Environmental Product Declaration

THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD VERIFIED

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Incineration Bottom Ash Aggregate (IBAA)

- SHW Clause 803 Type 1 LB 25%

EPD of multiple products, based on a representative product from the product group: SHW Clause 803 Type 1 LB 50%, SHW Clause 803 Type 1 LB 25%, 0-20 mm IBAA and 20-40 mm IBAA.

Blue Phoenix (BPG) – Severnside

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0018609
Publication date:	2025-03-19
Valid until:	2030-03-17

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

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Building a sustainable future

General Information

Programme Information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until:2025.06.20.

PCR review was conducted by: Technical Committee of the International EPD System. Chair: Claudia A. Peña. Contact via info@environdec.com.

Life Cycle Assessment (LCA)
LCA accountability: Francesc Romero, Blue Phoenix Group (BPG).

Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by accredited certification body

Third-party verification: Cristina Gazulla Santos, Certinalia is an approved certification body accountable for the third-party verification.

The certification body is accredited by: ENAC (accreditation no. 125/C-PR283).

Procedure for follow-up of data during EPD validity involves third party verifier:
☒ Yes ☐ No

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

EPDs, within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

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Company Information

Blue Phoenix Group (BPG), with over 25 years of experience in processing IBA, has identified an opportunity to repurpose aggregates produced from incinerator bottom ash (IBA) into manufactured aggregates (IBAA) suitable for several construction applications, thereby decreasing the environmental footprint of the construction industry.

Through innovative processing and recovery techniques, BPG transforms IBA into valuable secondary materials, diverting waste from landfills and therefore reducing environmental impacts on underground water, local biodiversity, and land. BPG's mission is to support various industries to reduce their reliance on virgin resource extraction, improve value chain management, and contribute to the development of the circular economy.

This approach aligns with broader sustainability goals, including continuous efforts to be Net-Zero of greenhouse gas emissions, supporting local reuse initiatives and ultimately enhancing the sustainability of the Energy-from-Waste (EfW) sector.
IBAA has been used in The United Kingdom (UK) for over 25 years as a construction material. Blue Phoenix a business division of BPG, has operated in the UK since 1998 and currently has 11 operational facilities processing over 1.4 million tonnes of IBA per annum. EfW plants are a key UK Government strategic solution for dealing with municipal solid waste (MSW) and reducing the amount of waste that ends up in landfills. Blue Phoenix UK has processed more than 13 million tonnes of IBA to date and work closely with regulators to ensure environmental protection is at the forefront of our day-to-day activities.

IBAA is regularly and routinely tested to ensure that our products meet the necessary requirements outlined with the SHW (Specification for Highway Works). Compliance with other relevant European standards (such as EN 13242, EN 13285, EN 13043, or EN 12620) can be provided upon demand, according to the client's specified requirements.

For more information, please visit: **Blue Phoenix UK.**

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Location of production site:
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C/O Suez, Severnside Energy Recovery Centre
Severnside Road, Hallen, Bristol BS10 7SP
The United Kingdom

Product-related or management system-related certifications:
Blue Phoenix Severnside holds certificates for ISO 9001, ISO 14001, and ISO 45001.

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Sustainability Performance of Blue Phoenix Severnside

Blue Phoenix Severnside, a part of Blue Phoenix UK, is located in Severnside, the United Kingdom.

Tremendous efforts are being made at the site with the mission to support customers and the whole UK economy to be more circular and sustainable.

- 100% of fuels are certified HVO (hydro treated vegetable oil)
- One fourth of water is rain water collected on-site
- Input and output materials are tested per batch to confirm to be non-hazardous

We prevent 100% of the ash going to landfill!

We make continuous efforts to BPG sustainability pathway and our performance can be found at: **Blue Phoenix - Sustainability.**

Product Information

Product Name	Incineration Bottom Ash Aggregate (IBAA) - SHW Clause 803 Type 1 LB 25%
	This EPD presents the environmental performance of the representative product of the IBAA produced at Blue Phoenix Severnside. The representative product has been chosen based on the most sold product during the reference year.
Product Identification	The representative product is the SHW Clause 803 Type 1 LB 25% but the EPD also covers the following references: SHW Clause 803 Type 1 LB 50%, 0-20 mm IBAA and 20-40 mm IBAA.
Product Description	The materials produced at Blue Phoenix Severnside consists on aggregates produced mainly by IBBA. However, depending on customers' requirements on final product application, IBAA can be blended with primary materials such granite or limestone. The terminology "LB" means that the product consists on a blending of IBAA and limestone in a proportion of 75/25 and 50/50, respectively.
	IBAA is regularly and routinely tested to ensure that our products meet the necessary requirements outlined with the SHW (Specification for Highway Works). Compliance with other relevant standards (such as Class 6F2 and Class 6F4) can be provided upon demand, according to the client's specified requirements.
Geographical scope	The United Kingdom

LCA Information

Declared unit: one metric tonne (1t) of IBAA intended to be used as construction related material.

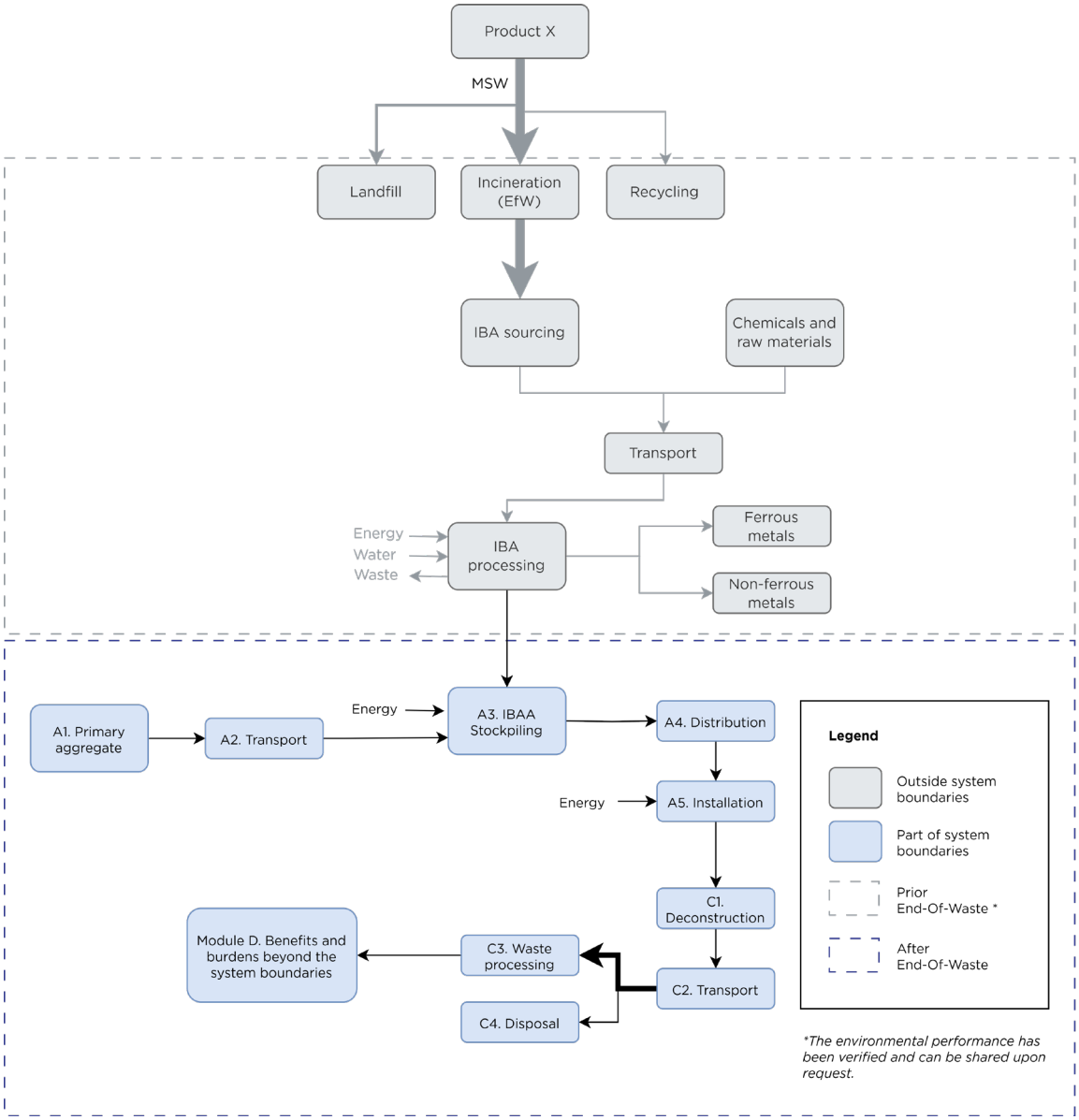
Time representativeness: All specific data related to the production sites and used for the study date from 2023.

Description of system boundaries: Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + A4–A5 + C + D).

Database(s) and LCA software used: The primary inventory data has been directly collected from Blue Phoenix Severnside and corresponds to the product mentioned above. The assessed product in this study is manufactured at Blue Phoenix Severnside.

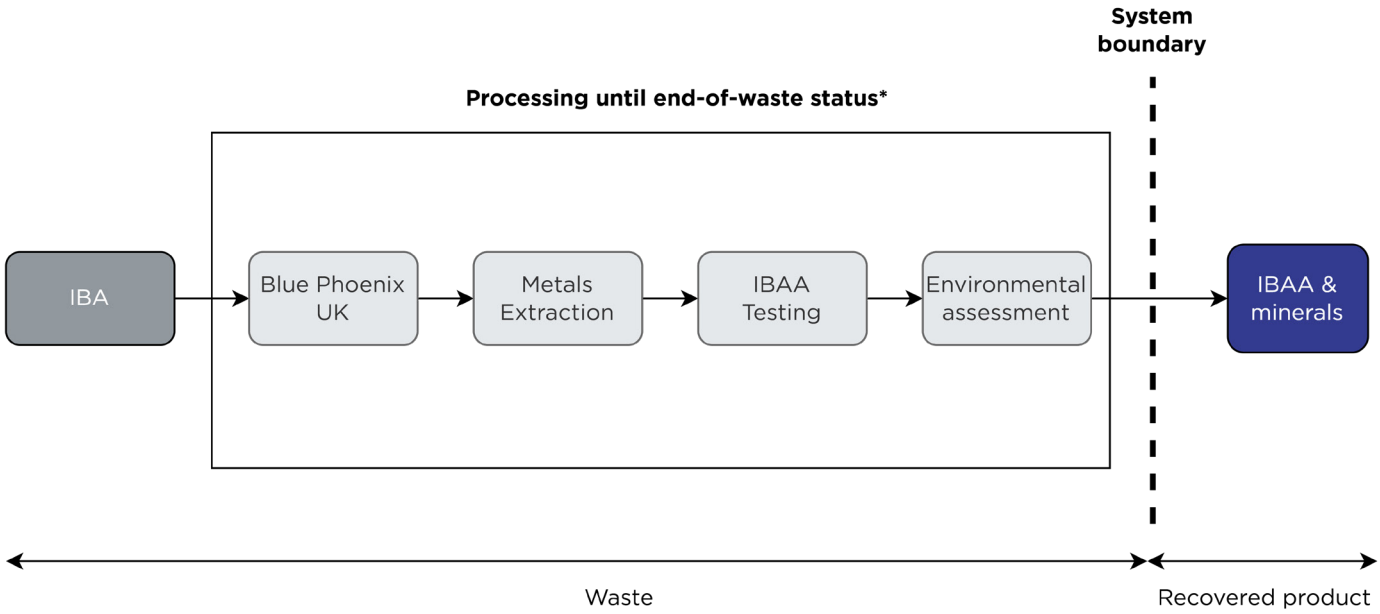
Secondary data has been obtained from the Ecoinvent v3.10 database, accessed through the internationally recognized SimaPro v9.6.0.1 software. Whenever possible, country-specific inventory data has been used. If unavailable, data from Europe in general has been selected.

System diagram:



More information: the waste allocation procedures of section 4.5.2 of PCR 2019:14 have been applied according to the polluter-pays principle.

In accordance with the stipulations of PCR 2019:14, all impacts from the IBA processing must be allocated to the previous system that generated the waste. The following figure provides a schematic illustration when the theoretical life cycle of IBAA begins.



**The end-of-waste status is subject to regional regulation on the use of IBAA.*

Cut-off rules: In accordance with the provisions of standard EN 15804 (section 6.3.6) and PCR 2019:14 (section 4.4), at least 95% of all mass and energy inputs and outputs of the central system have been included. Concretely, 100% of the processes related to the treatment of IBA into a high quality product have been taken into account.

According to PCR 2019:14, the "polluter pays" principle has been applied. The scenarios included are currently in use and are representative of the most probable alternatives.

Whenever possible, primary data has been used to model the life cycle of the products under analysis. However, when this has not been feasible, assumptions have been made to represent the real situation as objectively as possible. Below are all the hypotheses and limitations of the study:

- During the processing of the IBAA, the metal fractions are extracted from the IBA using physical separation and a dry technology. To be able to use the IBAA, it is necessary to test the use of IBAA at each location where the customers intend to use the final product.
- After the test has been done, it is occasionally required to blend primary aggregates with the recovered aggregates from the IBA. The quantity of primary aggregate that has to be added is determined for each location depending on the customer's needs.

Module A1

IBA is received as burden-free, as it is considered a waste of a prior system. Therefore, the impacts associated with the IBA should be attributed as part of the process that generates it.

Module A1 considers the production of all the raw materials required for the processing of the IBA until it is turned into an usable product.

The electricity mix used at the processing facility is not included in the EPD, as electricity consumption occurs prior to meeting the End-of-Waste criteria and is therefore outside the system boundary of the product under study.

Module A2

It has been assumed that road transportation is carried out using a truck with a capacity greater than 32 tonnes, conforming to EUR5 emission standards.

Module A3

Module A3 takes into account the fuels burned by the machinery used to move materials within the site to its stockpiling and loading the trucks after the products are sold.

Module A4

Module A4 includes the transport of the products once they have been processed to the installation location. Specific distances between the processing plant and the final destination of the product have been employed.

Scenario Information	Unit (by declared unit)
Type and amount of fuel of the vehicle used for transport	Lorry >32 tonne EURO V, Diesel
Distance	54.8 km
Capacity use (including empty return)	Capacity use of 32%, including empty return
Use-fuel capacity ratio	Not applicable

Module A5

Module A5 involves the installation of IBAA at the site of use. Since the aggregates analysed in this study may have several applications and therefore be used in different locations, an hypothetical scenario based on the best available primary information to date is considered.

Additional technical information on module A5 according to EN 15804.

Scenario Information	Unit (by declared unit)
Auxiliary materials for installation	None
Water use	None
Use of resources	Diesel
Energy consumption during installation	0.33 l/tonne
Wastes and output flows as result of the waste treatment at the demolition point	None
Direct emissions to air, soil and water	Not applicable

Module C1-C4

Module C1 involves the deconstruction of the product from the location where it was used at the end of its life cycle.

Module C2 considers the transport of the product waste once it has reached the end of its life cycle to the treatment plant. A distance of 50 km has been assumed between the location where the waste is generated and the processing plant. It has been assumed that road transportation is carried out using a truck with a capacity greater than 32 tonnes, conforming to EUR5 emission standards.

Module C3 considers the treatment of IBAA waste for subsequent recycling and/or transport for final disposal. In the absence of specific data for IBAA, statistical data relevant to the United Kingdom has been used to model the processing scenario for the type of waste classified as IBAA.

Module C4 addresses the final treatment of the fraction of the product that, once converted into waste, cannot be transformed into a new product and, consequently, requires to be disposed.

The module collects the most likely scenarios based on the best knowledge currently available. Considerations about the end-of-life of the assessed product.

Parameter	Units per declared unit (kg)	Value
Waste collection process, specified by type	kg collected separately	0
	kg collected mixed with demolition waste	1,000
Recovery process of waste, specified by type	kg for reuse	0
	kg for recycling	683
	kg for energy recovery	0
Waste disposal	kg to landfill	317
Considerations for scenarios development	Distance to waste manager (km)	50

Module D

This module analyses the benefits and burdens related to the processes of recovery, reuse, or recycling of waste from the products under study at their end of life, which could form part of the life cycle of a new product. The scenarios for modules C1-C4 and D are realistic and representative of one of the most probable alternatives. The scenarios do not include processes or procedures that are not in current use or whose feasibility has not been demonstrated.

The formula used in EN 15804 to calculate the specific loads and benefits per unit of analysis for module D related to the export of secondary materials is as follows:

$$e_{moduleD1}=Y\cdot(M_{MRout}-M_{MRin})\cdot(E_{MRafterEoWout}-E_{VMSubout}\cdot\frac{Q_{Rout}}{Q_{Sub}})$$

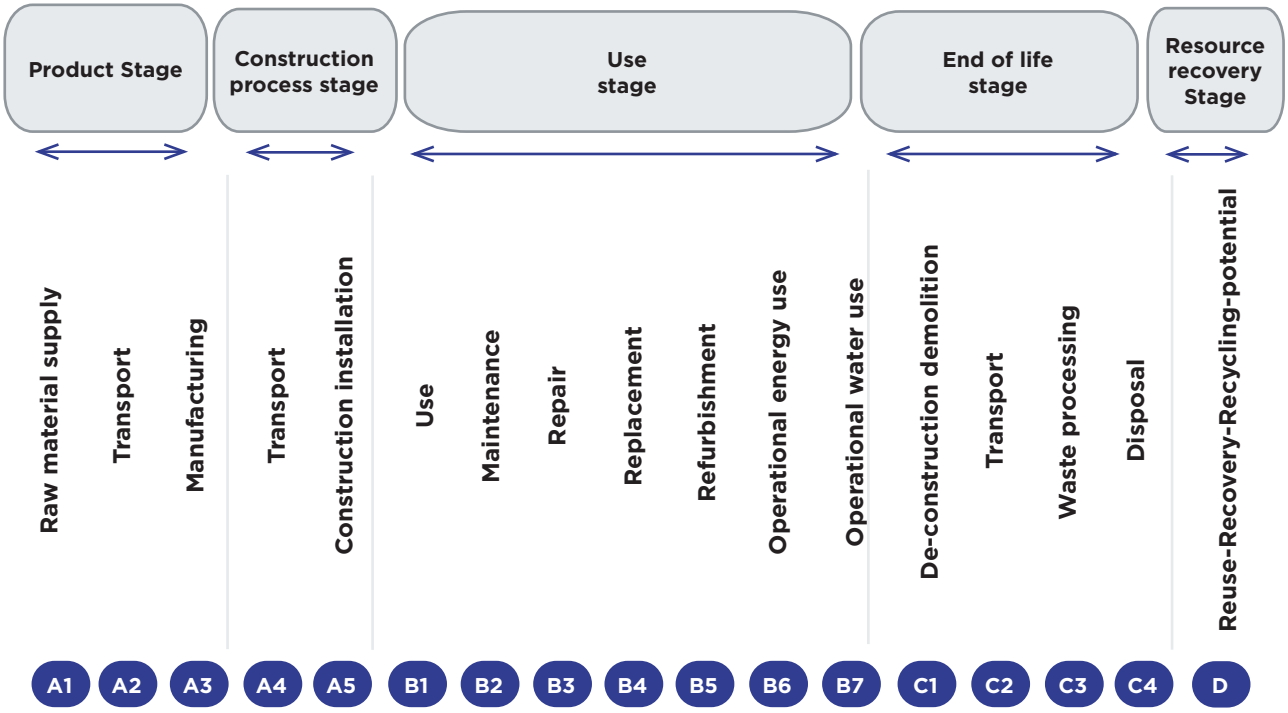
The following recycling rates were used in the analysis of Module D. The M_{MROUT} factor corresponds to the percentage of the construction, demolition and excavation (C&D&E) waste that could be recycled according to the data sources consulted for the development of the study. TheM_{MRin}correspond to the post-consumer material (IBAA from IBA) that enters the system and would be part of the final products. Y corresponds to the material yield, between point of end-of-waste (M-EoW) in modules A4-C4 and point of substitution (M-DoS) in module D.

Impacts associated with the conditioning and preparation of the recovered C&D&E waste products for reuse ($E_{MRafter\ EoW\ out}$) were modelled considering a rock-crushing dataset. The modelling of primary aggregate($E_{VMSub\ out}$) was carried out under the assumption that the primary material substitute is gravel crushed.

A quality factor $\frac{Q_{Rout}}{Q_{Sub}}$ = 1 was considered for the analysis of both the recycling and the reuse routes, which assumes that the inherent technical properties of the recovered C&D&E waste aggregates are equal to those of the primary aggregates.

Data quality requirements: "Good" data quality has been obtained (3.6 out of 5). The method used to assess the representativeness of the data is found in "Table E.1 – Data quality level and criteria of the UN Environment Global Guidance on LCA database development" in the Annex E of the EN 15804 standard.

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



Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	UK	UK	UK	UK	UK	ND	ND	ND	ND	ND	ND	ND	UK	UK	UK	UK	UK
Specific data used	33.1%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	-65%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content Information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Recovered aggregate	500 – 1,000	50 - 100	0
Limestone	0 - 500	0	0
TOTAL	1,000	50 - 100	0
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
The assessed product is sold as bulk material. Therefore, no packaging is required.			

The declared products do not contain substances listed in the "Candidate List of Substances of Very High Concern (SVHC) for Authorisation" in quantities exceeding the registration threshold of 0.1%. All products sold by Blue Phoenix UK undergo rigorous technical and environmental assessments to ensure they meet the necessary safety requirements for their intended use.

Results of Environmental Performance Indicators

All impact categories used to assess the environmental performance of the analysed products have been applied in accordance with the standards EN 15804 and PCR 2019:14, which are relevant for construction products.

Estimated impact results are only relative statements that do not indicate impact category endpoints, exceedances of assessed thresholds, safety margins, or risks. Results obtained in both the product stage (modules A1-A3) and installation stage (modules A4-A5) should not be used without considering those results obtained in modules C1-C4.

All infrastructure and capital goods are excluded for all the upstream, core and downstream processes. The LCA study has been performed in accordance with the requirements of EN 15804 (version +A2, 2019), applicable PCR (version 1.3.4, 30.04.2024) and JRC characterization factors (EF 3.1 method).

Mandatory Impact Category Indicators according to EN 15804

Results per functional or declared unit										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	8.43E-01	4.54E+00	9.11E-01	MND	9.11E-01	4.14E+00	8.84E-01	2.95E+00	5.59E-01
GWP-biogenic	kg CO_2 eq.	5.60E-04	2.03E-04	7.97E-06	MND	7.97E-06	1.85E-04	5.26E-04	6.48E-03	5.18E-04
GWP-lutuc	kg CO_2 eq.	1.20E-04	1.07E-04	5.14E-06	MND	5.14E-06	9.76E-05	1.05E-03	3.94E-04	4.62E-04
GWP-total	kg CO_2 eq.	8.43E-01	4.54E+00	9.11E-01	MND	9.11E-01	4.14E+00	8.85E-01	2.96E+00	5.60E-01
ODP	kg CFC 11 eq.	8.38E-09	8.88E-08	4.28E-10	MND	4.28E-10	8.10E-08	4.25E-08	9.48E-08	3.47E-09
AP	mol H^+ eq.	1.29E-02	1.06E-02	9.54E-03	MND	9.54E-03	9.68E-03	2.09E-03	3.32E-02	3.04E-03
EP-freshwater	kg P eq.	2.85E-06	3.65E-06	2.28E-07	MND	2.28E-07	3.33E-06	9.57E-06	9.28E-05	1.93E-05
EP-marine	kg N eq.	4.68E-03	4.04E-03	4.80E-03	MND	4.80E-03	3.68E-03	5.88E-04	8.27E-03	7.64E-04
EP-terrestrial	mol N eq.	6.60E-02	4.41E-02	5.26E-02	MND	5.26E-02	4.02E-02	7.26E-03	8.89E-02	8.38E-03
POCP	kg NMVOC eq.	1.45E-02	1.86E-02	1.41E-02	MND	1.41E-02	1.69E-02	1.96E-03	3.26E-02	2.67E-03
ADP-minerals & metals*	kg Sb eq.	1.23E-07	1.44E-07	9.52E-09	MND	9.52E-09	1.31E-07	4.50E-08	8.13E-07	6.05E-08
ADP-fossil*	MJ	4.07E+00	5.76E-01	3.17E-02	MND	3.17E-02	5.25E-01	1.31E+01	3.09E+00	3.76E+00
WDP*	m^3	9.37E-02	2.47E-02	2.27E-03	MND	2.27E-03	2.25E-02	3.01E-02	-4.15E+01	9.48E-01

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.

*Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Aditional Impact Category Indicators

Results per functional or declared unit										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO2 eq.	8.20E-01	4.43E+00	9.04E-01	MND	9.04E-01	4.04E+00	8.74E-01	2.84E+00	5.42E-01
Note: This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.										

Resource Use Indicators

Results per functional or declared unit										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	8.05E-01	2.03E-01	5.51E-03	MND	5.51E-03	1.86E-01	8.59E+00	1.19E+00	5.72E-01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.05E-01	2.03E-01	5.51E-03	MND	5.51E-03	1.86E-01	8.59E+00	1.19E+00	5.72E-01
PENRE	MJ	4.44E+00	5.93E-01	3.31E-02	MND	3.31E-02	5.41E-01	1.31E+01	3.20E+00	3.93E+00
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	4.44E+00	5.93E-01	3.31E-02	MND	3.31E-02	5.41E-01	1.31E+01	3.20E+00	3.93E+00
SM	kg	7.50E+02	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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 Indicators

Results per functional or declared unit										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	5.94E-03	1.18E-03	1.92E-04	MND	1.92E-04	1.08E-03	9.55E-03	3.76E-02	-4.86E-05
Non-hazardous waste disposed	kg	7.60E-02	8.57E-02	2.26E-03	MND	2.26E-03	7.82E-02	1.07E-01	1.45E+03	-1.99E-04
Radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Output Flow Indicators

Results per functional or declared unit										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	MND	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	MND	0.00E+00	0.00E+00	6.83E-01	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	MND	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	MND	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	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Variation of environmental impact indicators

The table below presents the deviations in the environmental impact indicators throughout the life cycle of the studied products. These deviations have been calculated by including modules A1-A3, A4-A5, and C1-C4, as required by the PCR.

The variations across all environmental impact indicators are primarily driven by the percentage of primary material in the aggregate blending and the transport of these primary aggregates from their extraction site to the BPG facility. For the representative product, the results are expressed with a deviation of 0%, while the other references included in the EPD are presented as a percentage relative to this representative product.

Impact category	Unit	SS - SHW Clause 803 Type 1 LB 25%	SS - 0-20 mm IBAA	SS - 20-40 mm IBAA
Climate change	kg CO_2 eq	0%	-4%	-4%
Climate change - Fossil	kg CO_2 eq	0%	-4%	-4%
Climate change - Biogenic	kg CO_2 eq	0%	-7%	-7%
Climate change - Land use and LU change	kg CO_2 eq	0%	-7%	-7%
Ozone depletion	kg CFC11 eq	0%	-2%	-2%
Acidification	mol H^+ eq	0%	-14%	-14%
Eutrophication, freshwater	kg P eq	0%	-2%	-2%
Eutrophication, marine	kg N eq	0%	-15%	-15%
Eutrophication, terrestrial	mol N eq	0%	-18%	-18%
Photochemical ozone formation	kg NMVOC eq	0%	-12%	-12%
Resource use, minerals and metals	kg Sb eq	0%	-9%	-9%
Resource use, fossils	MJ	0%	-2%	-2%
Water use	m^3 depriv.	0%	0%	0%
GWP - GHG	kg CO_2 eq	0%	-4%	-4%

Additional Environmental Information

Results per functional or declared unit		
Biogenic carbon content	Unit	Quantity
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	Not applicable	

Note: 1 kg biogenic carbon is equivalent to 44/12 kg $CO_{2.}$

Differences versus Previous Versions

This EPD document corresponds to the first version of the EPD of the products covered manufactured by Blue Phoenix.

References

General Programme Instructions of the International EPD® System. Version 4.0.

NEN. (2019). NEN-EN 15804:2012+A2:2019 *Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.*

EPD International AB. (2024). PCR 2019:14 *Construction products*, version 1.3.4 Published on 2024.04.30, valid until: 2024.04.30

BPG (2024). Life Cycle Assessment (LCA) of Incineration Bottom Ash Aggregates (IBAA) of BPG The Netherlands and The United Kingdom, version 5.

VERIFICATION STATEMENT CERTIFICATE

CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD11508

CERTINALIA S.L.U., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:
CERTINALIA S.L.U., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

BLUE PHOENIX GROUP
Watermanweg 106a
3067 GG Rotterdam
The Netherlands

for the following products:
para los siguientes productos:

Incineration Bottom Ash Aggregate (IBAA) - SHW Clause 803 Type 1 LB 25%
Agregados obtenidos de cenizas de incineración - SHW Clause 803 Tipo 1 LB 25%

with registration number **EPD-IES-0018609** in the International EPD® System *(www.environdec.com).*
*con número de registro **EPD-IES-0018609** en el Sistema International EPD® (www.environdec.com).*

it´s in conformity with:
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v4.0.**
- **PCR 2019:14 Construction products (EN 15804:A2) v.1.3.4.**
- **UN CPC: NA.**

Issued date / *Fecha de emisión:*	19/02/2025
Update date / *Fecha de actualización:*	18/03/2025
Valid until / *Válido hasta:*	17/03/2030
Serial Nº / *Nº Serie:*	EPD1150801-E

Carlos Nazabal Alsua
Manager

CERTIFICACIÓN ISO 17065 Nº125 / C-PR283

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