

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Uponor Radi Pipe  
Uponor Corporation



**EPD HUB, HUB-1147**

Publishing date 21 February 2024, last updated on 21 February 2024, valid until 21 February 2029.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Uponor Corporation
Address	Ilmalantori 4, 00240 Helsinki, Finland
Contact details	info@uponor.com
Website	www.uponor.com

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Sister EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Dr. Shima Holder Hjort, Uponor Corporation
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Uponor Radi Pipe
Additional labels	
Product reference	1001220 1001221 1001222 1008449 1008864 1008874 1008879 1008939 1008940 1008941 1008975 1008979 1008980 1008981 1008982 1022518 1022689 1023083 1033222 1033305 1033313 1033395 1033398 1033422 1033482 1033486 1033495 1033500 1033519 1033538 1033886 1033887 1033896 1047610 1048047 1085847 1086412 1086413 1090305 1094179 1120611
Place of production	Uponor AB, Nordanövägen 2, 73061, Virsbo, Sweden
Period for data	2021
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	2,75E+00
GWP-total, A1-A3 (kgCO2e)	2,71E+00
Secondary material, inputs (%)	0,323
Secondary material, outputs (%)	64,5
Total energy use, A1-A3 (kWh)	11,6
Total water use, A1-A3 (m3e)	2,79E-02

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Uponor is rethinking water for future generations. Our offering, including safe drinking water delivery, energy-efficient radiant heating and cooling and reliable infrastructure, enables a more sustainable living environment. We help our customers in residential and commercial construction, municipalities and utilities, as well as different industries to work faster and smarter. We employ about 3,800 professionals in 26 countries in Europe and North America. Over 100 years of expertise and trust form the basis of any successful partnership. This is the basis, on which they can build, in a literal and metaphorical sense. We create trust together with our partners: Customers, prospective customers and suppliers. We establish this with shared knowledge, quality and sustainable results.

### PRODUCT DESCRIPTION

Uponor Radi Pipe is manufactured from highest quality cross-linked polyethylene and has been specially developed for flexible radiator connections in heating systems. This pipe is seamless and homogeneously coated with an oxygen barrier layer. Pipes in bigger dimensions, 25-125 mm, are also used as media pipe in Uponor Ecoflex applications. Uponor Radi Pipe fulfils the requirements for oxygen diffusion resistance as per DIN 4726 and ISO 17455.

Further information can be found at [www.uponor.com](http://www.uponor.com).

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals		
Minerals		
Fossil materials	100	EU
Bio-based materials		

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,00038

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	
Reference service life	

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

Uponor Radi Pipe is manufactured with high density polyethylene, cross-linking additive and stabilizers. The raw materials are mixed after which the mix is fed into an extruder where the material melts and is cross-linked. The crosslinked pipe is calibrated to the correct dimension, cooled, and the finished product is packaged for transport to the construction site. Pipes in dimensions up to 32 mm are supplied in coils packed in cardboard boxes

on pallets. From dimensions 32 mm onwards, the coils are supplied wrapped in black plastic. Most dimensions are also available as straight lengths packed in plastic sleeves in cardboard box or in plastic pipe. Installation instructions come with each pack.

## MANUFACTURING PROCESS



## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is defined according to the PCR. The average distance of transportation from the production plant to the building site is based on the actual sales average figures of the company in the local markets and the transportation method is assumed to be lorry. The vehicle capacity utilization volume factor is assumed to be 100 which means a full load. In reality, it may vary but as the role of transportation emissions in the total results is small, the variation in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that the return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are packaged properly. Also, the volume capacity utilisation factor is assumed to be <1 for the nested packaged products. Each wooden pallet is assumed to be re-used 120 times based on the actual re-use scenarios.

Environmental impacts from installation into the building include 0,16% product installation loss, waste packaging materials (A5) and release of biogenic carbon dioxide from wood pallets. The impacts of material production, its processing and its disposal as installation waste are also included.

**PRODUCT USE AND MAINTENANCE (B1-B7)**

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

**PRODUCT END OF LIFE (C1-c4, D)**

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed zero (C1). The end-of-life product is assumed to be sent to the closest facility by lorry and is assumed to be 50 km away (C2). 100% of the end-of-life product is collected separately from the demolition site while 63% is sent to recycling and 36% to incineration facilities (C3). Only 1% of the end-of-life product goes to landfills (C4). Due to the recycling and incineration potential of polyethylene, the end-of-life product is converted into recycled PE while energy and heat are produced from its incineration (D). The benefits and loads of waste packaging materials in A5 are also considered in module D.



## LIFE-CYCLE ASSESSMENT

### CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

### ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

### AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	%

This EPD is product and factory specific and does not contain average calculations.

### LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	2,20E+00	4,24E-02	4,61E-01	2,71E+00	6,76E-01	7,12E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,69E-03	1,62E-01	1,44E-03	2,59E-01
GWP – fossil	kg CO <sub>2</sub> e	2,20E+00	4,24E-02	5,11E-01	2,75E+00	6,76E-01	2,10E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,69E-03	1,66E-01	1,48E-03	2,60E-01
GWP – biogenic	kg CO <sub>2</sub> e	3,98E-03	0,00E+00	-4,99E-02	-4,60E-02	0,00E+00	5,02E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-3,94E-03	-3,98E-05	-4,56E-04
GWP – LULUC	kg CO <sub>2</sub> e	6,62E-04	1,57E-05	7,72E-05	7,55E-04	2,43E-04	1,15E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,73E-06	1,01E-04	1,12E-07	-5,40E-04
Ozone depletion pot.	kg CFC <sub>11</sub> e	4,71E-08	9,76E-09	4,84E-09	6,17E-08	1,55E-07	1,14E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,08E-09	3,38E-09	3,21E-11	-4,35E-08
Acidification potential	mol H <sup>+</sup> e	7,80E-03	1,80E-04	4,92E-04	8,47E-03	2,82E-03	6,68E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,99E-05	2,71E-04	9,13E-07	-6,30E-03
EP-freshwater <sup>2)</sup>	kg Pe	3,37E-05	3,47E-07	2,84E-06	3,69E-05	5,71E-06	5,73E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,84E-08	2,14E-06	1,76E-09	-4,52E-05
EP-marine	kg Ne	1,35E-03	5,34E-05	1,25E-04	1,53E-03	8,35E-04	1,40E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,90E-06	7,88E-05	5,63E-07	-6,82E-04
EP-terrestrial	mol Ne	1,48E-02	5,89E-04	1,39E-03	1,68E-02	9,22E-03	1,42E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,51E-05	8,26E-04	3,38E-06	-8,00E-03
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	7,31E-03	1,88E-04	4,43E-04	7,94E-03	2,92E-03	5,39E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,08E-05	2,52E-04	1,30E-06	-2,24E-03
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,49E-05	9,95E-08	1,92E-06	1,69E-05	1,04E-05	1,38E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-08	9,68E-07	3,64E-10	-5,86E-07
ADP-fossil resources	MJ	7,71E+01	6,37E-01	1,18E+00	7,89E+01	1,02E+01	3,84E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,05E-02	4,92E-01	2,46E-03	-9,86E+00
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,05E+00	2,85E-03	5,20E-02	1,10E+00	4,03E-02	7,17E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,15E-04	2,14E-02	1,48E-05	-1,07E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO<sub>4</sub>e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 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 – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	7,79E-08	4,89E-09	1,34E-08	9,62E-08	6,30E-08	7,96E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,41E-10	7,39E-09	1,82E-11	-5,56E-08
Ionizing radiation <sup>6)</sup>	kBq U235e	1,46E-01	3,04E-03	6,25E-03	1,55E-01	4,64E-02	2,27E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,36E-04	5,28E-03	1,19E-05	-1,21E-01
Ecotoxicity (freshwater)	CTUe	1,20E+01	5,73E-01	2,35E+00	1,49E+01	8,51E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,34E-02	1,46E+00	2,64E-03	-1,79E+01
Human toxicity, cancer	CTUh	6,57E-10	1,41E-11	2,39E-10	9,10E-10	2,26E-10	2,40E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,56E-12	2,23E-10	8,09E-14	-2,14E-10
Human tox. non-cancer	CTUh	1,41E-08	5,67E-10	3,25E-09	1,79E-08	9,15E-09	2,31E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,27E-11	1,81E-09	1,56E-12	-6,87E-09
SQP <sup>7)</sup>	-	2,03E+00	7,34E-01	2,24E+00	5,00E+00	1,16E+01	8,64E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,12E-02	9,48E-01	5,93E-03	-6,05E+00

6) EN 15804+A2 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.

### USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	1,31E+00	7,18E-03	8,79E+00	1,01E+01	1,33E-01	4,65E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,94E-04	5,87E-02	4,59E-05	-1,84E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	4,90E-01	4,90E-01	0,00E+00	-4,90E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,31E+00	7,18E-03	9,28E+00	1,06E+01	1,33E-01	-4,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,94E-04	5,87E-02	4,59E-05	-1,84E+00
Non-re. PER as energy	MJ	3,02E+01	6,37E-01	9,06E-01	3,18E+01	1,02E+01	2,32E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,05E-02	4,92E-01	2,46E-03	-9,86E+00
Non-re. PER as material	MJ	4,69E+01	0,00E+00	2,79E-01	4,71E+01	0,00E+00	-2,79E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-4,64E+01	-4,69E-01	0,00E+00
Total use of non-re. PER	MJ	7,71E+01	6,37E-01	1,18E+00	7,89E+01	1,02E+01	-4,74E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,05E-02	-4,59E+01	-4,66E-01	-9,86E+00
Secondary materials	kg	3,23E-03	1,77E-04	3,71E-02	4,05E-02	1,19E-03	5,00E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,96E-05	3,27E-03	8,78E-07	-6,08E-04
Renew. secondary fuels	MJ	2,96E-05	1,79E-06	6,11E-04	6,43E-04	1,21E-05	5,02E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,97E-07	2,67E-05	3,38E-08	-4,45E-06
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,70E-02	8,26E-05	8,02E-04	2,79E-02	1,68E-03	5,40E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,13E-06	5,30E-04	2,64E-06	-7,58E-03

8) PER = Primary energy resources.



### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	5,12E-02	8,45E-04	1,73E-02	6,94E-02	1,19E-02	1,49E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,34E-05	1,07E-02	0,00E+00	-6,57E-02
Non-hazardous waste	kg	1,44E+00	1,39E-02	2,68E-01	1,72E+00	6,07E-01	2,66E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,54E-03	1,54E-01	1,00E-02	-2,75E+00
Radioactive waste	kg	4,57E-05	4,26E-06	2,78E-06	5,28E-05	6,94E-05	8,78E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,71E-07	2,25E-06	0,00E+00	-4,45E-05

### END OF LIFE – OUTPUT FLOWS

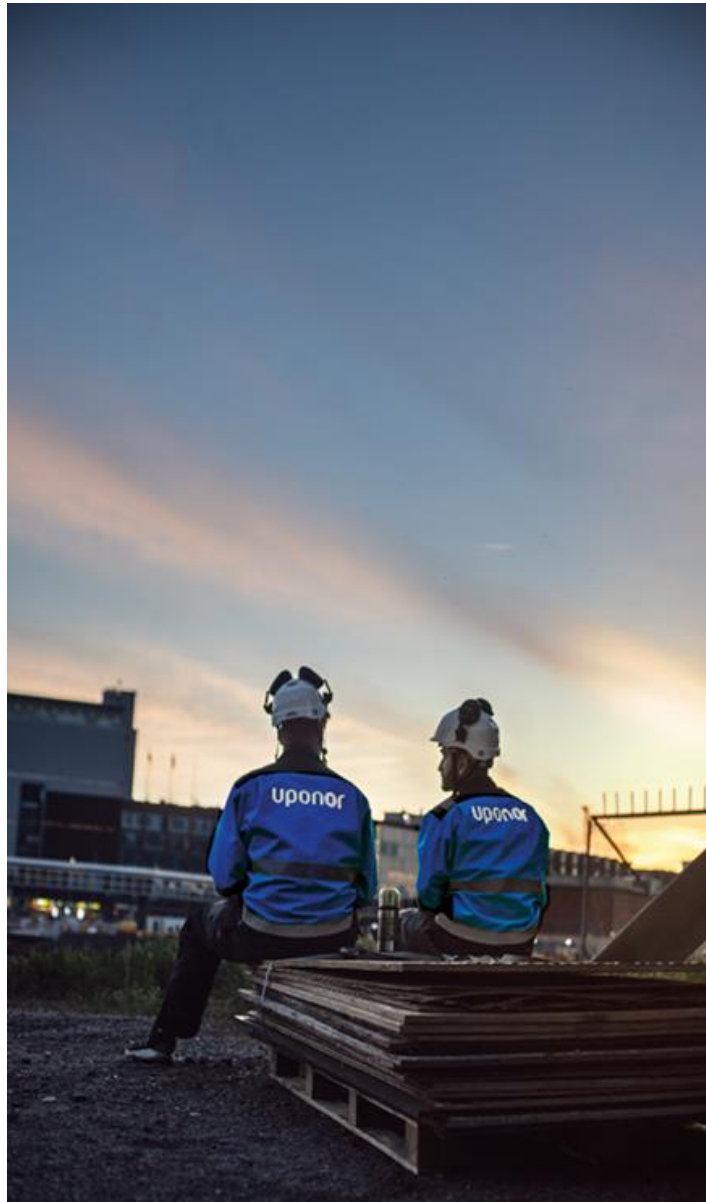
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,84E-02	1,84E-02	0,00E+00	4,04E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,30E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,07E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,53E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,12E+01	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	2,09E+00	4,20E-02	5,10E-01	2,64E+00	6,69E-01	2,10E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,64E-03	1,63E-01	1,20E-03	2,74E-01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	4,09E-08	7,73E-09	4,16E-09	5,28E-08	1,23E-07	9,56E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,55E-10	2,92E-09	2,55E-11	-3,55E-08
Acidification	kg SO <sub>2</sub> e	6,51E-03	1,40E-04	3,86E-04	7,04E-03	1,74E-03	5,40E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,54E-05	2,11E-04	6,93E-07	-5,41E-03
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	1,65E-03	3,18E-05	2,88E-04	1,97E-03	3,80E-04	3,67E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,52E-06	5,55E-04	5,58E-05	-1,51E-03
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	6,64E-04	5,45E-06	3,30E-05	7,02E-04	8,81E-05	4,57E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,03E-07	1,69E-05	2,18E-07	-2,34E-04
ADP-elements	kg Sbe	1,49E-05	9,63E-08	1,89E-06	1,69E-05	1,04E-05	1,36E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,07E-08	9,61E-07	3,52E-10	-5,89E-07
ADP-fossil	MJ	7,71E+01	6,37E-01	1,18E+00	7,89E+01	1,02E+01	3,84E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,05E-02	4,91E-01	2,46E-03	-9,85E+00

### ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	2,03E+00	4,20E-02	5,09E-01	2,58E+00	6,69E-01	2,07E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,65E-03	1,63E-01	1,05E-03	2,81E-01
Ozone Depletion	kg CFC <sub>11</sub> e	4,06E-08	7,73E-09	4,13E-09	5,25E-08	1,47E-07	9,91E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,55E-10	2,91E-09	2,54E-11	-3,44E-08
Acidification	kg SO <sub>2</sub> e	3,43E-01	8,55E-03	2,25E-02	3,74E-01	5,91E-02	2,85E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,45E-04	1,35E-02	4,48E-05	-2,71E-01
Eutrophication	kg Ne	2,51E-04	1,79E-05	4,60E-05	3,15E-04	3,17E-04	5,25E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,98E-06	2,64E-05	4,35E-07	-9,99E-05
POCP ("smog")	kg O <sub>3</sub> e	4,08E-03	1,38E-04	3,21E-04	4,54E-03	3,10E-02	8,01E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,53E-05	1,91E-04	8,89E-07	-1,78E-03
ADP-fossil	MJ	1,06E+01	8,71E-02	1,25E-01	1,08E+01	1,44E+00	4,56E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,64E-03	3,77E-02	3,27E-04	-5,18E-01



## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliance with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

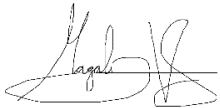
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited  
21.02.2024



## ANNEX 1: CONVERSION TABLE FOR PRODUCT STAGE (A1-A3) GWP – EN 15804+A2, PEF

Product Number	Product Description	Unit Product Weight (kg/m of pipe)	GWP – total, Stages A1-A3 (kg CO2e/m of pipe)	Product Length (m)	GWP – total, Stages A1-A3 (kg CO2e)
1001220	UPONOR RADI PIPE NATURAL PN6 32X2,9 50M	0,28	0,7588	50	3,79E+1
1001221	UPONOR RADI PIPE NATURAL PN6 S 25X2,3 6M	0,25	0,6775	6	4,07E+0
1001222	UPONOR RADI PIPE NATURAL PN6 S 32X2,9 6M	0,333	0,90243	6	5,41E+0
1008449	UPONOR RADI PIPE NATURAL PN6 32X2,9 100M	0,268	0,72628	100	7,26E+1
1008864	UPONOR RADI PIPE NATURAL PN6 S 75X6,8 6M	1,435	3,88885	6	2,33E+1
1008874	UPONOR RADI PIPE NATURAL PN6 S 90X8,2 6M	2,113	5,72623	6	3,44E+1
1008879	UPONOR RADI PIPE NATURAL PN6 S 110X10,0 6M	3,095	8,38745	6	5,03E+1
1008939	UPONOR RADI PIPE NATURAL PN6 S 40X3,7 6M	0,401	1,08671	6	6,52E+0
1008940	UPONOR RADI PIPE NATURAL PN6 S 50X4,6 6M	0,665	1,80215	6	1,08E+1
1008941	UPONOR RADI PIPE NATURAL PN6 S 63X5,8 6M	1,048	2,84008	6	1,70E+1
1008975	UPONOR RADI PIPE NATURAL PN6 40X3,7 100M	0,43	1,1653	100	1,17E+2
1008979	UPONOR RADI PIPE NATURAL PN6 40X3,7 50M	0,47	1,2737	50	6,37E+1
1008980	UPONOR RADI PIPE NATURAL PN6 50X4,6 50M	0,704	1,90784	50	9,54E+1
1008981	UPONOR RADI PIPE NATURAL PN6 63X5,8 50M	1,116	3,02436	50	1,51E+2
1008982	UPONOR RADI PIPE NATURAL PN6 75X6,8 50M	1,461	3,95931	50	1,98E+2
1022518	UPONOR RADI PIPE NATURAL PN6 20X2,0 120M	0,129	0,34959	120	4,20E+1
1022689	UPONOR RADI PIPE NATURAL PN6 25X2,3 50M	0,186	0,50406	50	2,52E+1
1023083	UPONOR RADI PIPE NATURAL PN6 S 20X2,0 6M	0,13	0,3523	6	2,11E+0
1033222	UPONOR RADI PIPE NATURAL PN10 20X2,8 100M	0,154	0,41734	100	4,17E+1
1033305	UPONOR RADI PIPE NATURAL PN10 25X3,5 50M	0,237	0,64227	50	3,21E+1
1033313	UPONOR EVALPEX PIPE PN6 25X2,3 608M	0,168	0,45528	608	2,77E+2
1033395	UPONOR RADI PIPE NATURAL PN10 32X4,4 100M	0,398	1,07858	100	1,08E+2
1033398	UPONOR RADI PIPE PN6 32X2,9 608M	0,268	0,72628	608	4,42E+2
1033422	UPONOR RADI PIPE PN6 40X3,7 404M	0,43	1,1653	404	4,71E+2
1033482	UPONOR RADI PIPE NATURAL PN10 S 50X6,9 6M	0,928	2,51488	6	1,51E+1
1033486	UPONOR RADI PIPE PN6 50X4,6 404M	0,665	1,80215	404	7,28E+2
1033495	UPONOR RADI PIPE PN6 63X5,8 203M	1,048	2,84008	203	5,77E+2
1033500	UPONOR RADI PIPE NATURAL PN6 63X5,8 303M	1,069	2,89699	303	8,78E+2
1033519	UPONOR RADI PIPE PN6 75X6,8 204M	1,467	3,97557	204	8,11E+2
1033538	UPONOR RADI PIPE PN6 90X8,2 152M	2,113	5,72623	152	8,70E+2
1033886	UPONOR RADI PIPE NATURAL PN6 90X8,2 102M	2,113	5,72623	102	5,84E+2
1033887	UPONOR RADI PIPE PN6 110X10 102M	3,189	8,64219	102	8,82E+2
1033896	UPONOR RADI PIPE NATURAL PN10 16X2,2 100M	0,099	0,26829	100	2,68E+1

1047610	UPONOR RADI PIPE NATURAL PN6 16X2,0 120M	0,096	0,26016	120	3,12E+1
1048047	UPONOR RADI PIPE NATURAL PN6 125X11,4 123M	4,076	11,04596	123	1,36E+3
1085847	UPONOR RADI PIPE NATURAL PN6 90X8,2 107M	2,113	5,72623	107	6,13E+2
1086412	UPONOR RADI PIPE NATURAL PN6 32X2,9 710M	0,268	0,72628	710	5,16E+2
1086413	UPONOR RADI PIPE NATURAL PN6 110X10,0 107M	3,146	8,52566	107	9,12E+2
1090305	SFG RADI PIPE PN6 40X3,7 606M UPONOR RADI PIPE PN6 40X3,7 606M	0,43	1,1653	606	7,06E+2
1094179	UPONOR RADI PIPE NATURAL PN6 S 63X5,8 7M	1,048	2,84008	7	1,99E+1
1120611	UPONOR RADI PIPE NATURAL PN6 20X2,0 103M	0,129	0,34959	103	3,60E+1

## ANNEX 2: CONVERSION TABLE FOR PRODUCT STAGE (A1-A3) GWP – EN 15804+A1, CML/ISO 21930

Product Number	Product Description	Unit Product Weight (kg/m of pipe)	GWP – total, Stages A1-A3 (kg CO2e/m of pipe)	Product Length (m)	GWP – total, Stages A1-A3 (kg CO2e)
1001220	UPONOR RADI PIPE NATURAL PN6 32X2,9 50M	0,28	0,7588	50	3,70E+1
1001221	UPONOR RADI PIPE NATURAL PN6 S 25X2,3 6M	0,25	0,6775	6	3,96E+0
1001222	UPONOR RADI PIPE NATURAL PN6 S 32X2,9 6M	0,333	0,90243	6	5,27E+0
1008449	UPONOR RADI PIPE NATURAL PN6 32X2,9 100M	0,268	0,72628	100	7,08E+1
1008864	UPONOR RADI PIPE NATURAL PN6 S 75X6,8 6M	1,435	3,88885	6	2,27E+1
1008874	UPONOR RADI PIPE NATURAL PN6 S 90X8,2 6M	2,113	5,72623	6	3,35E+1
1008879	UPONOR RADI PIPE NATURAL PN6 S 110X10,0 6M	3,095	8,38745	6	4,90E+1
1008939	UPONOR RADI PIPE NATURAL PN6 S 40X3,7 6M	0,401	1,08671	6	6,35E+0
1008940	UPONOR RADI PIPE NATURAL PN6 S 50X4,6 6M	0,665	1,80215	6	1,05E+1
1008941	UPONOR RADI PIPE NATURAL PN6 S 63X5,8 6M	1,048	2,84008	6	1,66E+1
1008975	UPONOR RADI PIPE NATURAL PN6 40X3,7 100M	0,43	1,1653	100	1,14E+2
1008979	UPONOR RADI PIPE NATURAL PN6 40X3,7 50M	0,47	1,2737	50	6,20E+1
1008980	UPONOR RADI PIPE NATURAL PN6 50X4,6 50M	0,704	1,90784	50	9,29E+1
1008981	UPONOR RADI PIPE NATURAL PN6 63X5,8 50M	1,116	3,02436	50	1,47E+2
1008982	UPONOR RADI PIPE NATURAL PN6 75X6,8 50M	1,461	3,95931	50	1,93E+2
1022518	UPONOR RADI PIPE NATURAL PN6 20X2,0 120M	0,129	0,34959	120	4,09E+1
1022689	UPONOR RADI PIPE NATURAL PN6 25X2,3 50M	0,186	0,50406	50	2,46E+1
1023083	UPONOR RADI PIPE NATURAL PN6 S 20X2,0 6M	0,13	0,3523	6	2,06E+0
1033222	UPONOR RADI PIPE NATURAL PN10 20X2,8 100M	0,154	0,41734	100	4,07E+1
1033305	UPONOR RADI PIPE NATURAL PN10 25X3,5 50M	0,237	0,64227	50	3,13E+1
1033313	UPONOR EVALPEX PIPE PN6 25X2,3 608M	0,168	0,45528	608	2,70E+2
1033395	UPONOR RADI PIPE NATURAL PN10 32X4,4 100M	0,398	1,07858	100	1,05E+2
1033398	UPONOR RADI PIPE PN6 32X2,9 608M	0,268	0,72628	608	4,30E+2

1033422	UPONOR RADI PIPE PN6 40X3,7 404M	0,43	1,1653	404	4,59E+2
1033482	UPONOR RADI PIPE NATURAL PN10 S 50X6,9 6M	0,928	2,51488	6	1,47E+1
1033486	UPONOR RADI PIPE PN6 50X4,6 404M	0,665	1,80215	404	7,09E+2
1033495	UPONOR RADI PIPE PN6 63X5,8 203M	1,048	2,84008	203	5,62E+2
1033500	UPONOR RADI PIPE NATURAL PN6 63X5,8 303M	1,069	2,89699	303	8,55E+2
1033519	UPONOR RADI PIPE PN6 75X6,8 204M	1,467	3,97557	204	7,90E+2
1033538	UPONOR RADI PIPE PN6 90X8,2 152M	2,113	5,72623	152	8,48E+2
1033886	UPONOR RADI PIPE NATURAL PN6 90X8,2 102M	2,113	5,72623	102	5,69E+2
1033887	UPONOR RADI PIPE PN6 110X10 102M	3,189	8,64219	102	8,59E+2
1033896	UPONOR RADI PIPE NATURAL PN10 16X2,2 100M	0,099	0,26829	100	2,61E+1
1047610	UPONOR RADI PIPE NATURAL PN6 16X2,0 120M	0,096	0,26016	120	3,04E+1
1048047	UPONOR RADI PIPE NATURAL PN6 125X11,4 123M	4,076	11,04596	123	1,32E+3
1085847	UPONOR RADI PIPE NATURAL PN6 90X8,2 107M	2,113	5,72623	107	5,97E+2
1086412	UPONOR RADI PIPE NATURAL PN6 32X2,9 710M	0,268	0,72628	710	5,02E+2
1086413	UPONOR RADI PIPE NATURAL PN6 110X10,0 107M	3,146	8,52566	107	8,89E+2
1090305	SFG RADI PIPE PN6 40X3,7 606M UPONOR RADI PIPE PN6 40X3,7 606M	0,43	1,1653	606	6,88E+2
1094179	UPONOR RADI PIPE NATURAL PN6 S 63X5,8 7M	1,048	2,84008	7	1,94E+1
1120611	UPONOR RADI PIPE NATURAL PN6 20X2,0 103M	0,129	0,34959	103	3,51E+1