









## LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

The results of stage A4 (transportation of product) in the table of this EPD refer to transportation in Finland (average distance 2021). This product may also be delivered to the countries in the table "Additional A4 information". In order to adapt the impact of transportation to these countries, A4 figures from this EPD shall be multiplied by the multiplication factors below. At installation stage, it is assumed that mixing is done by electric mixer. Electricity mix used is that of Finland. Material loss is considered to be 0. At end of life stage, it is assumed that all demolition waste is collected and 90% of crushed building material is recycled and 10% is disposed into landfill. Transport distance to processing is estimated to be 30 km.

Transport from production place to user (A4)	Capacity Utilization	Distance (km)	Fuel/Energy Consumption	Unit	Value (L/t)
Truck, over 32 tonnes, EURO 5 (km)	53,3 %	171	0,023	l/tkm	3,93

Additional A4 information	Unit/Range	Value			
Tullinge, Sweden (truck / ferry 560 km)	Multiplication factor GWP/A4	3,80			
Lillestrøm, Norway (truck / ferry 1050 km)	Multiplication factor GWP/A4	6,67			
Karlslunde, Denmark (truck / ferry 1215 km)	Multiplication factor GWP/A4	7,63			
Tallinn, Estonia (truck / ferry 193 km)	Multiplication factor GWP/A4	1,23			
Riga, Latvia (truck / ferry 494 km)	Multiplication factor GWP/A4	2,99			
Kaunas, Lithuania (truck / ferry 760 km)	Multiplication factor GWP/A4	4,54			

Assembly (A5)	Unit	Value			
Waste, cardboard and paper packaging, to average treatment (kg)	kg	0,00			
Waste, plastic packaging, mixture, to average treatment (kg)	kg	0,00			
Waste, wood packaging, average treatment (kg)	kg	0,02			
Water, tap water (L)	kg/DU	0,20			
Electricity, Finland (kWh)	kWh/DU	0,00			

C1 Deconstruction demolition	Unit	Value			
Demolition of building per kg product (kg)	kg/DU	1,00			

Transport to waste processing (C2)	Capacity Utilization	Distance (km)	Fuel/Energy Consumption	Unit	Value (L/t)
Truck, over 32 tonnes, EURO 5 (km)	53,3 %	30	0,023	l/tkm	0,69

<b>C3 Waste Processing</b>	<b>Unit</b>	<b>Value</b>			
Waste treatment of product after demolition (kg)	kg	0,90			







<b>C4 Disposal</b>	<b>Unit</b>	<b>Value</b>			
Disposal of product in landfill (kg)	kg	0,10			

<b>D Reuse-Recovery Recycling potential</b>	<b>Unit</b>	<b>Value</b>			
Substitution of primary aggregates with crushed recycled inert products (kg)	kg	0,90			



## Additional environmental impact indicators

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
 PM	Disease incidence	1,29E-08	1,37E-09	7,10E-11	5,07E-09	2,40E-10	8,20E-11	1,55E-10	-3,95E-10
 IRP <sup>2</sup>	kgBq U235-eq.	1,15E+00	1,06E-03	4,29E-04	2,40E-04	1,85E-04	3,33E-04	1,03E-04	-3,20E-04
 ETP-fw <sup>1</sup>	CTUe	4,19E+00	1,77E-01	2,09E-02	3,01E-02	3,10E-02	1,41E-02	1,23E-02	-3,59E-02
 HTP-c <sup>1</sup>	CTUh	1,95E-10	0,00E+00	1,00E-12	1,00E-12	0,00E+00	0,00E+00	0,00E+00	-2,00E-12
 HTP-nc <sup>1</sup>	CTUh	3,87E-09	1,71E-10	5,00E-11	2,80E-11	3,00E-11	1,20E-11	8,00E-12	-4,50E-11
 SQP <sup>1</sup>	Pt	2,46E+00	2,77E-01	1,44E-02	6,69E-03	4,86E-02	1,12E-02	8,69E-02	7,91E-02

PM Particulate Matter emissions; IRP Ionizing radiation – human health; ETP-fw Eco toxicity – freshwater; HTP-c Human toxicity – cancer effects; HTP-nc Human toxicity – non cancer effects; SQP Soil Quality (dimensionless)

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.



## Resource use

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
 PERE	MJ	2,00E-01	3,04E-03	5,28E-03	3,00E-04	5,34E-04	1,02E-02	8,08E-04	-8,16E-03
 PERM	MJ	3,28E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 PERT	MJ	5,29E-01	3,04E-03	5,28E-03	3,00E-04	5,34E-04	1,02E-02	8,08E-04	-8,16E-03
 PENRE	MJ	2,69E+00	2,42E-01	2,50E-02	5,51E-02	4,24E-02	1,99E-02	2,26E-02	-3,68E-02
 PENRM	MJ	6,99E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 PENRT	MJ	3,39E+00	2,42E-01	2,50E-02	5,51E-02	4,24E-02	1,99E-02	2,26E-02	-3,68E-02
 SM	kg	3,07E-03	0,00E+00	6,62E-06	2,70E-05	0,00E+00	1,71E-05	9,79E-06	-7,05E-05
 RSF	MJ	1,30E-02	1,06E-04	7,52E-05	7,33E-06	1,87E-05	2,07E-04	1,68E-05	-1,67E-04
 NRSF	MJ	1,53E-02	3,57E-04	2,44E-04	-1,10E-04	6,26E-05	-1,28E-05	3,62E-05	-1,71E-04
 FW	m <sup>3</sup>	2,32E-03	2,75E-05	2,22E-04	2,83E-06	4,83E-06	3,40E-05	2,78E-05	-1,28E-03

PERE Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM Use of renewable primary energy resources used as raw materials; PERT Total use of renewable primary energy resources; PENRE Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM Use of non renewable primary energy resources used as raw materials; PENRT Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; FW Use of net fresh water

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed





## Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.  
 ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.  
 EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.  
 ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.  
 ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.  
 Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no Report number: 07.21  
 Iversen et al., (2019) EPD generator for Saint-Gobain Weber and Scanspac - Background information and LCA data, LCA.no report number 05.18  
 Iversen et al., (2020) EPD generator for Saint-Gobain Weber Nordics and Scanspac Background information for customer application,

 The Norwegian EPD Foundation	<b>Program operator and publisher</b> The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: +47 23 08 80 00 e-mail: post@epd-norge.no web: www.epd-norge.no
	<b>Owner of the declaration:</b> Saint-Gobain Finland Oy P.O. Box 70,FI-00381 Helsinki	Phone: +358400289933 e-mail: anne.kaiser@saint-gobain.com web: www.saint-gobain.fi
	<b>Author of the Life Cycle Assessment</b> LCA.no AS Dokka 6B,1671 Kråkerøy	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
	<b>Developer of EPD generator</b> LCA.no AS Dokka 1C,1671 Kråkerøy	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no

# EPD for the best environmental decision

---



**Global  
Program  
Operator**

The Norwegian EPD Foundation

[www.epd-norge.no](http://www.epd-norge.no)

 **epd-norge**