	1.44E+01	-2.54E+00
Eutrophication		kg PO_4^{3-} eq.	4.68E+00	1.08E-01	1.17E+00	5.97E+00	-2.22E-01
Water use		m^3	5.01E+03	3.45E+03	2.05E+03	1.05E+04	-1.55E+03

Table 17: Resource use – Plateau 10-seater from Australian suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Primary energy resources Renewable	Use as energy carrier	MJ	7.44E+03	6.55E+01	3.16E+01	7.54E+03	1.55E+01
	Use as raw materials	MJ	0	0	0	0	0.00E+00
	Total	MJ	7.44E+03	6.55E+01	3.16E+01	7.54E+03	1.55E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.87E+04	2.28E+03	1.65E+04	4.76E+04	-5.16E+03
	Use as raw materials	MJ	3.14E+01	0	0	3.14E+01	0
	Total	MJ	2.87E+04	2.28E+03	1.65E+04	4.76E+04	-5.16E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	1.20E+02	8.02E+01	4.77E+01	2.48E+02	-3.61E+01

Table 18: Other impacts – Plateau 10-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	1.17E-06	4.09E-08	9.43E-08	1.31E-06	-7.43E-08
Human toxicity, cancer	CTUh	7.70E-07	2.54E-09	2.45E-09	8.99E-07	-1.43E-07
Human toxicity, non-cancer	CTUh	1.43E-07	7.85E-10	6.37E-10	2.02E-07	1.34E-09
Freshwater ecotoxicity	CTUe	5.34E+00	3.23E-01	5.91E-01	8.40E+00	-3.02E-01

Table 19: Waste flow categories – Plateau 10-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	6.73E-02	1.84E-04	2.42E-05	6.75E-02	-8.08E-06
Hazardous waste	kg	1.23E-01	1.81E-02	6.79E-03	1.48E-01	-9.95E-02
Non-hazardous waste	kg	4.15E+02	1.11E+01	5.09E+02	9.35E+02	-1.89E+01

Table 20: Output flow categories – Plateau 10-seater from Australian suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Reuse	kg	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0

6-seater Plateau with Overseas suppliers

Table 21 to Table 25 represents impacts of 6-seater plateau with Overseas Suppliers.

Table 21: Life cycle impacts – Plateau 6-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.72E+03	3.77E+02	8.30E+02	2.92E+03	-4.97E+02
	Biogenic	kg CO_2 eq.	-2.01E+02	1.19E-01	6.32E+02	4.32E+02	7.57E-01
	CO_2 eq. from land transformation	kg CO_2 eq.	1.35E+00	7.57E-04	2.80E-03	1.35E+00	-3.18E-04
	Total	kg CO_2 eq.	1.52E+03	3.77E+02	1.46E+03	3.36E+03	-4.96E+02
Abiotic depletion		kg Sb eq.	3.10E-02	3.98E-04	6.65E-04	3.21E-02	2.84E-07
Abiotic depletion (fossil fuels)		MJ	1.84E+04	4.24E+03	1.11E+04	3.38E+04	-3.68E+03
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.06E-04	3.06E-05	1.24E-04	2.60E-04	-7.56E-06
Photochemical oxidation		kg NMVOC	7.07E+00	2.90E+00	8.03E+00	1.80E+01	-1.76E+00
Acidification		kg SO_2 eq.	6.44E+00	1.69E+00	3.80E+00	1.19E+01	-1.90E+00
Eutrophication		kg PO_4^{3-} eq.	3.52E+00	4.10E-01	8.38E-01	4.77E+00	-1.66E-01
Water use		m^3	3.17E+03	5.15E+03	1.48E+03	9.80E+03	-1.16E+03

Table 22: Resource use – Plateau 6-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Primary energy resources Renewable	Use as energy carrier	MJ	4.84E+03	9.67E+01	2.32E+01	4.96E+03	1.16E+01
	Use as raw materials	MJ	0	0	0	0	0
	Total	MJ	5.61E+03	9.67E+01	2.32E+01	4.96E+03	1.16E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.87E+04	4.59E+03	1.65E+04	3.77E+04	-3.87E+03
	Use as raw materials	MJ	2.28E+01	0	0	2.28E+01	0
	Total	MJ	2.87E+04	4.59E+03	1.65E+04	3.77E+04	-3.87E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	7.64E+01	1.20E+02	3.43E+01	2.31E+02	-2.71E+01

Table 23: Other impacts – Plateau 6-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	7.89E-07	1.20E-07	6.76E-08	9.16E-07	-5.58E-08
Human toxicity, cancer	CTUh	5.93E-07	1.20E-08	2.25E-08	5.21E-07	-1.07E-07
Human toxicity, non-cancer	CTUh	1.37E-07	2.68E-09	1.19E-08	1.53E-07	1.00E-09
Freshwater ecotoxicity	CTUe	4.55E+00	9.06E-01	1.11E+00	6.33E+00	-2.26E-01

Table 24: Waste flow categories – Plateau 6-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	5.07E-02	2.19E-04	1.73E-05	5.09E-02	-6.06E-06
Hazardous waste	kg	9.16E-02	2.01E-02	4.86E-03	1.17E-01	-7.46E-02
Non-hazardous waste	kg	3.12E+02	1.68E+01	3.63E+02	6.92E+02	-1.42E+01

Table 25: Output flow categories – Plateau 6-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Reuse	kg	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0

8-seater Plateau with Overseas Suppliers

Table 26 to Table 30 represents impacts of 8-seater Plateau with overseas suppliers.

Table 26: Life cycle impacts – Plateau 8-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.76E+03	3.77E+02	8.57E+02	2.99E+03	-4.97E+02
	Biogenic	kg CO_2 eq.	-2.87E+02	1.19E-01	6.53E+02	3.66E+02	7.57E-01
	CO_2 eq. from land transformation	kg CO_2 eq.	1.35E+00	7.58E-04	2.53E-03	1.35E+00	-3.18E-04
	Total	kg CO_2 eq.	1.47E+03	3.78E+02	1.51E+03	3.36E+03	-4.96E+02
Abiotic depletion		kg Sb eq.	3.11E-02	3.99E-04	6.87E-04	3.21E-02	2.84E-07
Abiotic depletion (fossil fuels)		MJ	1.89E+04	4.24E+03	1.15E+04	3.46E+04	-3.68E+03
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.07E-04	3.07E-05	1.28E-04	2.65E-04	-7.56E-06
Photochemical oxidation		kg NMVOC	7.22E+00	2.89E+00	1.96E+01	2.97E+01	-1.76E+00
Acidification		kg SO_2 eq.	6.54E+00	1.69E+00	3.92E+00	1.21E+01	-1.90E+00
Eutrophication		kg PO_4^{3-} eq.	3.54E+00	4.10E-01	8.65E-01	4.82E+00	-1.66E-01
Water use		m^3	4.09E+03	5.15E+03	1.52E+03	1.08E+04	-1.16E+03

Table 27 Resource use – Plateau 8-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Primary energy resources Renewable	Use as energy carrier	MJ	6.02E+03	9.68E+01	2.39E+01	6.14E+03	1.16E+01
	Use as raw materials	MJ	0	0	0	0	0
	Total	MJ	5.08E+03	9.68E+01	2.39E+01	6.14E+03	1.16E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.18E+04	4.61E+03	1.22E+04	3.86E+04	-3.87E+03
	Use as raw materials	MJ	2.33E+01	0	0	2.33E+01	0
	Total	MJ	2.18E+04	4.61E+03	1.22E+04	3.86E+04	-3.87E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	9.77E+01	1.20E+02	3.54E+01	0	-2.71E+01

Table 28 Other impacts – Plateau 8-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	9.30E-07	1.20E-07	6.98E-08	1.12E-06	-5.58E-08
Human toxicity, cancer	CTUh	6.79E-07	1.20E-08	2.33E-08	7.14E-07	-1.07E-07
Human toxicity, non-cancer	CTUh	1.39E-07	2.69E-09	1.22E-08	1.54E-07	1.00E-09
Freshwater ecotoxicity	CTUe	4.76E+00	9.06E-01	1.14E+00	6.81E+00	-2.26E-01

Table 29: Waste flow categories – Plateau 8-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	5.07E-02	2.19E-04	1.79E-05	5.09E-02	-6.06E-06
Hazardous waste	kg	9.19E-02	2.01E-02	5.02E-03	1.17E-01	-7.46E-02
Non-hazardous waste	kg	3.15E+02	1.69E+01	3.75E+02	7.07E+02	-1.42E+01

Table 30: Output flow categories – Plateau 8-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Reuse	kg	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0

10-seater Plateau with Overseas suppliers

10-seater Plateau comes with 7000mm x 1600mm x 25mm Medium Density Fibreboard tabletop and has a bigger beam and column as compared to the 6-seater and 8-seater Plateau range.
Table 31 to Table 35 represents impacts of 10-seater plateau with overseas suppliers.

Table 31: Life cycle impacts – Plateau 10-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2.32E+03	4.48E+02	1.16E+03	3.93E+03	-5.07E+01
	Biogenic	kg CO_2 eq.	-3.41E+02	1.28E-01	8.87E+02	5.46E+02	1.01E+00
	CO_2 eq. from land transformation	kg CO_2 eq.	1.78E+00	9.22E-04	3.91E-03	1.79E+00	4.57E-05
	Total	kg CO_2 eq.	1.98E+03	4.48E+02	2.05E+03	4.47E+03	-4.97E+01
Abiotic depletion		kg Sb eq.	3.95E-02	4.27E-04	9.29E-04	4.08E-02	9.35E-04
Abiotic depletion (fossil fuels)		MJ	2.49E+04	5.01E+03	1.56E+04	4.54E+04	1.07E+04
Ozone layer depletion (ODP)		kg CFC-11 eq.	1.41E-04	3.70E-05	1.73E-04	3.52E-04	1.62E-04
Photochemical oxidation		kg NMVOC	1.08E+00	4.45E-02	3.49E-01	1.48E+00	-2.99E-01
Acidification		kg SO_2 eq.	8.64E+00	2.15E+00	5.31E+00	1.61E+01	2.51E+00
Eutrophication		kg PO_4^{3-} eq.	4.68E+00	5.17E-01	1.17E+00	6.37E+00	8.83E-01
Water use		m^3	5.01E+03	5.73E+03	2.05E+03	1.28E+04	1.80E+03

Table 32: Resource use – Plateau 10-seater from overseas suppliers

Impact category		Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
			A1-A2	A3-A4	B1-C4		D
Primary energy resources Renewable	Use as energy carrier	MJ	7.44E+03	1.07E+02	3.14E+01	7.58E+03	1.55E+01
	Use as raw materials	MJ	0	0	0	0	0
	Total	MJ	7.44E+03	1.07E+02	3.14E+01	7.58E+03	1.55E+01
Primary energy resources Non-renewable	Use as energy carrier	MJ	2.87E+04	5.42E+03	1.65E+04	5.07E+04	-5.16E+03
	Use as raw materials	MJ	3.14E+01	0	0	3.14E+01	0
	Total	MJ	2.87E+04	5.42E+03	1.65E+04	5.07E+04	-5.16E+03
Secondary material resources		kg	0	0	0	0	0
Renewable secondary fuels		MJ	0	0	0	0	0
Non-renewable secondary fuels		MJ	0	0	0	0	0
Net use of fresh water		m^3	1.20E+02	1.33E+02	4.77E+01	3.01E+02	-3.61E+01

Table 33: Other impacts – Plateau 10-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Land use	species.yr	1.17E-06	1.47E-07	9.42E-08	1.41E-06	-7.43E-08
Human toxicity, cancer	CTUh	8.63E-07	1.44E-08	3.15E-08	9.09E-07	-1.43E-07
Human toxicity, non-cancer	CTUh	1.84E-07	3.08E-09	1.66E-08	2.04E-07	1.34E-09
Freshwater ecotoxicity	CTUe	6.23E+00	1.00E+00	1.55E+00	8.79E+00	-3.02E-01

Table 34: Waste flow categories – Plateau 10-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Radioactive waste	kg	6.73E-02	2.29E-04	2.42E-05	6.75E-02	-8.08E-06
Hazardous waste	kg	1.23E-01	2.06E-02	6.79E-03	1.50E-01	-9.95E-02
Non-hazardous waste	kg	4.15E+02	1.89E+01	5.09E+02	9.43E+02	-1.89E+01

Table 35: Output flow categories – Plateau 10-seater from overseas suppliers

Impact category	Unit	Upstream processes	Core processes	Downstream processes with landfill	Total	Other Environmental Stage-Recycling
		A1-A2	A3-A4	B1-C4		D
Reuse	kg	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0
Energy recovered	MJ	0	0	0	0	0
Energy exported	MJ	0	0	0	0	0
Energy exported, thermal	MJ	0	0	0	0	0