

# Environmental Product Declaration



In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

## iQ Range homogeneous with Bio-attributed vinyl flooring from TARKETT



Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
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*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*



## General information

### Programme information

<b>Programme:</b>	The International EPD® System
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CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 version 1.1 and Sub-PCR-F Resilient textile and laminate floor coverings (EN 16810)
PCR review was conducted by: <i>&lt;name and organisation of the review chair, and information on how to contact the chair through the programme operator&gt;</i>
Independent third-party verification of the declaration and data, according to ISO 14025:2006:  <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: M. Damien Prunel from LCIE Bureau Veritas.
Procedure for follow-up of data during EPD validity involves third party verifier:  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

Owner of the EPD: Tarkett

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Description of the organisation:

With an international coverage and a wide range of products, Tarkett has over 130 years of experience in providing integrated solutions for floorings to professionals and end users.

Many of the most important architectural firms in the world and building professionals have chosen Tarkett for the value of its products and for its consultation and service abilities. Therefore, Tarkett floorings and sport surfaces are present in several prestigious architectural reference points. Tarkett offers integrated solutions for floorings, able to meet the particular needs of customers. Our wide range of designs, colors and models provides an infinite series of possibilities, contributing to create a positive environment and a better quality of life for people.

Tarkett operates with the utmost respect for the environment towards the realization of eco-friendly products.

Tarkett's commitment to the environment is woven throughout its business. Cradle-to-Cradle principles are, in fact, the basis of the design and production of every solution. Particularly, the lifecycle analysis is used to continuously improve the production process, and so the products until their use stage, disposal and recycling. The commitment to the environment is also proven by the accession to the Circular Economy 100 program, where Tarkett group, with a network of companies, is working to develop a circular economy model based on the reuse of materials and preservation of natural resources. The development of products that can be reused within internal production cycles, or external ones in case of other individuals, has been an integral part of the business strategy aimed at sustainability for many years. The WCM (World Class Manufacturing) management system has been developed in 2009, and it includes the environmental pillar aimed to the elimination of losses and to the growth of process efficiency.

Product-related or management system-related certifications: ISO 9001, ISO 14001, ISO 50001, WCM manufacturing site.

Name and location of production site(s): Ronneby, Sweden

## Product information

Product name: iQ Eminent (Bio-attributed vinyl), iQ Granit (Bio-attributed vinyl), iQ Optima (Bio-attributed vinyl).

Product identification: Homogeneous Bio-attributed poly (vinyl chloride) floor covering (ISO 10581)

Product description: iQ Range products are homogeneous vinyl floorings. The polyvinyl chloride in iQ Granit, iQ Eminent and iQ Optima is bio-attributed. In the context of the RSB certification, the term attribution can be described as the action of a virtual transfer of a sustainability credential (i.e. replacing fossil with bio-based feedstock) of the feedstock to a specific batch of vinyl. They are tough and ultra-durable solutions for heavy and very heavy traffic areas, especially recommended for applications in healthcare and education for their resistance and ease of cleaning. Composed of a single compact layer of vinyl, homogeneous vinyl floors are glued to the subfloor and welded for optimal durability and hygiene. The service lifetime recommended by Tarkett is 30 years.

Geography: European technology and process coverage.

UN CPC code: APE/NAF - 2223Z

## LCA information

Functional unit / declared unit: 1m<sup>2</sup> of floor covering with a reference service life (RSL) of 1 year for specified characteristics application and use areas according to ISO 10581 and EN ISO 10874.

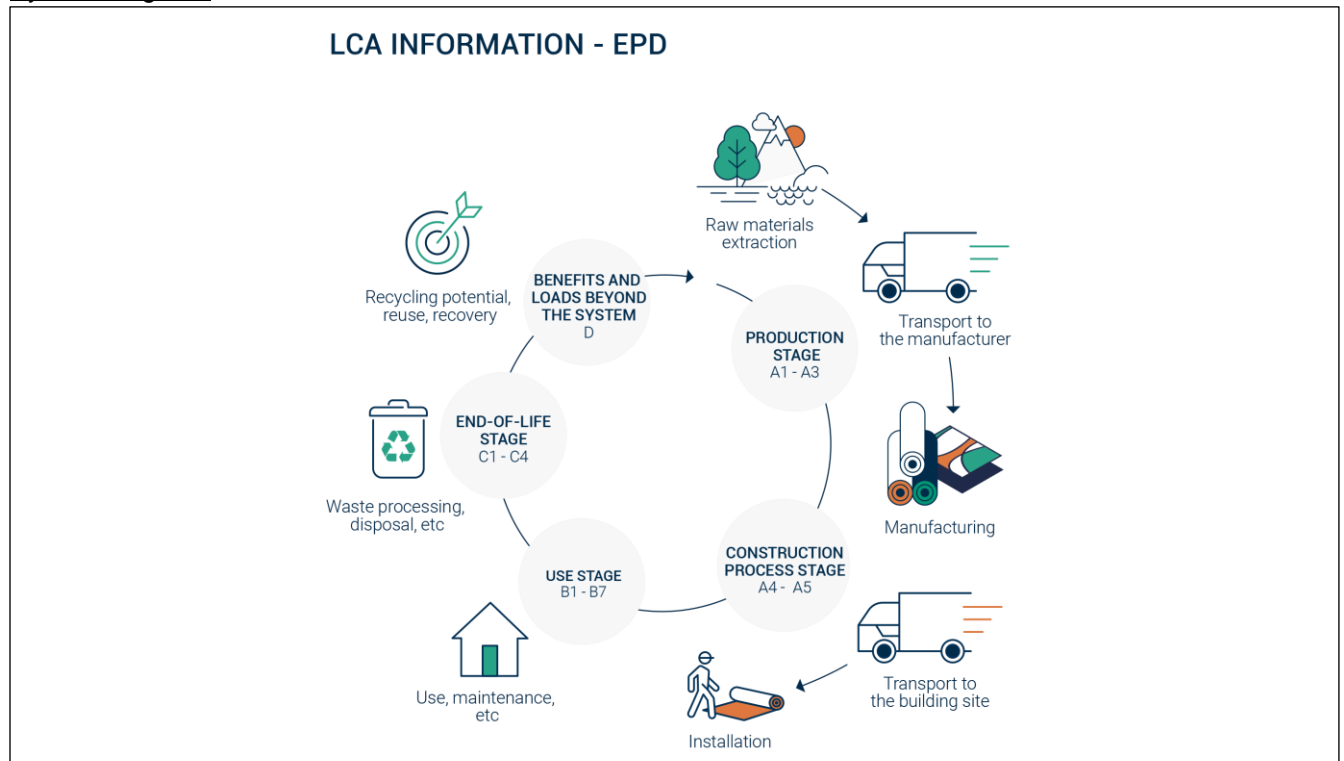
Reference service life: 30 years

Time representativeness: 2020

Database(s) and LCA software used: Ecoinvent3.6, Simapro 9.1

Description of system boundaries: Cradle to grave and module D (A + B + C + D)

System diagram:



More information: The product is classified in accordance with EN ISO 10874, EN 685 and in reference to the FCSS (Floor Covering Standard Symbols) to be installed in various areas of application, such as: healthcare, education, commercial, education. The area of use according to the ISO 10874 is very heavy (34) for commercial classification and heavy (43) for industrial classification.

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product stage		Construction process stage			Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X		X						X	X	X	X	X
Geography	European technology and process coverage																European
Specific data used	-	100%	100%	100%	100%	-	-	-	-	-	-	-	-	-	100% For recycling process		100% For recycling process
Variation – products	-5% to 5%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	-	-	-	European average for Tarkett		-	-	-	-	-	-	-	-	-	-	-	-

## Content information

According to PCR 2019:14 v1.1, several similar products can be included in the same EPD if "differences between the mandatory impact indicators lower than  $\pm 10\%$  (concerning A1-A3) could be presented using the impacts of a representative product". The next table presents how products are grouped :

Product	Weight, kg/m <sup>2</sup>	Representative product group
iQ Eminent	2.80E+00	iQ Range – Bio-attributed
iQ Granit	2.80E+00	
iQ Optima	2.70E00	

The components for iQ Range compact group are detailed here:

iQ Range – Compact products			
Product components	Weight, kg/m <sup>2</sup>	Post-consumer material, weight-%	Renewable material, weight-%
Bio-attributed PVC Suspension	1.28E+00	0%	43%
Plasticizer	4.04E-01	0%	0%
Epoxidised soya bean oil	1.27E-01	0%	83%
Mineral fillers	8.52E-01	0%	0%
Stabilizer CaZn	1.17E-03	0%	0%
Titanium dioxide	2.50E-02	0%	0%
Pigments	3.00E-03	0%	0%
Surface Treatment	1.90E-02	0%	0%
Post-installation and Post-consumer recycled flooring	1.20E-02	100%	0%
Additives	7.00E-03	0%	0%
TOTAL	2.76E+00	0,4%	23,8%
Packaging materials	Weight, kg/m <sup>2</sup>	Weight-% (versus the product)	
Product Packaging Cardboard	4.02E-02	1,5%	
Product Packaging PEHD	1.52E-02	0,6%	
Product Packaging PELD	5.22E-03	0,2%	
TOTAL	6.06E-02	2,2%	

## Product manufacturing

### Production process

The production of the homogeneous resilient flooring is divided into the following stages:

- Extrusion: Raw materials is blended and extruded to obtain a malleable material.
- Calendering: Rolls are then calendered to get the desired shape.
- Pressing: Rolls are cut at the desired characteristics.
- Packaging: The final product is placed into cardboard cases with discs and plastic hangers positioned at the ends. The cardboard cases are then wrapped in plastic film.

### Production waste

Waste type	Amount	Unit
Internal recycling - Post manufacturing - Own production	7.81E-01	kg/m <sup>2</sup>
Non-hazardous waste to external incineration	4.07E-02	kg/m <sup>2</sup>
Non-hazardous waste to external recycling	3.95E-03	kg/m <sup>2</sup>
Non-hazardous waste to external treatment	4.78E-03	kg/m <sup>2</sup>
Hazardous waste to external recycling	5.70E-03	kg/m <sup>2</sup>
Hazardous waste to incineration	3.72E-03	kg/m <sup>2</sup>
Hazardous waste to external treatment	3.80E-03	kg/m <sup>2</sup>
Non-hazardous waste-water to external treatment	9.22E-04	kg/m <sup>2</sup>
Hazardous waste-water to external incineration	1.47E-04	kg/m <sup>2</sup>

NB: Post manufacturing recycling concerns the recycling of the losses inside the plant production. Therefore, there is no end-of-life impact on losses (except the recycling preparation). Post-manufacturing recycled content is 25%.

### Health, safety and environmental aspects during production

Bioattributed iQ's production site complies with the ISO 14001 Environmental Management System and the ISO 9001 Quality Management System.

## Delivery and installation

### Delivery

The average distribution distance between the factory and the installation site is 766 km. It has been calculated considering the average distance between European countries where Tarkett is selling the iQ Range (Bio-attributed vinyl) products and the factory plant in Ronneby (Sweden). The distribution is made by truck.

### Installation

The product is glued on the subfloor, then the different parts of the flooring are welded together.

Description	Amount	Unit
Electricity consumption	3.35E-02	kWh/m <sup>2</sup>
Acrylic adhesive consumption	2.50E-01	kg/m <sup>2</sup>

### Waste

During the installation approximately 10% of the flooring is lost as off-cuts. All flooring losses are sent to recycling.

### Packaging

50 % of the packaging materials goes to incineration and 50 % goes to landfill.



## Use Stage

### Reference Service Life (RSL)

For this product, the stated RSL is 1 year. It should be noted, however, that the service life of a Homogeneous polyvinylchloride floor covering may vary depending on the amount and nature of floor traffic and the type and frequency of maintenance. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply. This RSL is applicable as long as the product use complies with that defined by ISO 14041 and ISO10874 in accordance with the product's classification. **The service lifetime recommended by Tarkett is 30 years.**

### Cleaning and maintenance

Cleaning regime is based on traditional cleaning protocol integrating manual and mechanical operations. Depending on premises considered, these consumptions may vary. The considered regime fits high traffic areas. The maintenance scenario is :

- **Common maintenance : 4 times a week**
- **Periodic maintenance : twice a year**

Description	Amount	Unit
Electricity consumption	1.13E-01	kWh/year/m <sup>2</sup>
Water consumption	5.14E+00	L/year/m <sup>2</sup>
Detergent consumption	7.00E-02	L/year/m <sup>2</sup>

### Prevention of structural damage

To avoid excessive wear, usage should be restricted to the stated areas of application as outlined by the norm ISO 10874.

## End of Life

3 distinct End-of-Life scenarios have been modeled for iQ Range (Bio-attributed vinyl). Tarkett recommend using the ReStart program at End-of-Use to recycle the product. However, to showcase the value of Tarkett's recycling activities, environmental impacts of two alternative scenarios have been calculated.

### 1/ Recycling.

100% of the iQ Range (Bio-attributed vinyl) can be recycled at its end of use stage, thanks to the ReStart® program, enabling Tarkett to collect installation losses and post-use flooring from construction sites to recycle it and/or re-use it as high quality raw material back in Tarkett plants. Tarkett has developed a new technology that cleans, shreds and recycles previously unusable post-consumer vinyl. Thus, iQ Range (Bio-attributed vinyl) is recycled back at the Ronneby plant, and the transport between construction site and recycling facility is 766 km by truck. Environmental impacts of recycling are presented in module **C/1**.

### 2/ Incineration with energy recovery

Incineration with energy recovery is a rising waste management method in many of the countries in which iQ Range (Bio-attributed vinyl) is sold. While Tarkett wishes to recycle 100% of sold iQ Range (Bio-attributed vinyl). Incineration with energy recovery is an alternative option if recycling is impossible. Environmental impacts of incineration with energy recovery are presented in module **C/2**.

### 3/ Landfilling

Landfilling waste is still a prominent waste management scenario. This option is however not recommended by Tarkett. Environmental impacts of landfilling are presented in module **C/3**.

## Benefits and loads beyond system boundary

### 1/ Recycling.

The benefit is due to the recycling post-use flooring that allows avoiding the emissions of virgin materials. iQ Range (Bio-attributed vinyl) can be 100% recycled at post-installation and post-consumer stage. Benefits from avoided raw material production and avoided transport are calculated in module **D/1**.

### 2/ Incineration with energy recovery

Benefits from installation offcuts recycling and incineration energy recovery are calculated in **D/2**.

### 3/ Landfilling

Benefits accounted in this scenario exclusively come from installation offcuts recycling and are presented in **D/3**

# Results for product group

**IQ Range (Bio-attributed vinyl)**

## Environmental Information

### Potential environmental impact in case of recycling at End-of-use

#### Results per functional or declared unit in case of incineration - iQ Range (Bioattributed vinyl)

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1/1	C2/1	C3/1	C4/1	D/1
GWP-total	kg CO <sub>2</sub> eq.	3.32E+00	2.54E-01	1.30E+00	0.00E+00	2.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.18E-01	5.95E-01	2.14E+00	-5.51E+00
GWP-fossil	kg CO <sub>2</sub> eq.	4.57E+00	2.54E-01	1.18E+00	0.00E+00	1.27E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-01	5.94E-01	0.00E+00	-4.64E+00
GWP- biogenic	kg CO <sub>2</sub> eq.	-2.14E+00	1.04E-04	3.49E-02	0.00E+00	4.53E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-04	4.88E-05	2.14E+00	3.60E-03
GWP- Luluc	kg CO <sub>2</sub> eq.	8.95E-01	8.89E-05	9.00E-02	0.00E+00	1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	3.28E-06	0.00E+00	-8.74E-01
ODP	kg CFC 11 eq.	2.62E-06	5.77E-08	3.43E-07	0.00E+00	1.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-07	1.41E-09	0.00E+00	-2.38E-06
AP	mol H <sup>+</sup> eq.	2.41E-02	1.03E-03	1.13E-02	0.00E+00	1.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-03	1.37E-04	0.00E+00	-2.37E-02
EP-freshwater	kg P eq	2.76E-03	1.86E-05	5.69E-04	0.00E+00	8.39E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.52E-05	1.69E-06	0.00E+00	-2.76E-03
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq	8.47E-03	5.72E-05	1.75E-03	0.00E+00	2.58E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-04	5.20E-06	0.00E+00	-8.48E-03
EP-marine	kg N eq.	9.90E-03	3.08E-04	1.82E-03	0.00E+00	1.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-04	7.71E-05	0.00E+00	-9.35E-03
EP-terrestrial	mol N eq.	5.99E-02	3.37E-03	1.37E-02	0.00E+00	4.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.27E-03	6.58E-04	0.00E+00	-5.68E-02
POCP	kg NMVOC eq.	1.22E-02	1.03E-03	4.04E-03	0.00E+00	5.96E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-03	1.59E-04	0.00E+00	-1.16E-02
ADP- minerals&metals*	kg Sb eq.	4.05E-04	6.88E-06	5.63E-05	0.00E+00	5.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-05	1.99E-07	0.00E+00	-4.00E-04
ADP-fossil*	MJ	1.29E+02	3.83E+00	2.49E+01	0.00E+00	1.88E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E+00	1.08E-01	0.00E+00	-6.94E+01
WDP	m <sup>3</sup>	7.34E+00	1.07E-02	1.37E+00	0.00E+00	2.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-02	2.82E-02	0.00E+00	-6.23E+00

#### Acronyms

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

## Environmental Information

### Potential environmental impact in case of recycling at End-of-use

#### Results per functional or declared unit in case of incineration - iQ Range Compact

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1/1	C2/1	C3/1	C4/1	D/1
PERE	MJ	1.89E+01	5.41E-02	2.86E+00	0.00E+00	8.69E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-01	4.12E-03	0.00E+00	-1.63E+01
PERM	MJ	3.32E+01	0.00E+00	3.32E+00	0.00E+00	7.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.32E+01
PERT	MJ	5.22E+01	5.41E-02	6.19E+00	0.00E+00	1.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-01	4.12E-03	0.00E+00	-4.96E+01
PENRE	MJ	1.47E+02	3.83E+00	2.66E+01	0.00E+00	2.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E+00	1.08E-01	0.00E+00	-8.66E+01
PENRM	MJ	4.77E-01	0.00E+00	7.93E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.77E-01
PENRT	MJ	1.47E+02	3.83E+00	2.66E+01	0.00E+00	2.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.30E+00	1.08E-01	0.00E+00	-8.71E+01
SM	kg	1.03E+00	0.00E+00	1.03E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.51E-01
RSF	MJ	6.52E+00	0.00E+00	6.52E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.52E+00
NRSF	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	2.04E-01	3.96E-04	3.72E-02	0.00E+00	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.61E-04	8.79E-04	0.00E+00	-1.67E-01

#### Acronyms

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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

## Waste production and output flows in case of recycling at End-of-use

### Waste production

Results per functional or declared unit in case of incineration - iQ Range Compact																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1/1	C2/1	C3/1	C4/1	D/1
Hazardous waste disposed	kg	1.75E-01	2.47E-03	1.10E-01	0.00E+00	1.31E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-03	1.42E-02	0.00E+00	-1.40E-01
Non-hazardous waste disposed	kg	1.21E+00	2.02E-01	6.23E-01	0.00E+00	5.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.89E-01	3.56E-03	0.00E+00	-1.13E+00
Radioactive waste disposed	kg	9.97E-04	2.61E-05	1.43E-04	0.00E+00	1.01E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.34E-05	2.82E-07	0.00E+00	-5.11E-05

### Output flows

Results per functional or declared unit in case of incineration - iQ Range Compact																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1/1	C2/1	C3/1	C4/1	D/1
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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	2.73E-02	0.00E+00	2.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E+00	-2.34E-02
Materials for energy recovery	kg	7.06E-04	0.00E+00	7.06E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-01	0.00E+00	-7.06E-04
Exported energy, electricity	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.45E-01	0.00E+00	0.00E+00
Exported energy, thermal	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E+00	0.00E+00	0.00E+00

### Additional indicator

Results per functional or declared unit in case of incineration - iQ Range Compact																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1/1	C2/1	C3/1	C4/1	D/1
GWP-GHG	kg CO <sub>2</sub> eq.	5.46E+00	2.54E-01	1.27E+00	0.00E+00	2.27E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-01	5.94E-01	0.00E+00	-5.52E+00

## Additional information – Potential impacts and flows in case of incineration

Results per functional or declared unit in case of incineration - iQ Range Compact						
Indicator	Unit	C1/2	C2/2	C3/2	C4/2	D/2
GWP-total	kg CO <sub>2</sub> eq.	0.00E+00	1.50E-02	6.41E+00	3.48E-03	-3.09E+00
GWP-fossil	kg CO <sub>2</sub> eq.	0.00E+00	1.50E-02	4.26E+00	3.48E-03	-2.99E+00
GWP- biogenic	kg CO <sub>2</sub> eq.	0.00E+00	6.12E-06	2.15E+00	2.33E-06	5.87E-03
GWP- Luluc	kg CO <sub>2</sub> eq.	0.00E+00	5.24E-06	5.85E-04	9.69E-07	-9.13E-02
ODP	kg CFC 11 eq.	0.00E+00	3.41E-09	1.94E-07	1.43E-09	-5.61E-07
AP	mol H <sup>+</sup> eq.	0.00E+00	6.13E-05	4.57E-03	3.30E-05	-1.23E-02
EP-freshwater	kg P eq.	0.00E+00	1.10E-06	2.69E-04	3.57E-07	-1.14E-03
EP-marine	kg N eq.	0.00E+00	3.37E-06	8.25E-04	1.10E-06	-3.49E-03
EP-terrestrial	mol N eq.	0.00E+00	1.84E-05	1.35E-03	1.14E-05	-2.48E-03
POCP	kg NMVOC eq.	0.00E+00	2.01E-04	1.25E-02	1.25E-04	-2.13E-02
ADP-minerals&metals*	kg Sb eq.	0.00E+00	6.16E-05	3.42E-03	3.63E-05	-5.71E-03
ADP-fossil*	MJ	0.00E+00	4.06E-07	3.11E-05	3.18E-08	-4.32E-05
WDP	m <sup>3</sup>	0.00E+00	2.26E-01	9.20E+00	9.72E-02	-4.90E+01
Results per functional or declared unit in case of incineration - iQ Range Compact						
Indicator	Unit	C1/2	C2/2	C3/2	C4/2	D/2
PERE	MJ	0.00E+00	3.19E-03	8.25E-01	7.86E-04	-5.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.32E+00
PERT	MJ	0.00E+00	3.19E-03	8.25E-01	7.86E-04	-8.33E+00
PENRE	MJ	0.00E+00	2.26E-01	9.19E+00	9.72E-02	-5.05E+01
PENRM	MJ.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.77E-02
PENRT	MJ	0.00E+00	2.26E-01	9.18E+00	9.72E-02	-5.05E+01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-01
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.52E-01
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	0.00E+00	2.34E-05	2.56E-01	1.03E-04	-3.26E-02
Results per functional or declared unit in case of incineration - iQ Range Compact						
Indicator	Unit	C1/2	C2/2	C3/2	C4/2	D/2
Hazardous waste disposed	kg	0.00E+00	1.46E-04	1.59E+00	5.73E-05	-4.02E-02
Non-hazardous waste disposed	kg	0.00E+00	1.19E-02	3.13E-01	6.60E-01	-5.82E-01
Radioactive waste disposed	kg	0.00E+00	1.54E-06	4.41E-05	6.38E-07	-1.92E-04
Results per functional or declared unit in case of incineration - iQ Range Compact						
Indicator	Unit	C1/2	C2/2	C3/2	C4/2	D/2
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.34E-03
Materials for energy recovery	kg	0.00E+00	0.00E+00	3.00E+00	0.00E+00	-7.06E-05
Exported energy, electricity	MJ	0.00E+00	0.00E+00	7.51E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	2.21E+01	0.00E+00	0.00E+00

## Additional information – Potential impacts and flows in case of landfilling

Results per functional or declared unit in case of landfilling - iQ Range Compact						
Indicator	Unit	C1/3	C2/3	C3/3	C4/3	D/3
GWP-total	kg CO <sub>2</sub> eq.	0.00E+00	1.50E-02	0.00E+00	2.39E+00	-5.23E-01
GWP-fossil	kg CO <sub>2</sub> eq.	0.00E+00	1.50E-02	0.00E+00	2.46E-01	-4.34E-01
GWP- biogenic	kg CO <sub>2</sub> eq.	0.00E+00	6.12E-06	0.00E+00	2.14E+00	2.56E-05
GWP- Luluc	kg CO <sub>2</sub> eq.	0.00E+00	5.24E-06	0.00E+00	6.20E-06	-8.94E-02
ODP	kg CFC 11 eq.	0.00E+00	3.41E-09	0.00E+00	9.33E-09	-2.39E-07
AP	mol H <sup>+</sup> eq.	0.00E+00	6.13E-05	0.00E+00	2.26E-04	-2.28E-03
EP-freshwater	kg P eq.	0.00E+00	1.10E-06	0.00E+00	2.75E-06	-2.67E-04
EP-marine	kg N eq.	0.00E+00	3.37E-06	0.00E+00	8.46E-06	-8.21E-04
EP-terrestrial	mol N eq.	0.00E+00	1.84E-05	0.00E+00	1.18E-03	-9.38E-04
POCP	kg NMVOC eq.	0.00E+00	2.01E-04	0.00E+00	9.03E-04	-5.61E-03
ADP-minerals&metals*	kg Sb eq.	0.00E+00	6.16E-05	0.00E+00	3.10E-04	-1.12E-03
ADP-fossil*	MJ	0.00E+00	4.06E-07	0.00E+00	2.23E-07	-4.01E-05
WDP	m <sup>3</sup>	0.00E+00	2.26E-01	0.00E+00	6.80E-01	-7.45E+00
Results per functional or declared unit in case of landfilling - iQ Range Compact						
Indicator	Unit	C1/3	C2/3	C3/3	C4/3	D/3
PERE	MJ	0.00E+00	3.19E-03	0.00E+00	2.61E-02	-1.84E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.32E+00
PERT	MJ	0.00E+00	3.19E-03	0.00E+00	2.61E-02	-5.16E+00
PENRE	MJ	0.00E+00	2.26E-01	0.00E+00	6.80E-01	-9.18E+00
PENRM	MJ.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.77E-02
PENRT	MJ	0.00E+00	2.26E-01	0.00E+00	6.80E-01	-9.23E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-01
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.52E-01
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	0.00E+00	2.34E-05	0.00E+00	8.38E-04	-1.86E-02
Results per functional or declared unit in case of landfilling - iQ Range Compact						
Indicator	Unit	C1/3	C2/3	C3/3	C4/3	D/3
Hazardous waste disposed	kg	0.00E+00	1.46E-04	0.00E+00	6.75E-04	-1.41E-02
Non-hazardous waste disposed	kg	0.00E+00	1.19E-02	0.00E+00	3.01E+00	-1.10E-01
Radioactive waste disposed	kg	0.00E+00	1.54E-06	0.00E+00	4.44E-06	-1.62E-05
Results per functional or declared unit in case of landfilling - iQ Range Compact						
Indicator	Unit	C1/3	C2/3	C3/3	C4/3	D/3
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.34E-03
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.06E-05
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



## RONNEBY ELECTRICITY MIX.

The electricity mix for Ronneby in 2020 was 100% nuclear. Datasets on Swedish electricity mix production were therefore adapted to better fit the electricity consumption. The Carbon footprint for 1Kwh of electricity purchased is shown as follows;

Indicator	Unit	
GWP-Total	kg CO <sub>2</sub> eq	0,0157

## Information on biogenic carbon content for all groups

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0,584
Biogenic carbon content in packaging	kg C	<0,012

*Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.*

## References

General Programme Instructions of the International EPD® System. Version 3.01.

PCR 2019:14. Name. Version

*Other references to be added, e.g. c-PCR used*

