ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Multideck LEC
Kingspan Insulated Panels Ltd.

EPD HUB, HUB-6342
Published on 16.05.2026, last updated on 16.05.2026, valid until 16.05.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kingspan Insulated Panels Ltd.
Address	Greenfield Business Park, 2 Bagillt Rd, Holywell CH8 7GJ, United Kingdom
Contact details	SustainabilityTeam@kingspan.com
Website	https://www.kingspan.com/gb/en/search-results/?search=multideck

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Hailey Morris, Kingspan Insulated Panels
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	Multideck LEC
Additional labels	Multideck 50 LEC, 60 LEC, 80 LEC, 146 LEC
Product reference	-
Place(s) of raw material origin	EU
Place of production	Sherburn, UK
Place(s) of installation and use	UK, EU
Period for data	01.01.2024 - 31.12.2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	99.9

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton
Declared unit mass	1000 kg
Mass of packaging	3.756 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	818
GWP-total, A1-A3 ($kgCO_2e$)	815
Secondary material, inputs (%)	95.4
Secondary material, outputs (%)	95.7
Total energy use, A1-A3 (kWh)	8430
Net freshwater use, A1-A3 (m^3)	4.32

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Kingspan Insulated Panels is the world's largest and leading manufacturer of high-performance insulated panel systems. Offering a range of insulation cores from A-class mineral fibre to Kingspan's flagship QuadCore technology, we have a solution that suits all regulatory regimes while delivering a faster speed of construction with less labour when compared with traditional built-up systems. Kingspan's proprietary QuadCore technology provides building owners with excellent build quality and air tightness, underpinned by a guaranteed lifetime thermal performance.

We have a long-term commitment to delivering a sustainable agenda as part of Kingspan's sustainability programme Planet Passionate. Through Planet Passionate, we aim to impact climate change, circularity and protection of our natural world. We believe that through true collaboration we can help make a difference.

PRODUCT DESCRIPTION

We are now on the path to reducing our embodied carbon for our Structural Steel offerings with our LEC range, Lower Embodied Carbon variations of our standard products.
High performance, profiled, galvanised steel floor decking for use in the construction of composite floor slabs. The profile may also be used as a permanent shuttering.

Multideck 50: High performance, 50mm 'dovetail rib profile', re-entrant composite flooring solution offering the maximum robustness available from a composite slab.

Multideck 60: 60mm trapezoidal profile offering unpropped spans up to 4.7m.

Multideck 80: High performance, trapezoidal composite flooring system. .

Multideck 146 : Longspan composite flooring solution of choice from Kingspan Structural Products.

Further information can be found at:
https://www.kingspan.com/gb/en/search-results/?search=multideck

No averaging of data has been used in the creation of this EPD.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	EU
Minerals	-	-
Fossil materials	-	-
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	1.47

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton
Mass per declared unit	1000 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	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Not declared = ND.

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. A market-based approach is used in modelling the electricity mix utilized in the factory.
The manufacturing of structural steel products starts with the de-coiling of the galvanised steel coils. The steel is cold-rolled into the desired profiled pattern and cut to the desired length. The steel waste produced at the plant is directed to recycling. The loss of material is considered. The structural steel products are then stacked and secured with steel and/or plastic banding and distributed on wooden beams which are returned to site after use. All transportation distances of raw materials from supplier to manufacturing site have been included and assumptions made based on location of suppliers and most common method of transport.
A transport assumption of 50km for our manufacturing waste, taken from manufacturing scrap reports on site, to a waste contractor has been included in A3. The steel scrap from our manufacturing sites is sent to recycling.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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 assumed to be an average of 322km. The structural products are made to order, specific to the building requirements. Installation guides are available to assist the contractor with correct installation of product and any ancillaries. The installation scenario assumes steel fixing (100 fixing per ton) and a conservative estimate of electricity for a power tool (10kWh) and diesel (20kWh) for a crane. Installation losses are estimated at 0%, as these products are made to order and require no on-site alterations. The EoL of the packaging has been included within the LCA model. The packaging materials used for this product are recommended to be reused (wooden pallets) and any non-recyclable packaging is assumed to go to landfill or incineration with energy recovery. An assumption of 50km has been used for transportation from the building site to the waste contractor.

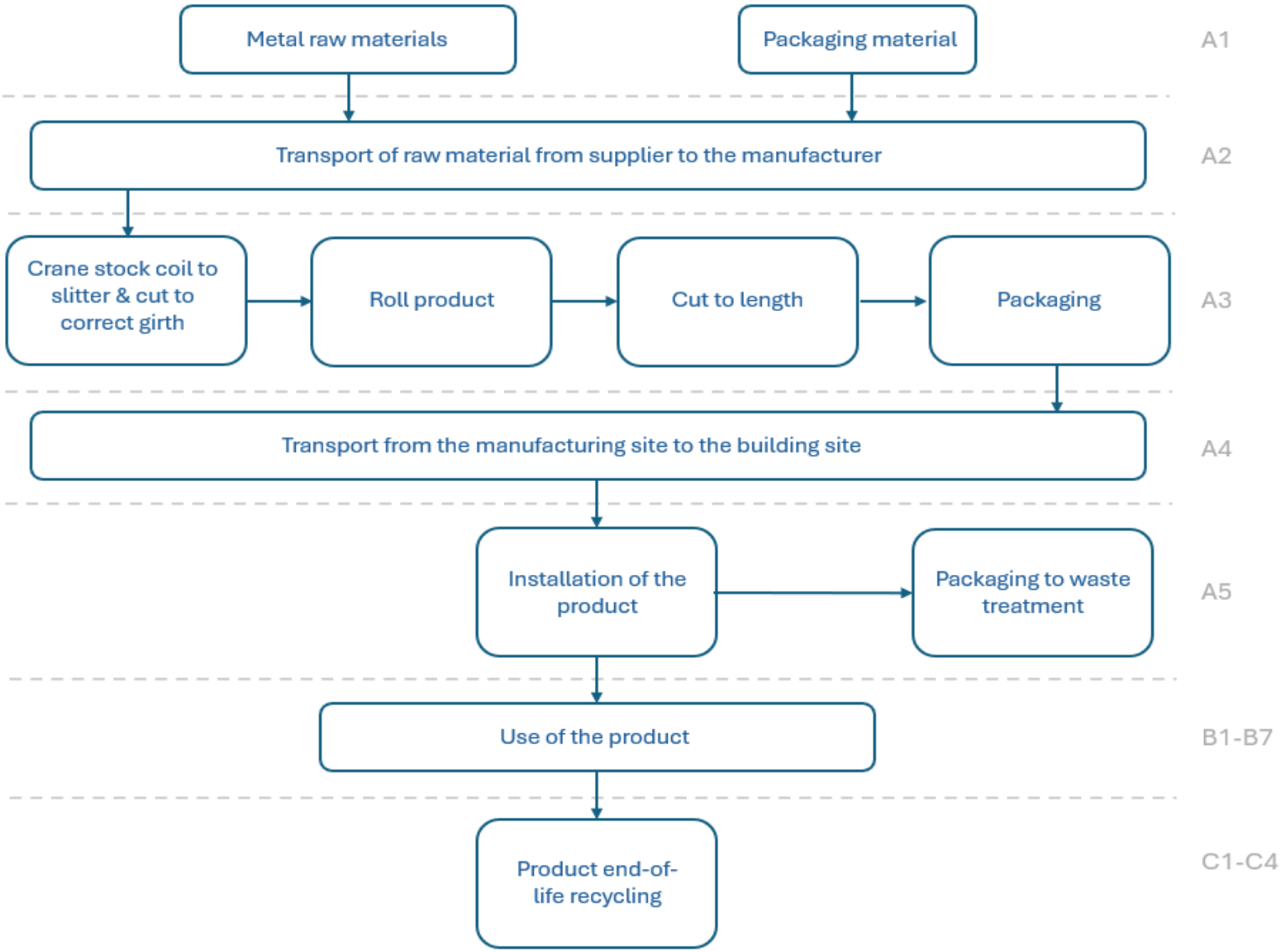
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

For removal of the structural products, a conservative estimate for a power tool (10kWh) and diesel (20kWh) for a crane has been made. At the end of the product service life, it is recommended that the structural steel is sent to a metal recycling centre. 95% of the steel is assumed to be recycled, with the remaining 5% landfilled, in line with the World Steel Association (2020). It is not recommended that the structural steel products are sent to landfill. Scenarios used are representative for the UK at this time as the most likely scenario.
In module D, the net benefit of recycling steel and waste treatment of packaging materials is included as avoided material production (from recycling) and electricity and heat production (from incineration).

MANUFACTURING PROCESS



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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

This LCA study includes the provision of all materials, transportation, energy and emission flows, and end of life processing of product. The use phase is not covered, assuming there are no use emissions or replacements. All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation, and end-of-life management are included.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. Differences observed between EN 15804+A2 and EN 15804+A1 results are mainly driven by the use of steel datasets, whereby a supplier specific dataset has been applied under A2, and where this does not fully correspond with A1 methodological requirements the most representative generic dataset has been selected, leading to variations in reported impacts.The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

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 material	Allocated by mass or volume
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

All estimations and assumptions regarding the cut of criteria and the allocation are declared in the model except the estimations/assumptions below:
- Module A2, C2: Vehicle capacity utilization volume factor is assumed to be 1 which means full load. It may vary but as the role of transportation emission in total results is small, the variety in load is assumed to be negligible. Empty returns are considered in the ecoinvent datasets.
- Module A4: Transportation does not cause losses as products are packaged properly. Also volume capacity utilisation factor is assumed to be 1 for the nested packaged products. Empty returns are considered in the ecoinvent datasets.

- Module A5: Installation energy and fasteners are included to account for product installation at sites. Packaging materials are recycled/incinerated for energy recovery.
- Module C1: Consumed energy and other sources for demolition process of the product are included.
- Module C2: Transportation distance to the closest disposal area is estimated at 50km and the transportation method is assumed as lorry which is the most common.
- Modules C3, C4: The EOL product is assumed to be dismantled, with 99% of steel going to recycling and the remaining material is send to landfill.
- Module D: The materials recycled displace the need for virgin material production, while the packaging materials incinerated for energy recovery displace electricity and heat production.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

There is no average result considered in this study since this EPD refers to one specific product produced in one production plant.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.4. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

https://worldsteel.org/wp-content/uploads/Life-cycle-inventory-LCI-study-2020-data-release.pdf

EPD Hub Core PCR Version 1.2, 24 Mar 2025

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	8.05E+02	1.42E+01	-3.75E+00	8.15E+02	3.34E+01	4.46E+01	ND	ND	ND	ND	ND	ND	ND	9.73E+00	9.57E+00	2.60E+01	3.15E-01	-1.04E+01
GWP – fossil	kg CO_2e	8.02E+02	1.41E+01	1.65E+00	8.18E+02	3.34E+01	3.88E+01	ND	ND	ND	ND	ND	ND	ND	9.72E+00	9.56E+00	2.60E+01	3.14E-01	-1.04E+01
GWP – biogenic	kg CO_2e	2.44E+00	3.02E-03	-5.41E+00	-2.97E+00	7.30E-03	5.78E+00	ND	ND	ND	ND	ND	ND	ND	1.95E-03	1.92E-03	-7.77E-02	-1.00E-04	0.00E+00
GWP – LULUC	kg CO_2e	1.63E-01	1.14E-02	1.19E-02	1.86E-01	1.30E-02	2.38E-02	ND	ND	ND	ND	ND	ND	ND	3.80E-03	3.43E-03	3.06E-02	1.80E-04	-2.03E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	2.18E-07	2.25E-07	1.04E-07	5.46E-07	6.97E-07	5.25E-07	ND	ND	ND	ND	ND	ND	ND	2.38E-07	1.90E-07	2.80E-07	9.11E-09	-6.89E-08
Acidification potential	mol H^+e	2.53E+00	2.49E-01	8.26E-03	2.79E+00	7.89E-02	1.86E-01	ND	ND	ND	ND	ND	ND	ND	7.19E-02	1.99E-02	2.78E-01	2.23E-03	-4.07E-02
EP-freshwater[2)]	kg Pe	2.61E-03	8.64E-04	4.36E-04	3.91E-03	2.34E-03	1.30E-02	ND	ND	ND	ND	ND	ND	ND	4.51E-04	6.44E-04	1.41E-02	2.59E-05	-4.20E-03
EP-marine	kg Ne	5.69E-01	7.51E-02	2.31E-03	6.47E-01	2.07E-02	5.84E-02	ND	ND	ND	ND	ND	ND	ND	3.21E-02	4.78E-03	6.18E-02	8.50E-04	-9.03E-03
EP-terrestrial	mol Ne	6.14E+00	8.29E-01	2.78E-02	6.99E+00	2.24E-01	6.12E-01	ND	ND	ND	ND	ND	ND	ND	3.52E-01	5.16E-02	6.97E-01	9.28E-03	-9.93E-02
POCP ("smog")[3)]	kg NMVOCe	1.69E+00	2.30E-01	9.10E-03	1.93E+00	1.37E-01	1.95E-01	ND	ND	ND	ND	ND	ND	ND	1.05E-01	3.31E-02	2.05E-01	3.32E-03	-3.33E-02
ADP-minerals & metals[4)]	kg Sbe	9.15E-02	1.73E-05	1.76E-05	9.16E-02	9.56E-05	2.23E-04	ND	ND	ND	ND	ND	ND	ND	1.01E-05	3.18E-05	1.53E-03	5.00E-07	-9.41E-05
ADP-fossil resources	MJ	9.38E+03	1.75E+02	3.35E+01	9.58E+03	5.02E+02	5.13E+02	ND	ND	ND	ND	ND	ND	ND	1.65E+02	1.35E+02	3.07E+02	7.72E+00	-1.08E+02
Water use[5)]	m^3e depr.	1.76E+02	8.30E-01	7.42E-01	1.77E+02	2.57E+00	1.02E+01	ND	ND	ND	ND	ND	ND	ND	8.13E-01	6.69E-01	4.86E+00	2.23E-02	-1.76E+00

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 PO4e; 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, EF 3.1

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	6.01E-07	3.97E-07	1.04E-07	1.10E-06	3.26E-06	3.74E-06	ND	ND	ND	ND	ND	ND	ND	1.90E-06	7.04E-07	3.88E-06	5.07E-08	-6.55E-07
Ionizing radiation[6)]	kBq U235e	1.11E-01	2.97E-01	8.22E-01	1.23E+00	6.05E-01	5.27E+00	ND	ND	ND	ND	ND	ND	ND	2.55E+00	1.73E-01	1.10E+00	4.85E-03	-3.65E-01
Ecotoxicity (freshwater)	CTUe	1.09E+01	1.52E+01	4.82E+00	3.09E+01	5.91E+01	1.08E+02	ND	ND	ND	ND	ND	ND	ND	8.67E+00	1.79E+01	1.78E+02	6.47E-01	-2.44E+01
Human toxicity, cancer	CTUh	1.03E-09	2.43E-09	7.76E-10	4.23E-09	5.57E-09	3.15E-08	ND	ND	ND	ND	ND	ND	ND	1.22E-09	1.60E-09	2.08E-08	5.80E-11	-1.69E-09
Human tox. non-cancer	CTUh	5.98E-08	4.63E-08	2.44E-08	1.31E-07	3.24E-07	3.51E-07	ND	ND	ND	ND	ND	ND	ND	2.72E-08	8.51E-08	1.33E-06	1.33E-09	-8.04E-08
SQP[7)]	-	9.31E+01	7.45E+01	6.13E+02	7.81E+02	5.05E+02	1.74E+02	ND	ND	ND	ND	ND	ND	ND	4.25E+01	8.13E+01	5.81E+02	1.52E+01	-3.88E+01

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[8)]	MJ	2.07E+04	3.39E+00	8.94E+01	2.07E+04	8.17E+00	5.05E+00	ND	ND	ND	ND	ND	ND	ND	2.12E+01	2.35E+00	4.77E+01	7.45E-02	-1.21E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	4.33E+01	4.33E+01	0.00E+00	-4.33E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	2.07E+04	3.39E+00	1.33E+02	2.08E+04	8.17E+00	-3.82E+01	ND	ND	ND	ND	ND	ND	ND	2.12E+01	2.35E+00	4.77E+01	7.45E-02	-1.21E+01
Non-re. PER as energy	MJ	9.39E+03	1.75E+02	2.86E+01	9.59E+03	5.02E+02	5.09E+02	ND	ND	ND	ND	ND	ND	ND	1.65E+02	1.35E+02	3.07E+02	7.72E+00	-1.08E+02
Non-re. PER as material	MJ	0.00E+00	0.00E+00	4.87E+00	4.87E+00	0.00E+00	-4.87E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-re. PER	MJ	9.39E+03	1.75E+02	3.35E+01	9.59E+03	5.02E+02	5.04E+02	ND	ND	ND	ND	ND	ND	ND	1.65E+02	1.35E+02	3.07E+02	7.72E+00	-1.08E+02
Secondary materials	kg	9.54E+02	1.07E-01	1.47E-01	9.55E+02	2.17E-01	2.25E+00	ND	ND	ND	ND	ND	ND	ND	4.72E-02	6.25E-02	3.55E-01	1.94E-03	5.23E+00
Renew. secondary fuels	MJ	5.05E-04	2.69E-04	4.72E-03	5.50E-03	2.74E-03	8.97E-03	ND	ND	ND	ND	ND	ND	ND	1.29E-04	7.90E-04	1.62E-02	4.02E-05	-7.91E-04
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	4.28E+00	2.40E-02	1.58E-02	4.32E+00	7.41E-02	2.15E-01	ND	ND	ND	ND	ND	ND	ND	1.97E-02	1.83E-02	1.34E-01	8.03E-03	-2.57E-02

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	1.34E-01	3.00E-01	9.42E-02	5.28E-01	7.26E-01	9.22E+00	ND	ND	ND	ND	ND	ND	ND	1.93E-01	1.96E-01	2.40E+00	8.52E-03	-3.18E+00
Non-hazardous waste	kg	2.33E+01	5.56E+00	2.10E+00	3.10E+01	1.45E+01	1.64E+02	ND	ND	ND	ND	ND	ND	ND	2.83E+00	4.13E+00	6.74E+01	1.95E-01	-2.51E+01
Radioactive waste	kg	2.88E-01	7.53E-05	1.82E-04	2.88E-01	1.50E-04	1.25E-03	ND	ND	ND	ND	ND	ND	ND	5.56E-04	4.31E-05	2.71E-04	1.18E-06	-6.43E-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	ND	ND	ND	ND	ND	ND	ND	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	2.38E+00	2.38E+00	0.00E+00	5.00E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	9.57E+02	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	0.00E+00	ND	ND	ND	ND	ND	ND	ND	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	1.25E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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_2e	1.78E+03	1.41E+01	1.66E+00	1.80E+03	3.32E+01	3.90E+01	ND	ND	ND	ND	ND	ND	ND	9.68E+00	9.50E+00	2.60E+01	3.12E-01	-1.03E+01
Ozone depletion Pot.	kg $CFC_{-11}e$	1.10E-05	1.78E-07	8.32E-08	1.12E-05	5.55E-07	4.40E-07	ND	ND	ND	ND	ND	ND	ND	1.91E-07	1.51E-07	2.32E-07	7.23E-09	-6.53E-08
Acidification	kg SO_2e	6.25E+00	1.93E-01	6.20E-03	6.45E+00	6.26E-02	1.43E-01	ND	ND	ND	ND	ND	ND	ND	5.09E-02	1.60E-02	2.24E-01	1.65E-03	-3.27E-02
Eutrophication	kg $PO_4^{3}e$	1.99E+00	2.82E-02	2.05E-03	2.02E+00	1.56E-02	3.03E-02	ND	ND	ND	ND	ND	ND	ND	1.17E-02	4.04E-03	3.19E-02	5.24E-04	-5.95E-03
POCP (“smog”)	kg C_2H_4e	5.59E-01	1.04E-02	7.45E-04	5.70E-01	6.38E-03	1.46E-02	ND	ND	ND	ND	ND	ND	ND	3.85E-03	1.69E-03	1.32E-02	1.56E-04	-4.94E-03
ADP-elements	kg Sbe	4.88E-03	1.59E-05	1.75E-05	4.91E-03	9.34E-05	2.20E-04	ND	ND	ND	ND	ND	ND	ND	9.89E-06	3.11E-05	1.53E-03	4.90E-07	-9.39E-05
ADP-fossil	MJ	1.84E+04	1.70E+02	2.23E+01	1.86E+04	4.92E+02	4.32E+02	ND	ND	ND	ND	ND	ND	ND	1.31E+02	1.32E+02	2.90E+02	7.64E+00	-1.05E+02

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8.02E+02	1.42E+01	1.66E+00	8.18E+02	3.34E+01	3.88E+01	ND	ND	ND	ND	ND	ND	ND	9.73E+00	9.56E+00	2.60E+01	3.15E-01	-1.04E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted, United Kingdom, Ecoinvent, 0.0806 kgCO2e/kWh
2. Electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted, United Kingdom, Ecoinvent, 0.0806 kgCO2e/kWh
3. Heat and power co-generation, wood chips, 6667 kW, state-of-the-art 2014, United Kingdom, Ecoinvent, 0.0550 kgCO2e/kWh
4. Electricity production, wind, 1-3MW turbine, offshore, United Kingdom, Ecoinvent, 0.0168 kgCO2e/kWh
5. Electricity production, hydro, pumped storage, United Kingdom, Ecoinvent, 0.41 kgCO2e/kWh
6. Electricity voltage transformation from high to medium voltage, United Kingdom, Ecoinvent, 0.25 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO6, 322 km

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	Power tool, 10 kWh, medium voltage Diesel, 20 kWh for a crane.
Water use (m^3)	-
Ancillary materials: type and mass (kg)	Steel fixing, 7.5 kg
Waste materials: type and mass (kg)	3.47 kg wood 0.1261 kg plastic 0.05 kg steel
Waste materials: output routes	Steel, 0.05 kg recycling Wood, 3.47 kg energy recovery Plastic, 0.1261 kg energy recovery
Direct emissions (kg)	0

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	1007.5
Collection process: Mixed waste (kg)	-
Recovery: re-use (kg)	0
Recovery: recycling (kg)	957.125
Recovery: energy recovery (kg)	0
Disposal (kg)	50.375
Scenario assumptions e.g. transportation (mode, km) & other	50 km

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
16.05.2026