

Product Environmental Profile

Toshiba Inverter Multisplit Air Conditioner Series

Toshiba
Carrier Corporation



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1 – GENERAL INFORMATIONS

1.1 Commercial reference for the reference product

Reference product	Toshiba Inverter Multisplit Air Conditioner Series
Product family	Multisplit Air Conditioning System
Product sub-category	RAS-2M10G3AVG-E- Outdoor Unit, RAS-B07E2AVG-E (2)- Indoor Units
Function	Heating and Cooling
Application	Residential
Technology	Air/Air – Reversible
Operational Efficiency	DC Single Rotary inverter-controlled compressor
Type	SEER/SCOP: 8.6/4.7
Refrigerant	R32
References covered	Outdoor Units- RAS-2M14G3AVG-E/TR, RAS-2M18G3AVG-E/TR, RAS-3M18G3AVG-E/TR, RAS-3M26G3AVG-E, RAS-4M27G3AVG-E, RAS-5M34G3AVG-E1 Indoor Units- High Wall Seiya -RAS-B05E2KVG-E/7/10/13/16/18/24 Series High Wall Seiya with Wi-Fi adapter -RAS-B05S4KVG-E/7/10/13/16/18/24 series. High wall Seiya Classic#2 C4 -RAS-B10LKV2G-E/13/16/18/24 series. High wall SEIYA Classic#2 C6 - RAS-B05B2KVG-E2/7/10/13/16/18/24 series. High wall SEIYA Classic#2 C7 - RAS-B05B2KVG-E/7/10/13/16/18/24 series
Homogeneous environmental family	The reference device is part of a range comprising several sizes with identical functions, meeting the same standards, identical technology, and manufacturing processes, and operating in a similar way.

1.2 Functional Unit

"To produce 1 kW of heating or cooling under typical usage conditions over the 17-year reference lifetime of the product, based on seasonal performance metrics in accordance with EN 14825 or equivalent international standards."

Total energy output calculation for functional unit

$$\text{Prev} = (\text{theating} * \text{Ph} + \text{tcooling} * \text{Pc}) / (\text{theating} + \text{tcooling}) = 3.86 \text{ kW}$$

1.3 Declared Unit

"To produce cooling of 3.83 kW or heating of 4.0kW according to the appropriate usage scenario and during the 17-year reference lifetime of the product."

1.4 Additional environmental information

The environmental impacts are assessed for the product, conducted in accordance with ISO standards 14040 and 14044 using One Click LCA V0.42. This analysis encompasses all stages of the product's lifecycle, including manufacturing, distribution, installation (including packaging end of life), maintenance, disposal and benefits and loads beyond the system boundary.

1.5 Manufacturing

- Production

The Life Cycle Analysis on which this Product Environmental Profile (PEP) is based was conducted with respect to the criteria set by PCR-ed4-EN-2021-09-06 and PSR-0013-ed3.1-EN-2025-06-17 for the PEP ecopassport® Programme. The product's life cycle begins with the extraction and refining of raw materials, including metals, non-metals, plastics, electronics and packaging. These materials are processed into components through impact extrusion, punching, pipe cutting and assembled into the final product. Packaging materials are used for protection during transportation. The raw materials for the product were majorly obtained from suppliers in Thailand and China. The materials are delivered to the manufacturing facility via road and sea transport. Primary data were provided by the manufacturer and represent all information for calendar year 2024. This stage is modelled based on the material weight and the distances from the supplier location to the manufacturing site, using the supplier data. Regional relevant datasets specific to the manufacturing site in Thailand were applied, ensuring that the environmental impacts are accurately accounted for based on the local energy mix, including natural gas and solar energy. Energy consumption data from the Thailand manufacturing facility is accounted for components and assemblies produced in-house for the unit. During the manufacturing stage at the Thailand facility, waste is primarily generated from assembling product components and is considered as per Toshiba plant level data. The transport distance of 100 kilometers to the waste processing facility is considered, as recommended in PCR-ed4-EN-2021-09-06.

- Energy model

Market for electricity, medium voltage (reference product: electricity, medium voltage), Thailand; ecoinvent v3.11

1.6 Distribution

In this stage, all units are shipped from the manufacturing facility in Thailand to installation sites in France. Transportation impacts associated with the delivery of the final product to the installation site (A4 stage) include direct exhaust emissions from fuel combustion as well as upstream environmental impacts from fuel production. Transportation distances were calculated based on the average distance from the Thailand facility to France installation locations.

1 – GENERAL INFORMATIONS

1.7 Installation

No energy is required for the installation of the product at the site, as the process relies primarily on manual labor and does not involve any specialized procedures or equipment. The disposal of packaging materials is accounted for during the installation phase, including transportation over a distance of 100 kilometers to the waste processing and disposal facility. Packaging waste treatment is modeled in accordance with PCR-ed4-EN-2021-09-06.

1.8 Use



This stage encompasses all energy and materials related to product usage, maintenance, and the impact of operational energy use over the reference service life of 17 years. The use phase of the Multisplit unit includes refrigerant leakage emissions (B1), refrigerant maintenance (B2), operational energy use (B6), and operational water use (B7). The stages of repair (B3), replacement (B4), and rehabilitation (B5) are not applicable for this assessment as per PSR-0013-ed3.1-EN-2025-06-17 guidelines.

Refrigerant emission during the use phase (B1) of the equipment is calculated in accordance with the guidelines outlined in the PSR-0013-ed3.1-EN-2025-06-17 and is as follows

$$E_{fu} = Q_{fu} * DVR$$

E_{fu} = Momentary leakage = 0.68 kg

Q_{fu} = Amount of fugitive emissions = 0.04 kg

DVR = Reference service lifetime = 17 years

Q_{fu} = The amount of annual fugitive emissions is estimated as below,

A non-hermetically sealed multisplit system with 1 outdoor unit and 2 indoor units,

- Total number of removable fittings = 4 * 2 (number of indoor units) = 8
- Q_{fu} = 8 (total number of fittings) * 5g = 40g/year

The maintenance for the Toshiba Multisplit Seiya unit, as estimated according to the guidelines outlined in PSR-0013-ed3.1-EN-2025-06-17 primarily involves refrigerant refilling. The transportation of the refrigerant to the installation site is also accounted in this stage. By default, the refill threshold to be considered is 90% of the total load. The number of refills, N, is calculated as follows:

$$n = 1 + \frac{1-S_r}{T_{fu}}$$

$$N = ENT SUP[RLT/n]$$

Where:

n = Refill interval

N = Total number of refills over the equipment's lifetime

According to the number of refills, the production of new refrigerant to be partial refill.

$$N * (1 - S_r) * C_t$$

S_r = Refill threshold = 0.90

C_t = Refrigerant charge = 0.8

T_{fu} = Leakage rate = Q_{fu} / C_t = 0.050

N = 5.67 ~ 6 (rounded off to next whole number)

Refrigerant refill = 0.48 kg

The product's operational energy use and environmental impact have been assessed over its reference service life of 22 years, with distribution to installation sites across France. Energy consumption during the operational phase is calculated as specified in PSR-0013-ed3.1-EN-2025-06-17. The typical scenario for calculating environmental impacts related to this energy consumption is defined as below.

$$C_{tot}(in kWh) = \left(\frac{P_h}{SCOP * \left(1 + \frac{Fregul}{100}\right)} * t_{heating} + \frac{P_c}{SEER} * t_{cooling} \right) * RLT$$

Where:

C_{tot} = total energy consumption = 22,538.46 kWh

P_h = Capacity of the equipment = 4 kW

P_c = Capacity of the equipment = 3.3 kW

SCOP = Seasonal coefficient of performance for heating = 4.7

SEER = Seasonal energy efficiency ratio for cooling = 8.6

Generator Type = Air/Air P < 12 kW

$t_{heating}$ = Number of equivalent active mode hours of the device on active heating mode = 1400 hrs

$t_{cooling}$ = Number of equivalent active mode hours of the device on active cooling mode = 350 hrs

RLT = 17 years, reference lifetime

1 – GENERAL INFORMATIONS

- Energy model

Market for electricity, low voltage, France; ecoinvent v3.11

In accordance with the breakdown of Module B specified in the Product Specific Rules (PSR-0013-ed3.1-EN-2025-06-17), stages B3 (repair), B4 (replacement), and B5 (refurbishment) are not applicable to this assessment. Additionally, as the unit's water consumption during the operational phase is considered negligible, emissions associated with stage B7 are reported as zero.

1.9 End of life



The deconstruction phase mainly involves manual labor, which has minimal environmental impact as per EN 15804:2012+A2:2019. The Toshiba Multisplit Seiya unit is assumed to be transported by truck to a waste facility 1000 km away for dismantling. At the end of a product's life, materials are disposed of through recycling, landfill, or incineration, with rates sourced from PCR-ed4-EN-2021-09-06 and other credible references. Steel is efficiently managed, with 80% recycled and 20% landfilled. Aluminum follows with 70% recycling and 30% landfill, while copper is recycled at 60%, with the remaining 40% going to landfill. Other ferrous metals like cast iron also show strong recycling performance at 80%, with 20% landfilled. In contrast, polypropylene (PP), a commonly used plastic, has a lower recycling rate of 20%, with 40% landfilled and 40% incinerated without energy recovery. Rubber is not recycled and is split evenly between landfill and incineration (50% each). Printed Circuit Boards (PCBs), based on the PCB E-Scrap Market report, have a low recycling rate of 12.5%, with 87.5% ending up in landfill. Oil, as referenced in PCR-ed4-EN-2021-09-06 is entirely incinerated (100%) without energy recovery. Lastly, cardboard, according to highly sustainable with 91% recycled and 5% incinerated, with 4% landfill disposal. This data underscores the need for improved recycling systems, especially for plastics and electronics, while highlighting the success of metal and packaging material recovery.

1.10 Benefits and loads beyond the system boundary D

Module D accounts for potential benefits beyond the system boundary in accordance with EN 15804+A2, PEP-PCR ed4 and PSR 0013-ed3.1. It includes substitution benefits from recycled outputs in A5 and C3, where recovered metals, plastics, PCBs and cardboard are assumed to replace equivalent virgin materials. Only recycling and energy-recovery routes generate credits; landfill, non-energy incineration and refrigerant destruction do not. Burdens from collection, transport and sorting are already included in C1–C4, so Module D reports only the net avoided impacts and does not influence the primary life-cycle results.

1.11 Technical description of the product

The Toshiba Inverter Multisplit Seiya Series featuring the RAS-2M10G3AVG-E outdoor unit paired with two RAS-07E2AVG-E indoor units is ideally suited for a variety of residential and light commercial applications. This system is perfect for apartments, small homes, duplexes, and office spaces where two separate rooms or zones require independent climate control. Its compact and quiet design makes it especially suitable for bedrooms, living rooms, home offices, or study areas, ensuring comfort without disrupting the environment. Additionally, the system's high energy efficiency and advanced air filtration features make it a great choice for eco-conscious users and those with sensitivity to air quality, such as families with children or elderly residents. Its built-in Wi-Fi capability also supports smart home integration, making it a modern solution for today's connected living spaces.

The Toshiba Inverter Multisplit Seiya series offers a cooling capacity of 3.3 kW, with an operational range between 1.20 and 4.10 kW, and consumes 0.67 kW of power. It features a seasonal energy efficiency ratio (SEER) of 8.6, ensuring high performance during cooling. For heating, the unit delivers a capacity of 4.0 kW (ranging from 1.00 to 4.90 kW) with a power input of 0.85 kW and a seasonal coefficient of performance (SCOP) of 4.7. The system uses R32 refrigerant, known for its environmental friendliness and high efficiency, making it a reliable and sustainable choice for year-round climate control.

#	Outdoor Unit Details						
Parameters	2 Room Multi Split RAS-2M10G3AVG-E	2 Room Multi Split RAS-2M14G3AVG-E	2 Room Multi Split RAS-2M18G3AVG-E	3 Room Multi Split RAS-3M18G3AVG-E	3 Room Multi Split RAS-3M26G3AVG-E	4 Room Multi Split RAS-4M27G3AVG-E	5 Room Multi Split RAS-5M34G3AVG-E1
Nominal Cooling Capacity(kW)	3.3	4.0	5.2	5.2	7.0	8.0	10.0
Power Input (Cooling) (kW)	0.67	0.85	1.20	1.00	1.75	1.90	2.60
Nominal Heating Capacity	4.0	4.4	5.6	6.8	8.7	9.0	12.0
Power Input (Heating)	0.85	0.90	1.14	1.45	2.00	1.90	2.80
SEER	8.6	8.7	8.7	8.6	8.5	8.3	7.2
SCOP	4.7	4.8	4.8	4.8	4.6	4.5	4.3

1 – GENERAL INFORMATIONS

#	Outdoor Unit Details						
Refrigerant Type	R32	R32	R32	R32	R32	R32	R32
Height*Width*Depth(mm)	550 x 780 x 290	550 x 780 x 290	630 x 800 x 300	630 x 800 x 300	890 x 900 x 320	890 x 900 x 320	890 x 900 x 320
Weight (Kg)	31	35	43	44	67	68	78

Indoor Unit Details			
Product Family	Unit Number	Height*Width*Depth(mm)	Weight
High Wall Seiya	RAS-B05E2KVG-E	288 x 770 x 225	9
	RAS-B07E2KVG-E	288 x 770 x 225	9
	RAS-B10E2KVG-E	288 x 770 x 225	9
	RAS-B13E2KVG-E	288 x 770 x 225	9
	RAS-B16E2KVG-E	293 x 798 x 230	9
	RAS-B18E2KVG-E	293 x 798 x 230	9
	RAS-B24E2KVG-E	320 x 1050 x 250	15
High Wall Seiya with Wifi adapter	RAS-B05S4KVG-E	288 x 770 x 225	9
	RAS-B07S4KVG-E	288 x 770 x 225	9
	RAS-B10S4KVG-E	288 x 770 x 225	9
	RAS-B13S4KVG-E	288 x 770 x 225	9
	RAS-B16S4KVG-E	288 x 770 x 225	9
	RAS-B18S4KVG-E	293 x 798 x 230	9
	RAS-B24S4KVG-E	320 x 1050 x 250	15
High wall SEIYA Classic#2 C4	RAS-B10LKV2G-E	288 x 770 x 225	9
	RAS-B13LKV2G-E	288 x 770 x 225	9
	RAS-B16LKV2G-E	293 x 798 x 230	10
	RAS-B18LKV2G-E	293 x 798 x 230	10
	RAS-B24LKV2G-E	320 x 1050 x 250	14
High wall SEIYA Classic#2 C6	RAS-B05B2KVG-E2	288 x 770 x 225	9
	RAS-B07B2KVG-E2	288 x 770 x 225	9
	RAS-B10B2KVG-E2	288 x 770 x 225	9
	RAS-B13B2KVG-E2	288 x 770 x 225	9
	RAS-B16B2KVG-E2	293 x 798 x 230	10
	RAS-B18B2KVG-E2	293 x 798 x 230	10
	RAS-B24B2KVG-E2	320 x 1050 x 250	14
High wall SEIYA Classic#2 C7	RAS-B05B2KVG-E	288 x 770 x 225	9
	RAS-B07B2KVG-E	288 x 770 x 225	9
	RAS-B10B2KVG-E	288 x 770 x 225	9
	RAS-B13B2KVG-E	288 x 770 x 225	9
	RAS-B16B2KVG-E	293 x 798 x 230	10
	RAS-B18B2KVG-E	293 x 798 x 230	10
	RAS-B24B2KVG-E	320 x 1050 x 250	14

1.12 Sales scenarios

Sales of the device are distributed as follows:

Region	Shares in Sales (%)
France	100

This distribution affects the distance travelled during the phase and the electric mix used during the usage phase.

3 – ENVIRONMENTAL IMPACTS

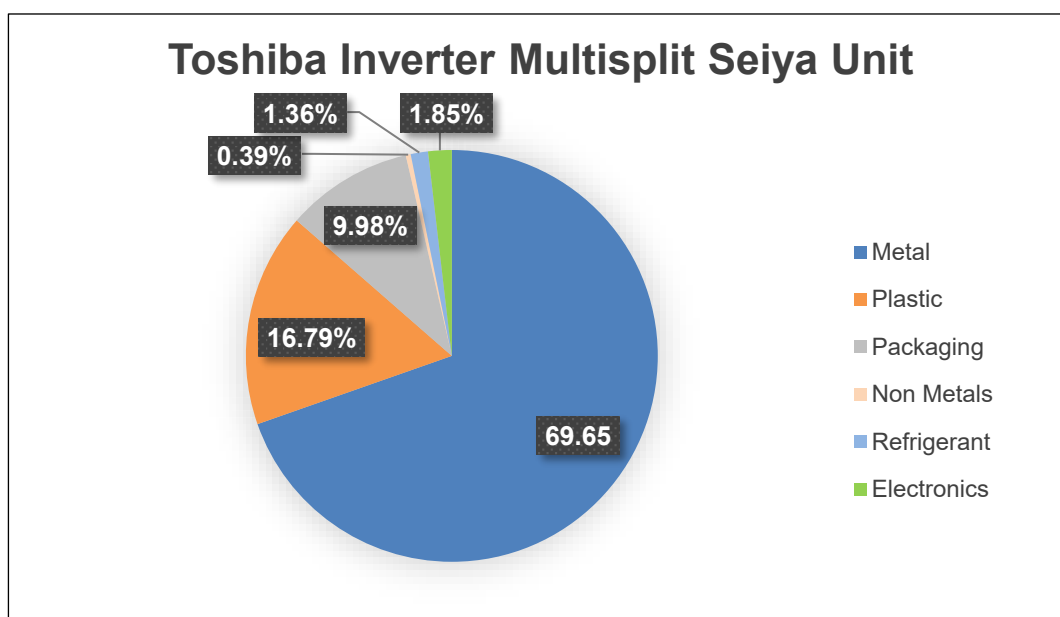
2.1 Reference product

Modelled total weight with other necessary details:

PEP Material Categories		Material	Weight [kg]	Weight [%]	Overall Percentage [%]	Post-consumer material weight [%]	Biogenic material [kg C] / declared unit	Biogenic material [kg C] / functional unit
Metals		Steel	25.61	43.38	69.65	0.00	0.00	0.00
		Copper	9.23	15.63		0.00	0.00	0.00
		Aluminium	4.93	8.35		0.00	0.00	0.00
		Cast Iron	1.35	2.29		0.00	0.00	0.00
Plastics		Plastics	9.91	16.79	16.79	0.00	0.00	0.00
Others	Electronics	PCB Sensor	1.09	1.85	13.57	0.00	0.00	0.00
	Packaging	Cardboard EPS Foam	5.89	9.98		0.00	2.90	0.88
	Miscellaneous	Refrigerant	0.80	1.36		0.00	0.00	0.00
	Non-Metals	Compressor Oil	0.23	0.39		0.00	0.00	0.00
Total			59.04	100.00	100.00	0.00	2.90	0.88

Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO₂ (EN 16449:2014).

2.2 Constituent materials



3 – ENVIRONMENTAL IMPACTS

3.1 LCA impacts per Functional Unit

The impact results presented below were obtained using the methods defined in PCR-ed4-EN-2021-09-06 and PSR-0013-ed3.1-EN-2025-06-17. The results have been developed considering the supply of 1 kW of heating or cooling. The real impact of the life cycle stages of the installed product in a real situation is to be calculated by the user of the result by multiplying the impact considered by the total cooling capacity in kW.

CORE ENVIRONMENTAL IMPACT INDICATORS – EF 3.1

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
GWP – total1	kg CO2 eq./FU	8.06E+02	1.24E+02	5.91E+00	1.36E+00	6.50E+02	1.36E+02	1.03E+00	MND	MND	MND	5.13E+02	0.00E+00	2.51E+01	0.00E+00	2.93E-01	6.09E+00	1.88E+01	-4.59E+01
GWP – fossil	kg CO2 eq./FU	8.06E+02	1.25E+02	5.91E+00	1.63E-01	6.50E+02	1.36E+02	1.03E+00	MND	MND	MND	5.13E+02	0.00E+00	2.51E+01	0.00E+00	2.93E-01	6.06E+00	1.88E+01	-4.56E+01
GWP – biogenic	kg CO2 eq./FU	0.00E+00	-1.20E+00	0.00E+00	1.20E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP – LULUC	kg CO2 eq./FU	8.42E-01	2.90E-01	2.93E-03	4.22E-05	5.26E-01	0.00E+00	5.23E-04	MND	MND	MND	5.26E-01	0.00E+00	2.23E-02	0.00E+00	1.05E-04	2.22E-02	4.38E-05	-7.85E-02
Ozone depletion pot.	kg CFC-11 eq./FU	1.59E-05	1.34E-06	8.60E-08	6.55E-10	1.44E-05	0.00E+00	6.30E-09	MND	MND	MND	1.44E-05	0.00E+00	8.94E-08	0.00E+00	5.83E-09	8.19E-08	1.70E-09	-3.11E-07
Acidification potential	mol H+ eq./FU	6.52E+00	2.50E+00	9.43E-02	2.67E-04	3.89E+00	0.00E+00	5.26E-03	MND	MND	MND	3.89E+00	0.00E+00	2.81E-02	0.00E+00	6.09E-04	2.67E-02	8.13E-04	-1.02E+00
EP-freshwater2	kg P eq. /FU	5.26E-01	2.50E-01	3.24E-04	1.26E-05	2.72E-01	0.00E+00	5.78E-05	MND	MND	MND	2.72E-01	0.00E+00	3.36E-03	0.00E+00	1.97E-05	3.26E-03	7.49E-05	-8.19E-02
EP-marine	kg N eq./FU	1.04E+00	2.72E-01	2.33E-02	2.31E-04	7.37E-01	0.00E+00	1.04E-03	MND	MND	MND	7.36E-01	0.00E+00	1.17E-02	0.00E+00	1.46E-04	5.65E-03	5.93E-03	-1.05E-01
EP-terrestrial	mol N eq./FU	9.14E+00	2.67E+00	2.59E-01	7.85E-04	6.15E+00	0.00E+00	1.15E-02	MND	MND	MND	6.14E+00	0.00E+00	6.03E-02	0.00E+00	1.58E-03	5.49E-02	3.78E-03	-9.40E-01
POCP ("smog")3	kg NMVOC eq./FU	2.89E+00	7.80E-01	7.49E-02	3.06E-04	2.02E+00	0.00E+00	3.96E-03	MND	MND	MND	2.02E+00	0.00E+00	2.02E-02	0.00E+00	1.01E-03	1.81E-02	1.08E-03	-2.80E-01
ADP-minerals & metals4	kg Sb eq./FU	5.28E-02	2.80E-02	1.27E-05	4.25E-07	2.48E-02	0.00E+00	3.39E-06	MND	MND	MND	2.48E-02	0.00E+00	3.28E-05	0.00E+00	9.74E-07	3.16E-05	2.45E-07	-1.01E-02
ADP-fossil resources	MJ/FU	6.88E+04	1.56E+03	7.75E+01	7.05E-01	6.71E+04	0.00E+00	1.85E+01	MND	MND	MND	6.71E+04	0.00E+00	9.37E+01	0.00E+00	4.12E+00	8.83E+01	1.26E+00	-5.21E+02
Water use5	m3e depr/FU	9.03E+02	4.87E+01	2.95E-01	2.08E-02	8.50E+02	0.00E+00	8.01E-02	MND	MND	MND	8.50E+02	0.00E+00	4.58E+00	0.00E+00	2.05E-02	4.38E+00	1.85E-01	-1.51E+01

MND abbreviation stands for Module Not Declared

1. GWP = Global Warming Potential

2. EP = Eutrophication potential. The required characterization method and data are in kg P-eq. Multiply by 3.07 to get PO₄-eq.

3. POCP = Photochemical ozone formation

4. ADP = Abiotic depletion potential

5. EF 3.1 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EF 3.1

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
Particulate matter	Disease Incidence/FU	4.70E-05	1.27E-05	3.06E-07	1.17E-08	3.35E-05	0.00E+00	4.17E-08	MND	MND	MND	3.34E-05	0.00E+00	5.31E-07	0.00E+00	2.16E-08	5.00E-07	8.99E-09	-4.38E-06
Ionizing radiation6	kBq U235 eq./FU	3.04E+03	7.02E+00	5.00E-02	1.61E-03	3.03E+03	0.00E+00	1.03E-02	MND	MND	MND	3.03E+03	0.00E+00	1.64E+00	0.00E+00	5.31E-03	1.63E+00	1.52E-03	-3.06E+00
Ecotoxicity (freshwater)	CTU eq./FU	6.51E+04	2.77E+04	9.22E+00	1.19E+01	3.37E+04	6.27E-03	9.87E-01	MND	MND	MND	3.37E+04	0.00E+00	3.65E+03	0.00E+00	5.49E-01	2.02E+02	3.45E+03	-8.37E+03
Human toxicity, cancer	CTUh/FU	6.84E-07	2.69E-07	1.12E-09	7.80E-11	3.92E-07	0.00E+00	4.82E-10	MND	MND	MND	3.91E-07	0.00E+00	2.18E-08	0.00E+00	4.92E-11	2.15E-08	2.55E-10	-1.05E-07
Human tox. non-cancer	CTUh/FU	4.31E-05	2.12E-05	3.47E-08	3.37E-09	2.18E-05	1.48E-10	3.63E-09	MND	MND	MND	2.18E-05	0.00E+00	1.02E-07	0.00E+00	2.62E-09	8.83E-08	1.08E-08	-8.34E-06
SQP7	- /FU	5.05E+03	1.13E+03	2.77E+01	4.82E-01	3.78E+03	0.00E+00	2.37E+00	MND	MND	MND	3.78E+03	0.00E+00	1.08E+02	0.00E+00	2.49E+00	1.04E+02	1.81E+00	-4.46E+02

MND abbreviation stands for Module Not Declared

6. EF 3.1 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator

7. SQP = Land use related impacts/soil quality

3 – ENVIRONMENTAL IMPACTS

USE OF NATURAL RESOURCES

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
Renew. PER as energy ⁸	MJ/FU	6.92E+03	1.65E+02	8.50E-01	-2.32E+01	6.76E+03	0.00E+00	3.13E+00	MND	MND	MND	6.76E+03	0.00E+00	1.07E+01	0.00E+00	7.20E-02	1.06E+01	3.03E-02	-5.44E+01
Renew. PER as material	MJ/FU	4.36E+01	4.95E+01	0.00E+00	-2.39E+01	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	1.81E+01	0.00E+00	0.00E+00	1.81E+01	0.00E+00	-4.90E-01
Total use of renew. PER	MJ/FU	6.96E+03	2.14E+02	8.50E-01	-4.72E+01	6.76E+03	0.00E+00	3.13E+00	MND	MND	MND	6.76E+03	0.00E+00	2.89E+01	0.00E+00	7.20E-02	2.88E+01	3.03E-02	-5.49E+01
Non-re. PER as energy	MJ/FU	6.86E+04	1.42E+03	7.75E+01	-2.31E+00	6.71E+04	0.00E+00	1.85E+01	MND	MND	MND	6.71E+04	0.00E+00	-3.78E+01	0.00E+00	4.12E+00	4.09E+01	-8.29E+01	-5.03E+02
Non-re. PER as material	MJ/FU	4.86E+01	3.01E+01	0.00E+00	-4.40E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	2.29E+01	0.00E+00	0.00E+00	2.29E+01	0.00E+00	-8.81E+01
Total use of non-re. PER	MJ/FU	6.86E+04	1.45E+03	7.75E+01	-6.71E+00	6.71E+04	0.00E+00	1.85E+01	MND	MND	MND	6.71E+04	0.00E+00	-1.48E+01	0.00E+00	4.12E+00	6.40E+01	-8.29E+01	-5.91E+02
Secondary materials	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renew. secondary fuels	MJ/FU	3.02E-01	2.62E-01	2.77E-04	6.48E-06	3.89E-02	0.00E+00	2.77E-05	MND	MND	MND	3.89E-02	0.00E+00	1.07E-03	0.00E+00	2.42E-05	1.03E-03	1.87E-05	-1.48E-01
Non-ren. secondary fuels	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³ /FU	2.13E+01	1.32E+00	8.11E-03	6.61E-06	1.98E+01	0.00E+00	5.34E-03	MND	MND	MND	1.98E+01	0.00E+00	1.12E-01	0.00E+00	5.62E-04	1.12E-01	-1.13E-03	-4.20E-01

MND abbreviation stands for Module Not Declared

⁸) PER abbreviation stands for primary energy resources

END OF LIFE – WASTE

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
Hazardous waste	kg/FU	7.25E+01	2.39E+01	1.20E-01	7.12E-03	4.48E+01	0.00E+00	1.46E-02	MND	MND	MND	4.48E+01	0.00E+00	3.64E+00	0.00E+00	5.98E-03	3.58E+00	6.24E-02	-1.33E+01
Non-hazardous waste	kg/FU	2.34E+03	8.65E+02	2.01E+00	4.82E-01	1.45E+03	0.00E+00	3.13E-01	MND	MND	MND	1.45E+03	0.00E+00	2.04E+01	0.00E+00	1.26E-01	1.54E+01	4.84E+00	-3.45E+02
Radioactive waste	kg/FU	8.70E-01	3.86E-03	1.22E-05	3.94E-07	8.66E-01	0.00E+00	2.67E-04	MND	MND	MND	8.65E-01	0.00E+00	4.21E-04	0.00E+00	1.32E-06	4.20E-04	3.78E-07	-1.46E-03

MND abbreviation stands for Module Not Declared

END OF LIFE – OUTPUT FLOWS

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
Components for re-use	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg/FU	9.89E+00	0.00E+00	0.00E+00	1.31E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	8.58E+00	0.00E+00	0.00E+00	8.58E+00	0.00E+00	0.00E+00
Materials for energy rec	kg/FU	1.20E+00	0.00E+00	0.00E+00	1.14E-01	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	1.09E+00	0.00E+00	0.00E+00	0.00E+00	1.09E+00	0.00E+00
Exported energy	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

MND abbreviation stands for Module Not Declared

ENVIRONMENTAL IMPACTS – TRACI 2.1.

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
Global Warming Pot.	kg CO ₂ eq./FU	7.80E+02	1.24E+02	5.83E+00	2.62E-01	6.27E+02	1.19E+02	4.15E-01	MND	MND	MND	5.08E+02	0.00E+00	2.31E+01	0.00E+00	2.88E-01	6.04E+00	1.68E+01	-4.56E+01
Ozone Depletion	kg CFC-11 eq./FU	1.69E-05	1.48E-06	9.09E-08	6.97E-10	1.52E-05	0.00E+00	6.61E-09	MND	MND	MND	1.52E-05	0.00E+00	9.42E-08	0.00E+00	6.14E-09	8.63E-08	1.78E-09	-3.47E-07
Acidification	kg SO ₂ eq./FU	5.25E+00	1.98E+00	8.01E-02	2.51E-04	3.16E+00	0.00E+00	1.74E-03	MND	MND	MND	3.16E+00	0.00E+00	2.38E-02	0.00E+00	5.21E-04	2.25E-02	7.77E-04	-8.06E-01
Eutrophication	kg N eq./FU	6.68E-01	3.01E-01	3.55E-03	1.70E-04	3.58E-01	0.00E+00	2.17E-04	MND	MND	MND	3.58E-01	0.00E+00	5.67E-03	0.00E+00	7.02E-05	5.08E-03	5.23E-04	-1.06E-01
POCP ("smog")	kg O ₃ eq./FU	4.86E+01	1.27E+01	1.52E+00	4.43E-03	3.40E+01	0.00E+00	4.33E-02	MND	MND	MND	3.39E+01	0.00E+00	3.49E-01	0.00E+00	1.11E-02	3.16E-01	2.21E-02	-4.61E+00
ADP-fossil	MJ/FU	5.49E+01	7.20E+00	7.77E+01	4.12E-01	5.78E+00	0.00E+00	5.78E+00	MND	MND	MND	0.00E+00	0.00E+00	-3.62E+01	0.00E+00	4.12E+00	-4.07E+01	3.52E-01	0.00E+00

MND abbreviation stands for Module Not Declared

3 – ENVIRONMENTAL IMPACTS

3.1 LCA impacts per Declared Unit

In the scope of building Life Cycle Analysis, the environmental impacts of the entire product over its reference service life should be considered, not the principal results of the PEP which correspond to the functional unit of the product. It is therefore necessary to multiply the principal results of the PEP by the FU Factor of the reference product, and if necessary, apply the extrapolation rules.

CORE ENVIRONMENTAL IMPACT INDICATORS – EF 3.1

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
GWP – total ¹	kg CO ₂ eq.	3.11E+03	4.78E+02	2.28E+01	5.25E+00	2.51E+03	5.24E+02	3.99E+00	MND	MND	MND	1.98E+03	0.00E+00	9.70E+01	0.00E+00	1.13E+00	2.35E+01	7.24E+01	-1.77E+02
GWP – fossil	kg CO ₂ eq.	3.11E+03	4.81E+02	2.28E+01	6.30E-01	2.51E+03	5.24E+02	3.99E+00	MND	MND	MND	1.98E+03	0.00E+00	9.69E+01	0.00E+00	1.13E+00	2.34E+01	7.24E+01	-1.76E+02
GWP – biogenic	kg CO ₂ eq.	0.00E+00	-4.62E+00	0.00E+00	4.62E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP – LULUC	kg CO ₂ eq.	3.25E+00	1.12E+00	1.13E-02	1.63E-04	2.03E+00	0.00E+00	2.02E-03	MND	MND	MND	2.03E+00	0.00E+00	8.62E-02	0.00E+00	4.06E-04	8.56E-02	1.69E-04	-3.03E-01
Ozone depletion pot.	kg CFC-11 eq.	6.15E-05	5.18E-06	3.32E-07	2.53E-09	5.56E-05	0.00E+00	2.43E-08	MND	MND	MND	5.56E-05	0.00E+00	3.45E-07	0.00E+00	2.25E-08	3.16E-07	6.55E-09	-1.20E-06
Acidification potential	mol H ⁺ eq.	2.52E+01	9.66E+00	3.64E-01	1.03E-03	1.50E+01	0.00E+00	2.03E-02	MND	MND	MND	1.50E+01	0.00E+00	1.08E-01	0.00E+00	2.35E-03	1.03E-01	3.14E-03	-3.93E+00
EP-freshwater ²	kg P eq.	2.03E+00	9.65E-01	1.25E-03	4.86E-05	1.05E+00	0.00E+00	2.23E-04	MND	MND	MND	1.05E+00	0.00E+00	1.30E-02	0.00E+00	7.61E-05	1.26E-02	2.89E-04	-3.16E-01
EP-marine	kg N eq.	4.03E+00	1.05E+00	9.00E-02	8.90E-04	2.84E+00	0.00E+00	4.01E-03	MND	MND	MND	2.84E+00	0.00E+00	4.53E-02	0.00E+00	5.65E-04	2.18E-02	2.29E-02	-4.05E-01
EP-terrestrial	mol N eq.	3.53E+01	1.03E+01	9.98E-01	3.03E-03	2.37E+01	0.00E+00	4.42E-02	MND	MND	MND	2.37E+01	0.00E+00	2.33E-01	0.00E+00	6.10E-03	2.12E-01	1.46E-02	-3.63E+00
POCP ("smog") ³	kg NMVOC eq.	1.12E+01	3.01E+00	2.89E-01	1.18E-03	7.80E+00	0.00E+00	1.53E-02	MND	MND	MND	7.78E+00	0.00E+00	7.80E-02	0.00E+00	3.91E-03	6.99E-02	4.15E-03	-1.08E+00
ADP-minerals & metals ⁴	kg Sb eq.	2.04E-01	1.08E-01	4.90E-05	1.64E-06	9.58E-02	0.00E+00	1.31E-05	MND	MND	MND	9.58E-02	0.00E+00	1.27E-04	0.00E+00	3.76E-06	1.22E-04	9.44E-07	-3.88E-02
ADP-fossil resources	MJ	2.66E+05	6.01E+03	2.99E+02	2.72E+00	2.59E+05	0.00E+00	7.13E+01	MND	MND	MND	2.59E+05	0.00E+00	3.62E+02	0.00E+00	1.59E+01	3.41E+02	4.88E+00	-2.01E+03
Water use ⁵	m ³ e depr.	3.49E+03	1.88E+02	1.14E+00	8.01E-02	3.28E+03	0.00E+00	3.09E-01	MND	MND	MND	3.28E+03	0.00E+00	1.77E+01	0.00E+00	7.90E-02	1.69E+01	7.13E-01	-5.82E+01

MND abbreviation stands for Module Not Declared

1. GWP = Global Warming Potential

2. EP = Eutrophication potential. Required characterization method and data are in kg P-eq. Multiply by 3.07 to get PO4e

3. POCP = Photochemical ozone formation

4. ADP = Abiotic depletion potential

5. EF 3.1 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EF 3.1

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	
Particulate matter	Disease Incidence	1.81E-04	4.90E-05	1.18E-06	4.50E-08	1.29E-04	0.00E+00	1.61E-07	MND	MND	MND	1.29E-04	0.00E+00	2.05E-06	0.00E+00	8.33E-08	1.93E-06	3.47E-08	-1.69E-05
Ionizing radiation ⁶	kBq U235 eq.	1.17E+04	2.71E+01	1.93E-01	6.22E-03	1.17E+04	0.00E+00	3.99E-02	MND	MND	MND	1.17E+04	0.00E+00	6.33E+00	0.00E+00	2.05E-02	6.30E+00	5.86E-03	-1.18E+01
Ecotoxicity (freshwater)	CTU eq.	2.51E+05	1.07E+05	3.56E+01	4.58E+01	1.30E+05	2.42E-02	3.81E+00	MND	MND	MND	1.30E+05	0.00E+00	1.41E+04	0.00E+00	2.12E+00	7.78E+02	1.33E+04	-3.23E+04
Human toxicity, cancer	CTUh	2.64E-06	1.04E-06	4.33E-09	3.01E-10	1.51E-06	0.00E+00	1.86E-09	MND	MND	MND	1.51E-06	0.00E+00	8.43E-08	0.00E+00	1.90E-10	8.31E-08	9.83E-10	-4.05E-07
Human tox. non-cancer	CTUh	1.66E-04	8.17E-05	1.34E-07	1.30E-08	8.41E-05	5.73E-10	1.40E-08	MND	MND	MND	8.41E-05	0.00E+00	3.93E-07	0.00E+00	1.01E-08	3.41E-07	4.17E-08	-3.22E-05
SQP ⁷	-	1.95E+04	4.36E+03	1.07E+02	1.86E+00	1.46E+04	0.00E+00	9.14E+00	MND	MND	MND	1.46E+04	0.00E+00	4.18E+02	0.00E+00	9.61E+00	4.01E+02	6.98E+00	-1.72E+03

MND abbreviation stands for Module Not Declared

6. EF 3.1 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator

7. SQP = Land use related impacts/soil quality

3 – ENVIRONMENTAL IMPACTS

USE OF NATURAL RESOURCES

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
Renew. PER as energy ⁸	MJ	2.67E+04	6.36E+02	3.28E+00	-8.94E+01	2.61E+04	0.00E+00	1.21E+01	MND	MND	MND	2.61E+04	0.00E+00	4.13E+01	0.00E+00	2.78E-01	4.09E+01	1.17E-01	-2.10E+02
Renew. PER as material	MJ	1.68E+02	1.91E+02	0.00E+00	-9.23E+01	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	6.97E+01	0.00E+00	0.00E+00	6.97E+01	0.00E+00	-1.89E+00
Total use of renew. PER	MJ	2.69E+04	8.27E+02	3.28E+00	-1.82E+02	2.61E+04	0.00E+00	1.21E+01	MND	MND	MND	2.61E+04	0.00E+00	1.11E+02	0.00E+00	2.78E-01	1.11E+02	1.17E-01	-2.12E+02
Non-re. PER as energy	MJ	2.65E+05	5.49E+03	2.99E+02	-8.92E+00	2.59E+05	0.00E+00	7.13E+01	MND	MND	MND	2.59E+05	0.00E+00	-1.46E+02	0.00E+00	1.59E+01	1.58E+02	-3.20E+02	-1.94E+03
Non-re. PER as material	MJ	1.88E+02	1.16E+02	0.00E+00	-1.70E+01	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	8.85E+01	0.00E+00	0.00E+00	8.85E+01	0.00E+00	-3.40E+02
Total use of non-re. PER	MJ	2.65E+05	5.60E+03	2.99E+02	-2.59E+01	2.59E+05	0.00E+00	7.13E+01	MND	MND	MND	2.59E+05	0.00E+00	-5.71E+01	0.00E+00	1.59E+01	2.47E+02	-3.20E+02	-2.28E+03
Secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renew. secondary fuels	MJ	1.17E+00	1.01E+00	1.07E-03	2.50E-05	1.50E-01	0.00E+00	1.07E-04	MND	MND	MND	1.50E-01	0.00E+00	4.13E-03	0.00E+00	9.34E-05	3.96E-03	7.23E-05	-5.73E-01
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	8.21E+01	5.08E+00	3.13E-02	2.55E-05	7.65E+01	0.00E+00	2.06E-02	MND	MND	MND	7.65E+01	0.00E+00	4.32E-01	0.00E+00	2.17E-03	4.34E-01	-4.38E-03	-1.62E+00

MND abbreviation stands for Module Not Declared

8. PER abbreviation stands for primary energy resources

END OF LIFE – WASTE

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
Hazardous waste	kg	2.80E+02	9.23E+01	4.65E-01	2.75E-02	1.73E+02	0.00E+00	5.65E-02	MND	MND	MND	1.73E+02	0.00E+00	1.41E+01	0.00E+00	2.31E-02	1.38E+01	2.41E-01	-5.13E+01
Non-hazardous waste	kg	9.02E+03	3.34E+03	7.74E+00	1.86E+00	5.59E+03	0.00E+00	1.21E+00	MND	MND	MND	5.59E+03	0.00E+00	7.88E+01	0.00E+00	4.88E-01	5.96E+01	1.87E+01	-1.33E+03
Radioactive waste	kg	3.36E+00	1.49E-02	4.72E-05	1.52E-06	3.34E+00	0.00E+00	1.03E-03	MND	MND	MND	3.34E+00	0.00E+00	1.63E-03	0.00E+00	5.10E-06	1.62E-03	1.46E-06	-5.65E-03

MND abbreviation stands for Module Not Declared

END OF LIFE – OUTPUT FLOWS

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	3.82E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	3.31E+01	0.00E+00	0.00E+00	3.31E+01	0.00E+00	0.00E+00
Materials for energy rec	kg	4.63E+00	0.00E+00	0.00E+00	4.40E-01	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	4.19E+00	0.00E+00	0.00E+00	0.00E+00	4.19E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

MND abbreviation stands for Module Not Declared

ENVIRONMENTAL IMPACTS – TRACI 2.1.

Impact Category	Unit	Total	Manufacturing	Distribution & Installation		B1-B7	Use							C1-C4	End of Life				Benefits & Loads
			A1-A3	A4	A5		B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ eq.	3.01E+03	4.77E+02	2.25E+01	1.01E+00	2.42E+03	4.59E+02	1.60E+00	MND	MND	MND	1.96E+03	0.00E+00	8.91E+01	0.00E+00	1.11E+00	2.33E+01	6.47E+01	-1.76E+02
Ozone Depletion	kg CFC-11 eq.	6.51E-05	5.71E-06	3.51E-07	2.69E-09	5.86E-05	0.00E+00	2.55E-08	MND	MND	MND	5.86E-05	0.00E+00	3.64E-07	0.00E+00	2.37E-08	3.33E-07	6.88E-09	-1.34E-06
Acidification	kg SO ₂ eq.	2.02E+01	7.64E+00	3.09E-01	9.69E-04	1.22E+01	0.00E+00	6.72E-03	MND	MND	MND	1.22E+01	0.00E+00	9.19E-02	0.00E+00	2.01E-03	8.69E-02	3.00E-03	-3.11E+00
Eutrophication	kg N eq.	2.58E+00	1.16E+00	1.37E-02	6.55E-04	1.38E+00	0.00E+00	8.39E-04	MND	MND	MND	1.38E+00	0.00E+00	2.19E-02	0.00E+00	2.71E-04	1.96E-02	2.02E-03	-4.08E-01
POCP ("smog")	kg O ₃ eq.	1.88E+02	4.92E+01	5.87E+00	1.71E-02	1.31E+02	0.00E+00	1.67E-01	MND	MND	MND	1.31E+02	0.00E+00	1.35E+00	0.00E+00	4.28E-02	1.22E+00	8.53E-02	-1.78E+01
ADP-fossil	MJ	2.12E+02	2.78E+01	3.00E+02	1.59E+00	2.23E+01	0.00E+00	2.23E+01	MND	MND	MND	0.00E+00	0.00E+00	-1.40E+02	0.00E+00	1.59E+01	-1.57E+02	1.36E+00	0.00E+00

MND abbreviation stands for Module Not Declared

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

4.1 Extrapolation Coefficients

The products mentioned in the LCA report, belong to the same homogeneous environmental family as the reference product. The group of products shall have the following characteristics:

- Same main functionality,
- Same product standards,
- Similar manufacturing technology: same type of materials and manufacturing processes.

The extrapolation coefficients for similar commercial references are as follows

Model Units			Functional Unit										Declared Unit							
Split Type	Outdoor Units	Indoor Units	Manufacturing	Distribution	Installation	B1	B2	B6	B7	C	D	Manufacturing	Distribution	Installation	B1	B2	B6	B7	C	D
2 Room Split	RAS-2M10G3AVG-E	RAS-B07E2KVG-E+RAS-M07E2KVG	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	RAS-2M10G3AVG-E	RAS-B05E2KVG-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B10E2KVG-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B05S4KVG-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B07S4KVG-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B10S4KVG-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B10LKV2G-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B05B2KVG-E2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B07B2KVG-E2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B10B2KVG-E2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B05B2KV2G-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B07B2KV2G-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		RAS-B10B2KV2G-E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	RAS-2M14G3AVG-E	RAS-B05E2KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B010E2KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B013E2KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B05S4KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B07S4KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

		RAS-B10S4KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B13S4KVG-E	0.96	0.96	0.89	0.75	1.00	0.97	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B10LKV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B13LKV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B05B2KVG-E2	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B07B2KVG-E2	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B10B2KVG-E2	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B13B2KVG-E2	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B05B2KV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B07B2KV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B10B2KV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
		RAS-B13B2KV2G-E	0.96	0.96	0.89	0.75	1.00	0.89	0.89	0.89	0.96	1.07	1.07	1.00	0.84	1.00	1.09	1.00	1.00	1.07
	RAS-2M18G3AVG-E	RAS-B05E2KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B07E2KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B10E2KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B13E2KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B16E2KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B05S4KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B07S4KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B10S4KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B13S4KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B16S4KVG-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B10LKV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B13LKV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B16LKV2G-E	0.88	0.88	0.70	0.47	1.00	0.97	0.70	0.88	0.88	1.26	1.26	1.00	0.67	1.00	1.39	1.00	1.00	1.26
		RAS-B05B2KVG-E2	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B07B2KVG-E2	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B10B2KVG-E2	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B13B2KVG-E2	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B16B2KVG-E2	0.88	0.88	0.70	0.47	1.00	0.97	0.70	0.88	0.88	1.26	1.26	1.00	0.67	1.00	1.39	1.00	1.00	1.26
		RAS-B05B2KV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

3 Room Split		RAS-B07B2KV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B10B2KV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B13B2KV2G-E	0.85	0.85	0.70	0.47	1.00	0.97	0.70	0.70	0.85	1.22	1.22	1.00	0.67	1.00	1.39	1.00	1.00	1.22
		RAS-B16B2KV2G-E	0.88	0.88	0.70	0.47	1.00	0.97	0.70	0.88	0.88	1.26	1.26	1.00	0.67	1.00	1.39	1.00	1.00	1.26
	RAS-3M18G3AVG-E	RAS-B05E2KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B07E2KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B10E2KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B13E2KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B16E2KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B05S4KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B07S4KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B10S4KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B13S4KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B16S4KVG-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B10LKV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B13LKV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B16LKV2G-E	0.87	0.87	0.60	0.38	1.00	0.99	0.60	0.60	0.87	1.46	1.46	1.00	0.64	1.00	1.66	1.00	1.00	1.46
		RAS-B05B2KVG-E2	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B07B2KVG-E2	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B10B2KVG-E2	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B13B2KVG-E2	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B16B2KVG-E2	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B05B2KV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B07B2KV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B10B2KV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B13B2KV2G-E	0.83	0.83	0.60	0.38	1.00	0.99	0.60	0.60	0.83	1.40	1.40	1.00	0.64	1.00	1.66	1.00	1.00	1.40
		RAS-B16B2KV2G-E	0.87	0.87	0.60	0.38	1.00	0.99	0.60	0.60	0.87	1.46	1.46	1.00	0.64	1.00	1.66	1.00	1.00	1.46
	RAS-3M26G3AVG-E	RAS-B05E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B07E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B10E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B13E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B16E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

		RAS-B18E2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B24E2KVG-E	0.99	0.99	0.46	0.19	1.00	1.02	0.46	0.46	0.99	2.15	2.15	1.00	0.42	1.00	2.21	1.00	1.00	2.15
		RAS-B05S4KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B07S4KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B13S4KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B16S4KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B018S4KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B24S4KVG-E	0.99	0.99	0.46	0.19	1.00	1.02	0.46	0.46	0.99	2.15	2.15	1.00	0.42	1.00	2.21	1.00	1.00	2.15
		RAS-B10LKV2G-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B13LKV2G-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B16LKV2G-E	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B18LKV2G-E	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B24LKV2G-E	0.99	0.99	0.46	0.19	1.00	1.02	0.46	0.46	0.99	2.15	2.15	1.00	0.42	1.00	2.21	1.00	1.00	2.15
		RAS-B05B2KVG-E2	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B07B2KVG-E2	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B10B2KVG-E2	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B13B2KVG-E2	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B16B2KVG-E2	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B18B2KVG-E2	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B24B2KVG-E2	0.99	0.99	0.46	0.19	1.00	1.02	0.46	0.46	0.99	2.15	2.15	1.00	0.42	1.00	2.21	1.00	1.00	2.15
		RAS-B05B2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B07B2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B10B2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B13B2KVG-E	0.84	0.84	0.46	0.19	1.00	1.02	0.46	0.46	0.84	1.82	1.82	1.00	0.42	1.00	2.21	1.00	1.00	1.82
		RAS-B16B2KVG-E	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B18B2KVG-E	0.87	0.87	0.46	0.19	1.00	1.02	0.46	0.46	0.87	1.87	1.87	1.00	0.42	1.00	2.21	1.00	1.00	1.87
		RAS-B24B2KVG-E	0.99	0.99	0.46	0.19	1.00	1.02	0.46	0.46	0.99	2.15	2.15	1.00	0.42	1.00	2.21	1.00	1.00	2.15
4 Room Split	RAS-4M27G3AVG-E	RAS-B05E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B07E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B10E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B13E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B16E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

		RAS-B18E2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B24E2KVG-E	1.07	1.07	0.44	0.17	1.00	1.04	0.44	0.44	1.07	2.44	2.44	1.00	0.39	1.00	2.37	1.00	1.00	2.44
		RAS-B05S4KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B07S4KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B13S4KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B18S4KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B24S4KVG-E	1.07	1.07	0.44	0.17	1.00	1.04	0.44	0.44	1.07	2.44	2.44	1.00	0.39	1.00	2.37	1.00	1.00	2.44
		RAS-B10LKV2G-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B13LKV2G-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B16LKV2G-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B18LKV2G-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B24LKV2G-E	1.07	1.07	0.44	0.17	1.00	1.04	0.44	0.44	1.07	2.44	2.44	1.00	0.39	1.00	2.37	1.00	1.00	2.44
		RAS-B05B2KVG-E2	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B07B2KVG-E2	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B10B2KVG-E2	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B13B2KVG-E2	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B16B2KVG-E2	0.91	0.91	0.44	0.17	1.00	1.04	0.44	0.44	0.91	2.07	2.07	1.00	0.39	1.00	2.37	1.00	1.00	2.07
		RAS-B18B2KVG-E2	0.91	0.91	0.44	0.17	1.00	1.04	0.44	0.44	0.91	2.07	2.07	1.00	0.39	1.00	2.37	1.00	1.00	2.07
		RAS-B24B2KVG-E2	1.04	1.04	0.44	0.17	1.00	1.04	0.44	0.44	1.04	2.37	2.37	1.00	0.39	1.00	2.37	1.00	1.00	2.37
		RAS-B05B2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B07B2KVG-E2	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B10B2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B13B2KVG-E	0.88	0.88	0.44	0.17	1.00	1.04	0.44	0.44	0.88	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B16B2KVG-E	0.91	0.91	0.44	0.17	1.00	1.04	0.44	0.44	0.91	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B18B2KVG-E	0.91	0.91	0.44	0.17	1.00	1.04	0.44	0.44	0.91	2.00	2.00	1.00	0.39	1.00	2.37	1.00	1.00	2.00
		RAS-B24B2KVG-E	1.04	1.04	0.44	0.17	1.00	1.04	0.44	0.44	1.04	2.37	2.37	1.00	0.39	1.00	2.37	1.00	1.00	2.37
5Room Split	RAS-5M34G3AVG-E1	RAS-B05E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
		RAS-B07E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
		RAS-B10E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
		RAS-B13E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
		RAS-B16E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
		RAS-B18E2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17

4 – EXTRAPOLATION TO THE OTHER SIZES IN THE RANGE

	RAS-B24E2KVG-E	0.90	0.90	0.33	0.13	1.00	1.09	0.33	0.33	0.90	2.71	2.71	1.00	0.39	1.00	3.31	1.00	1.00	2.71
	RAS-B05S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B07S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B10S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B13S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B16S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B18S4KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B24S4KVG-E	0.90	0.90	0.33	0.13	1.00	1.09	0.33	0.33	0.90	2.71	2.71	1.00	0.39	1.00	3.31	1.00	1.00	2.71
	RAS-B10LKV2G-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B13LKV2G-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	1.00	1.00	2.17
	RAS-B16LKV2G-E	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B18LKV2G-E	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B24LKV2G-E	0.87	0.87	0.33	0.13	1.00	1.09	0.33	0.33	0.87	2.62	2.62	1.00	0.39	1.00	3.31	1.00	1.00	2.62
	RAS-B05B2KVG-E2	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B07B2KVG-E2	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B10B2KVG-E2	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B13B2KVG-E2	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B16B2KVG-E2	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B18B2KVG-E2	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B24B2KVG-E2	0.87	0.87	0.33	0.13	1.00	1.09	0.33	0.33	0.87	2.62	2.62	1.00	0.39	1.00	3.31	1.00	1.00	2.62
	RAS-B05B2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B07B2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B10B2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B13B2KVG-E	0.72	0.72	0.33	0.11	1.00	1.10	0.33	0.33	0.72	2.17	2.17	1.00	0.33	1.00	3.31	0.71	0.71	0.33
	RAS-B16B2KVG-E	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B18B2KVG-E	0.75	0.75	0.33	0.13	1.00	1.10	0.33	0.33	0.75	2.26	2.26	1.00	0.39	1.00	3.31	1.00	1.00	2.26
	RAS-B24B2KVG-E	0.87	0.87	0.33	0.13	1.00	1.09	0.33	0.33	0.87	2.62	2.62	1.00	0.39	1.00	3.31	1.00	1.00	2.62

5 – DECLARATION AND CONTACT INFORMATION

5.1 Declaration

Registration number: TACE-00007-V01.01-EN	Drafting rules: PEP-PCR-ed4-EN-2021 09 06 » Supplemented by «PEP- PSR-0013-ed3.1-EN-2025-06-17»
Verifier accreditation number: VH42	Information and reference documents: www.pep-ecopassport.org
Date of issue: 07-2026	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006	
Internal: ☐	External: ☒
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)	
PEP is compliant with NF C08-100-1:2016 and EN 50693 :2019 or NF E38-500:2022	
The elements of the present PEP cannot be compared with elements from another program.	
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"	



5.2 Contact information

The illustrations in this document are provided for information only and do not form part of any sales offer or contact. The manufacturer reserves the right to change any product specifications without notice.

PEP Owner

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5.3 References

1. EN 14511 – Air Conditioners, Heat Pumps, and Chillers Performance Standard.
2. EN 14825 – Seasonal Performance and Part-Load Testing Standard.
3. EN 15804+A2 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.
4. EN 16147--Heat pumps with electrically driven compressors.
5. F-Gas-European regulation n° 517/2014 relating to fluorinated greenhouse gases.
6. ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.
7. ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.
8. ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.
9. ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.
10. PCR-ed4-EN-2021 09 06; Product Category Rules for Electrical, Electronic and HVAC-R Products.
11. PSR-0013-ed3.1-EN-2025 06 17; SPECIFIC RULES FOR THERMODYNAMIC GENERATORS WITH ELECTRIC COMPRESSION FOR SPACE HEATING AND/OR COOLING AND/OR THE PRODUCTION OF DOMESTIC HOT WATER.
12. Regulation (EU) 1516/2007- REGULATION (EC) No 1516/2007 OF THE COMMISSION dated 19 December 2007 establishing, pursuant to Regulation (EC) No 842/2006 of the European Parliament and of the Council.
13. Regulation (EU) No. 813/2013- REGULATION (EU) No. 813/2013 of the Commission dated 2 August 2013 in application of Directive 2009/125/EC of the European Parliament.