Product Environmental Profile



Eaton 9PX Li-ion11kVA Gen2

Representative product	Eaton 9PX11KIRTNG2-L Product Category: Uninterruptible Power Systems (UPS) with energy storage
Description of the product	Eaton 9PX Li-ion 11kVA Gen2 is a compact UPS designed to protect mission-critical applications. Thanks to the use of new power electronics components (Silicon Carbide) 9PX Gen 2 is providing the highest level of energy efficiency, in a very compact 4U form factor. Typical applications include protection of the IT infrastructure, Medical equipment, Control systems.
Product specifications	Power VA: 11000VA / 11000W UPS Configuration: Single UPS with Bypass UPS performance classification: UPS - VFI ⩽ 10kW (Online double conversion) Technology of the energy storage system: Lithium ion Battery Product dimensions (H*W*D): 174*440*725 mm Mass of the equipment: 6.48E+01 kg (Unit - 6.00E+01 kg + Accessory - 4.80E+00 kg) Power factor: 1 Reference service life (Years) for all models: 10
Homogeneous Environmental Families Covered	The PEP concerns product offerings from Eaton 9PX11KIRTNG2-L as mentioned below, DC is double conversion mode, HE is high efficiency mode.

Product Family	Product Number	Mode	Power (W)	Backup time (min)	UPS efficiency (%)	UPS Product mass (kg)	UPS Packaging mass (kg)	EBM Product + Packaging mass (kg)	Use Phase Losses (kWh)
Error! **Reference source not found.**	9PX11KIRTNG2-L (Reference model)	DC	11000	7.9	97.04%	6.32E+01	1.25E+01	-	21536.46
	9PX11KIRTNG2-L	HE	11000	7.9	99.45%	6.32E+01	1.25E+01	-	3859.22
	9PX11KIRTNG2-L + 1*9PXEBM192RT3UG2 -L (Homogeneous 1)	DC	11000	18.0	97.04%	6.32E+01	1.25E+01	3.49E+01	21536.46
	9PX11KIRTNG2-L + 1*9PXEBM192RT3UG2 -L (Homogeneous 1)	HE	11000	18.0	99.45%	6.32E+01	1.25E+01	3.49E+01	3859.22
	9PX11KIRTNG2-L + 2*9PXEBM192RT3UG2 -L (Homogeneous 2)	DC	11000	27.1	97.04%	6.32E+01	1.25E+01	6.98E+01	21536.46
	9PX11KIRTNG2-L + 2*9PXEBM192RT3UG2 -L (Homogeneous 2)	HE	11000	27.1	99.45%	6.32E+01	1.25E+01	6.98E+01	3859.22

		9PX11KIRTNG2-L + 4*9PXEBM192RT3UG2-L (Homogeneous 3)	DC	11000	45.1	97.04%	6.32E+01	1.25E+01	1.40E+02	21536.46
		9PX11KIRTNG2-L + 4*9PXEBM192RT3UG2-L (Homogeneous 3)	HE	11000	45.1	99.45%	6.32E+01	1.25E+01	1.40E+02	3859.22
		9PX11KIRTNG2-L + 10*9PXEBM192RT3UG2-L (Homogeneous 4)	DC	11000	99.3	97.04%	6.32E+01	1.25E+01	3.49E+02	21536.46
		9PX11KIRTNG2-L + 10*9PXEBM192RT3UG2-L (Homogeneous 4)	HE	11000	99.3	99.45%	6.32E+01	1.25E+01	3.49E+02	3859.22

Functional unit	To ensure the supply of power without interruption to equipment with load of 100 watts for a RSL of 1 years, including a backup time capacity of 5 minutes during power shortages
Declared unit	To ensure the supply of power without interruption to equipment with load of 11000 watts for a RSL of 10 years, including a backup time capacity of 7.9 minutes (at full load condition) during power shortages
Company information	Eaton Industries (France) SAS 110 Rue Blaise Pascal 38330 Montbonnot Saint Martin France Email: productstewardship-es@eaton.com

Constituent Materials of			
Reference Product:	7.56E+01 kg (with packaging)		
Materials	**Category PEP Material**	**Mass (kg)**	**Percentage (%)**
Other	Li-ion Battery	3.40E+01	45.0%
Metals	Steel	1.90E+01	25.1%
Other	Electronics	7.38E+00	9.8%
Other	Cardboard	6.19E+00	8.2%
Other	Wood	4.38E+00	5.8%
Plastics	Low-Density Polyethylene	1.20E+00	1.6%
Metals	Aluminium	8.78E-01	1.2%
Plastics	High-Density Polyethylene	8.75E-01	1.2%
Plastics	Acrylonitrile butadiene styrene	6.33E-01	0.8%
Plastics	Polyamide	3.07E-01	0.4%
Plastics	Polypropylene	1.52E-01	0.2%
Plastics	Ethylene Propylene Diene Monomer	1.38E-01	0.2%
Other	Paper	7.09E-02	0.1%
Plastics	Polyethylene Terephthalate	4.71E-02	0.1%
Metals	Copper	3.96E-02	0.1%
Other	Miscellaneous	2.98E-01	0.4%
Total		7.56E+01	100.0%

Substance Assessment
The representative product is compliant with the EU-RoHS Directive (2011/65/EU) by application of exemptions and the product contains lead (Pb) in batteries, copper alloy and electronics, which is listed as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

Additional Environmental Information	
Manufacturing	The reference product is assembled at an Eaton plant (LianZheng Electronic (ShenZhen) Co., Ltd.) holding management system certifications according to ISO 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and its associated packaging material with focus to optimize transport efficiency.

Installation	During installation of the product only standard tools are needed, which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
Use	Products consume energy during useful life which is considered to be 10 years (as per actual designed life). During the reference service life of product, No maintenance is required.
End of life	The recyclability rate of the overall product is 52.29% based on the method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment.

Environmental Impacts

The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire lifecycle, i.e., "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life.
System modelling was carried out using the commercial LCA software EIME v6.3.2 with database version CODDE-2025-04.
Indicators Set used: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0

Manufacturing Phase	Product is assembled and prepared for shipment at the Eaton facility, Lianzheng Electronic (Shenzhen) Co., Ltd. Energy model used: Europe, China, Global
Distribution Phase	Since Europe is the major market for the product, following transport scenario is considered for the product from Shenzhen, China Eaton plant to end user for this study. As per PCR 4 (section 2.5.3), 19000km is considered by sea and 1000km by road.
Installation Phase	Product is installed in any European country. Hence, packaging waste treatment is considered in this phase considering country specific statistics as per PSR. Energy model used: Europe
Use Phase	Reference lifetime: 10 years Energy model used: Europe. Usage profile: It has an average energy efficiency of 97.13%. The methodology for the calculation of the electricity consumption is based on Uninterruptible Power Systems (UPS) PSR. Operating loads: 25% | 50% | 75% | 100% Proportion of Time spent at: 0.00 | 0.30 | 0.40 | 0.30 Total energy losses are calculated to be equal to 21536.46 kWh over the 10 years.
End of life Phase	Product disposed according to European WEEE guidelines. Energy model used: Europe
Module-D	Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and loads beyond the boundaries of the system and are not to be included in the life cycle totals.

Environmental Impact considering for Declared Unit

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Climate change - total	kg CO_2 eq.	1.01E+04	1.50E+03	3.60E+01	2.81E+01	8.43E+03	8.68E+01	8.43E+03		-6.91E+02
Climate change - fossil fuels	kg CO_2 eq.	9.89E+03	1.51E+03	3.60E+01	1.18E+01	8.24E+03	8.62E+01	8.24E+03		-6.96E+02

Climate change - biogenics	kg CO_2 eq.	1.98E+02	-8.66E+00	6.95E-05	1.63E+01	1.90E+02	6.38E-01	1.90E+02		5.64E+00
Climate change - land use and land use transformation	kg CO_2 eq.	7.85E-04	7.51E-04	2.57E-05	1.98E-07	0.00E+00	8.76E-06	0.00E+00		-4.14E-04
Ozone depletion	kg eq. CFC-11	1.12E-03	1.08E-03	2.30E-07	1.33E-07	3.73E-05	4.45E-06	3.73E-05		-6.32E-04
Acidification (AP)	mole of H+ eq.	5.45E+01	7.79E+00	7.94E-01	2.82E-02	4.53E+01	5.96E-01	4.53E+01		-3.50E+00
Freshwater eutrophication	kg P eq.	6.27E-01	6.05E-01	6.99E-05	1.24E-04	2.10E-02	5.71E-04	2.10E-02		-3.63E-01
Marine aquatic eutrophication	kg of N eq.	7.75E+00	2.07E+00	1.80E-01	1.12E-02	5.26E+00	2.32E-01	5.26E+00		-1.11E+00
Terrestrial eutrophication	mole of N eq.	9.94E+01	1.26E+01	1.97E+00	8.51E-02	8.44E+01	4.79E-01	8.44E+01		-6.07E+00
Photochemical ozone formation	kg of NMVOC eq.	2.17E+01	4.29E+00	5.12E-01	2.04E-02	1.67E+01	1.55E-01	1.67E+01		-2.12E+00
Depletion of abiotic resources - elements	kg eq. Sb	3.13E-01	3.10E-01	6.72E-06	6.10E-07	2.84E-03	8.10E-06	2.84E-03		-3.52E-02
Depletion of abiotic resources - fossil fuels	MJ	2.30E+05	2.29E+04	5.36E+02	9.31E+01	2.05E+05	8.52E+02	2.05E+05		-7.61E+03
Water scarcity	m^3 of eq. deprivation worldwide	2.17E+04	1.75E+04	6.72E-01	7.10E-01	6.59E+02	3.57E+03	6.59E+02		-1.05E+04

***Note**: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	4.99E+04	7.22E+02	1.25E+00	3.20E+01	4.91E+04	3.65E+01	4.91E+04		-2.16E+02
Use of renewable primary energy resources used as raw materials	MJ	2.07E+02	2.07E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		-1.14E+02
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.01E+04	9.29E+02	1.25E+00	3.20E+01	4.91E+04	3.65E+01	4.91E+04		-3.29E+02
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	2.29E+05	2.24E+04	5.36E+02	9.31E+01	2.05E+05	8.52E+02	2.05E+05		-7.44E+03
Use of non-renewable primary energy	MJ	4.43E+02	4.43E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		-1.70E+02

resources used as raw materials									
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	2.30E+05	2.29E+04	5.36E+02	9.31E+01	2.05E+05	8.52E+02	2.05E+05	-7.61E+03
Use of secondary materials	kg	4.77E-02	4.77E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	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 non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	5.17E+02	4.08E+02	1.56E-02	4.67E-02	1.54E+01	9.34E+01	1.54E+01	-2.44E+02
Hazardous waste disposed of	kg	1.60E+04	1.57E+04	7.11E-02	1.18E+00	2.41E+02	1.09E+02	2.41E+02	-9.49E+03
Non-hazardous waste disposed of	kg	2.36E+03	1.01E+03	2.14E+00	4.96E+00	1.31E+03	3.80E+01	1.31E+03	-5.95E+02
Radioactive waste disposed of	kg	1.00E+00	7.09E-01	1.64E-03	5.68E-04	2.90E-01	2.81E-03	2.90E-01	-4.24E-01
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	0.00E+00
Materials for recycling	kg	2.31E+01	3.33E-02	0.00E+00	7.12E+00	0.00E+00	1.59E+01	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	1.70E+00	1.57E-01	0.00E+00	1.45E+00	0.00E+00	9.42E-02	0.00E+00	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	4.68E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.62E+00

*__Note__: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	4.12E-04	5.08E-05	4.20E-06	1.73E-07	3.54E-04	2.41E-06	3.54E-04	-5.36E-05
Ionizing radiation, human health	kBq of U235 eq.	1.20E+04	5.29E+02	6.39E-01	1.67E+00	1.15E+04	1.04E+01	1.15E+04	-2.48E+02
Ecotoxicity, fresh water	CTUe	8.60E+04	2.68E+04	5.07E+02	1.24E+02	1.31E+04	4.55E+04	1.31E+04	-1.21E+04
Human toxicity, cancer effects	CTUh	2.57E-05	1.32E-05	3.60E-09	7.15E-07	1.05E-06	1.08E-05	1.05E-06	-2.11E-04

Human toxicity, non-cancer effects	CTUh	1.51E-04	1.21E-04	6.97E-08	3.02E-08	2.58E-05	3.78E-06	2.58E-05		-6.60E-05
Impacts related to land use/soil quality	-	7.22E+02	4.63E+02	7.27E-02	4.79E-02	2.20E+02	3.91E+01	2.20E+02		-2.77E+02
Total use of primary energy during the life cycle	MJ	2.80E+05	2.38E+04	5.38E+02	1.25E+02	2.54E+05	8.88E+02	2.54E+05		-7.94E+03

*__Note__: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

All environmental impacts are calculated for the declared unit, then data should be divided by the Factor calculated with below formulas to get functional unit result.

Factor for use stage energy consumption B6:

$$\frac{Declared\ Unit\ Power\ (11000\ W) * Declared\ Unit\ Lifetime\ (10\ year)}{100\ W * 1\ year} = \mathbf{1100}$$

Factor for all other stages (except B6 of use stage):

$$\frac{Declared\ Unit\ Power\ (11000\ W) * Declared\ Unit\ Lifetime\ (10\ year) * Declared\ Unit\ Backuptime\ (7.9\ min)}{100\ W * 1\ year * 5\ min} = \mathbf{1738}$$

Environmental Impact for Functional Unit

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Climate change - total	kg CO_2 eq.	8.61E+00	8.63E-01	2.07E-02	1.62E-02	7.66E+00	4.99E-02	7.66E+00		-3.98E-01
Climate change - fossil fuels	kg CO_2 eq.	8.44E+00	8.69E-01	2.07E-02	6.79E-03	7.49E+00	4.96E-02	7.49E+00		-4.00E-01
Climate change - biogenics	kg CO_2 eq.	1.77E-01	-4.98E-03	4.00E-08	9.38E-03	1.73E-01	3.67E-04	1.73E-01		3.25E-03
Climate change - land use and land use transformation	kg CO_2 eq.	4.52E-07	4.32E-07	1.48E-08	1.14E-10	0.00E+00	5.04E-09	0.00E+00		-2.38E-07
Ozone depletion	kg eq. CFC-11	6.58E-07	6.21E-07	1.32E-10	7.65E-11	3.39E-08	2.56E-09	3.39E-08		-3.64E-07
Acidification (AP)	mole of H+ eq.	4.65E-02	4.48E-03	4.57E-04	1.62E-05	4.12E-02	3.43E-04	4.12E-02		-2.01E-03
Freshwater eutrophication	kg P eq.	3.68E-04	3.48E-04	4.02E-08	7.13E-08	1.91E-05	3.29E-07	1.91E-05		-2.09E-04
Marine aquatic eutrophication	kg of N eq.	6.22E-03	1.19E-03	1.04E-04	6.44E-06	4.78E-03	1.33E-04	4.78E-03		-6.39E-04
Terrestrial eutrophication	mole of N eq.	8.54E-02	7.25E-03	1.13E-03	4.90E-05	7.67E-02	2.76E-04	7.67E-02		-3.49E-03
Photochemical ozone formation	kg of NMVOC eq.	1.80E-02	2.47E-03	2.95E-04	1.17E-05	1.52E-02	8.92E-05	1.52E-02		-1.22E-03
Depletion of abiotic resources - elements	kg eq. Sb	1.81E-04	1.78E-04	3.87E-09	3.51E-10	2.58E-06	4.66E-09	2.58E-06		-2.03E-05

Depletion of abiotic resources - fossil fuels	MJ	2.00E+02	1.32E+01	3.08E-01	5.36E-02	1.86E+02	4.90E-01	1.86E+02		-4.38E+00
Water scarcity	m^3 of eq. deprivation worldwide	1.27E+01	1.01E+01	3.87E-04	4.09E-04	5.99E-01	2.05E+00	5.99E-01		-6.04E+00

*__Note__: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	4.51E+01	4.15E-01	7.19E-04	1.84E-02	4.46E+01	2.10E-02	4.46E+01		-1.24E-01
Use of renewable primary energy resources used as raw materials	MJ	1.19E-01	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		-6.56E-02
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	4.52E+01	5.35E-01	7.19E-04	1.84E-02	4.46E+01	2.10E-02	4.46E+01		-1.89E-01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	2.00E+02	1.29E+01	3.08E-01	5.36E-02	1.86E+02	4.90E-01	1.86E+02		-4.28E+00
Use of non-renewable primary energy resources used as raw materials	MJ	2.55E-01	2.55E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		-9.78E-02
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	2.00E+02	1.32E+01	3.08E-01	5.36E-02	1.86E+02	4.90E-01	1.86E+02		-4.38E+00
Use of secondary materials	kg	2.74E-05	2.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Use of renewable secondary fuels	MJ	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 non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Net use of fresh water	m3	3.03E-01	2.35E-01	8.98E-06	2.69E-05	1.40E-02	5.37E-02	1.40E-02		-1.40E-01

Hazardous waste disposed of	kg	9.32E+00	9.03E+00	4.09E-05	6.79E-04	2.19E-01	6.27E-02	2.19E-01		-5.46E+00
Non-hazardous waste disposed of	kg	1.80E+00	5.81E-01	1.23E-03	2.85E-03	1.19E+00	2.19E-02	1.19E+00		-3.42E-01
Radioactive waste disposed of	kg	6.74E-04	4.08E-04	9.44E-07	3.27E-07	2.64E-04	1.62E-06	2.64E-04		-2.44E-04
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		0.00E+00
Materials for recycling	kg	1.33E-02	1.92E-05	0.00E+00	4.10E-03	0.00E+00	9.15E-03	0.00E+00		0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Exported energy	MJ by energy vector	9.79E-04	9.03E-05	0.00E+00	8.34E-04	0.00E+00	5.42E-05	0.00E+00		0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		-1.51E-03

*__Note__: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7 - Use	C1-C4 - End of life	B6 - Operational energy use		D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	3.55E-07	2.92E-08	2.42E-09	9.95E-11	3.22E-07	1.39E-09	3.22E-07		-3.08E-08
Ionizing radiation, human health	kBq of U235 eq.	1.08E+01	3.04E-01	3.68E-04	9.61E-04	1.05E+01	5.98E-03	1.05E+01		-1.43E-01
Ecotoxicity, fresh water	CTUe	5.39E+01	1.54E+01	2.92E-01	7.13E-02	1.19E+01	2.62E+01	1.19E+01		-6.96E+00
Human toxicity, cancer effects	CTUh	1.52E-08	7.59E-09	2.07E-12	4.11E-10	9.55E-10	6.21E-09	9.55E-10		-1.21E-07
Human toxicity, non-cancer effects	CTUh	9.53E-08	6.96E-08	4.01E-11	1.74E-11	2.35E-08	2.17E-09	2.35E-08		-3.80E-08
Impacts related to land use/soil quality	-	4.89E-01	2.66E-01	4.18E-05	2.76E-05	2.00E-01	2.25E-02	2.00E-01		-1.59E-01
Total use of primary energy during the life cycle	MJ	2.45E+02	1.37E+01	3.10E-01	7.19E-02	2.31E+02	5.11E-01	2.31E+02		-4.57E+00

*__Note__: Only B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B2-B5, B7) are equal to zero. So, it is not listed in the result tables.

To evaluate the environmental impact of other product covered by this PEP, apply the following conversion factors to the Environmental Impact shown above. The extrapolation factors are calculated based on the PSR 10 section 3.6.:

Conversion Factors for Manufacturing, Distribution, Installation, Maintenance and End-of-Life Phase for all environmental impact of declared unit:

Part No.	Mandatory environmental impact indicators	GWP	GWP-b	GWP-f	GWP-lu	ODP	AP	EP-fw	EP-m	EP-t	POCP	ADP-e	ADP-f	WDP
9PX11KIRTNG2-L (Reference model)	A1-A3 - Manufacturing	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
	A4 - Distribution	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
	A5 - Installation	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
	B6 - Energy requirements	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
	C1-C4 - End of life	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
	D - Benefits and loads	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
9PX11KIRTNG2-L + 1*9PXEBM192RT3UG2-L (Homogeneous 1)	A1-A3 - Manufacturing	1.53	1.53	0.59	1.93	1.58	1.54	1.59	1.56	1.54	1.55	1.24	1.48	1.59
	A4 - Distribution	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
	A5 - Installation	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
	B6 - Energy requirements	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
	C1-C4 - End of life	1.53	1.53	1.22	1.47	1.50	1.38	1.46	1.23	1.51	1.48	1.54	1.51	1.17
	D - Benefits and loads	1.58	1.57	0.66	1.59	1.59	1.60	1.59	1.58	1.57	1.58	1.53	1.55	1.59
9PX11KIRTNG2-L + 2*9PXEBM192RT3UG2-L (Homogeneous 2)	A1-A3 - Manufacturing	2.07	2.06	0.19	2.86	2.17	2.09	2.18	2.12	2.08	2.10	1.48	1.96	2.18
	A4 - Distribution	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93
	A5 - Installation	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
	B6 - Energy requirements	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
	C1-C4 - End of life	2.05	2.06	1.45	1.94	2.00	1.76	1.93	1.46	2.03	1.96	2.08	2.01	1.34
	D - Benefits and loads	2.15	2.14	0.32	2.19	2.18	2.19	2.18	2.16	2.14	2.15	2.06	2.09	2.18
9PX11KIRTNG2-L + 4*9PXEBM192RT3UG2-L (Homogeneous 3)	A1-A3 - Manufacturing	3.14	3.11	-0.63	4.71	3.34	3.18	3.37	3.25	3.15	3.19	1.96	2.91	3.37
	A4 - Distribution	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
	A5 - Installation	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
	B6 - Energy requirements	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
	C1-C4 - End of life	3.10	3.11	1.89	2.88	3.00	2.52	2.86	1.92	3.05	2.92	3.16	3.02	1.68
	D - Benefits and loads	3.31	3.28	-0.36	3.37	3.36	3.38	3.37	3.33	3.29	3.31	3.11	3.19	3.37
9PX11KIRTNG2-L + 10*9PXEBM192RT3UG2-L	A1-A3 - Manufacturing	6.34	6.29	-3.07	10.28	6.84	6.45	6.92	6.62	6.38	6.48	3.40	5.79	6.91
	A4 - Distribution	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63
	A5 - Installation	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
	B6 - Energy requirements	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

(Homogeneous 4)	C1-C4 - End of life	6.25	6.28	3.23	5.70	6.00	4.79	5.64	3.30	6.13	5.79	6.41	6.06	2.70
	D - Benefits and loads	6.77	6.69	-2.39	6.93	6.90	6.95	6.92	6.81	6.72	6.76	6.28	6.46	6.92

Below Table represents both DC and HE mode for each product number as the Back-up time remains same for both the modes.

Products	FU factor for Use B6	FU factor for other phases (Excluding B6)
9PX11KIRTNG2-L (Reference model)	1100	1738
9PX11KIRTNG2-L + 1*9PXEBM192RT3UG2-L (Homogeneous 1)	1100	3960
9PX11KIRTNG2-L + 2*9PXEBM192RT3UG2-L (Homogeneous 2)	1100	5962
9PX11KIRTNG2-L + 4*9PXEBM192RT3UG2-L (Homogeneous 3)	1100	9922
9PX11KIRTNG2-L + 10*9PXEBM192RT3UG2-L (Homogeneous 4)	1100	21846

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		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006			
Internal	X	External	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEPs are compliant with XP C08-100-1:2016 or EN 50693:2019 *The components of the present PEP may not be compared with components from any other program.*			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			