ZZP40AU46

MEL01 Australia Data Center

VICTORIA - MELBOURNE

Environmental Product Declaration

In Accordance with Environdec c-PCR-003 Concrete, concrete elements (EN 16757:2023), ISO 14025 and EN15804:A2
Programme Operator: EPD International AB
Regional Programme: EPD Australasia

An EPD should provide current information and may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

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XL Concrete


CAMILLERI
HamelexWhite
VEHICLE
CONCRETE
X32 005
CONCRETE XL

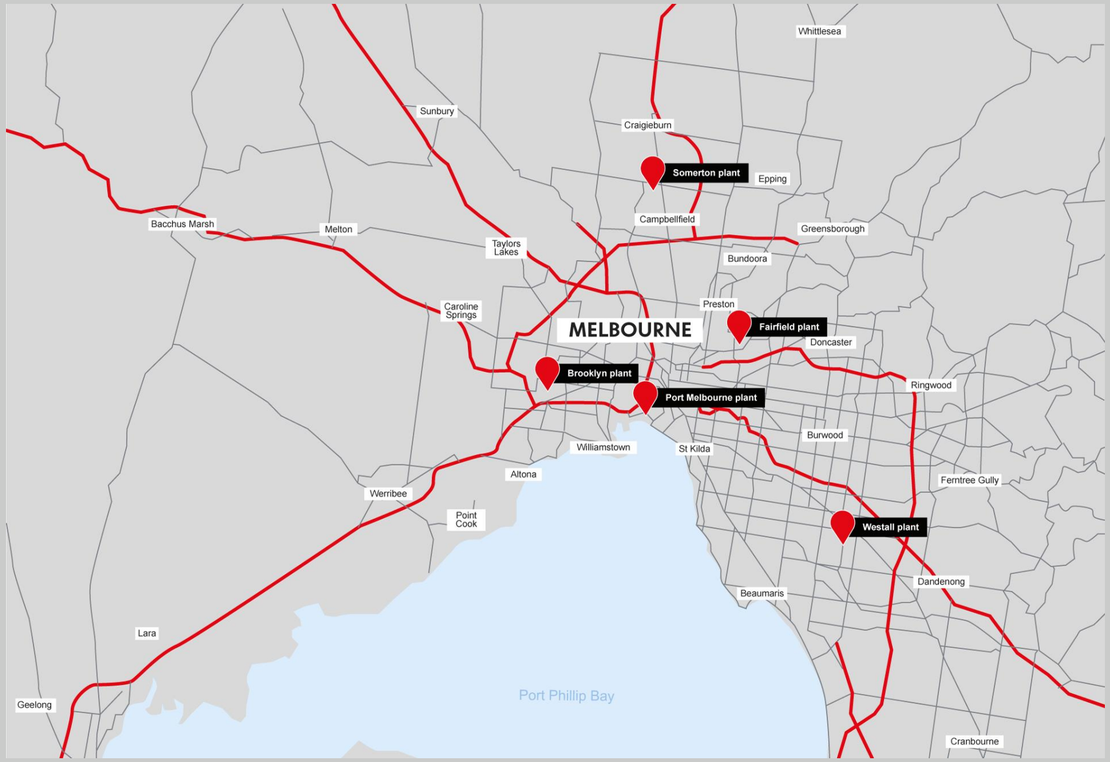
Our Story

XL Concrete is one of the largest independent concrete companies in Victoria, with over 20 years-experience supplying high-quality projects throughout metropolitan Melbourne.

XL Concrete services the entire metro area through five strategically-located plants: Fairfield, Somerton, Port Melbourne, Brooklyn and Westall.

XL Concrete’s trucking fleet consists of company-owned tankers and tippers as well as a combination of LOD and company owned agitators. All trucks are accredited under Vic Roads Mass Management and the National Heavy Vehicle Accreditation scheme.

XL Concrete is a quality assured company complying to Australian standard ISO-9001.



Life Cycle & Processes

Product EPD Process

Declared Unit is 1m³ of Concrete

- The process is used to produce an accurate estimation at all stages of the product life cycle from cradle to grave. Estimation at each stage is based on actual data which is a combination of both current and prior year average consumption per declared unit.

Life Cycle Assessment Tool

- For the purposes of creating this Environmental Product Declaration (EPD), the Global Cement & Concrete Association (GCCA) concrete EPD tool v. 5.0 (short: GCCA tool) has been employed.

EPDs are created under either of 2 streams:

- Generic Stream - The class of product modelled is used for a particular geographical region using averaged data across operations.
- Project-specific stream – Models the manufacture of specific products required for a particular project being delivered from specific plant(s) using weighted average data where relevant and possible. Reports created after the completion of a project offer the highest accuracy, including all mix variations for each delivery.

The main data categories include:

- The average bill of materials (BOM) for the concrete mix selected in the range of concrete plants specified including their average raw material travel distance, or the calculated BOM based on actual delivered materials incl. travel distances (average or specific) for the producing plants.
- The average fuel, water and energy consumption per declared unit between those plants;
- Plant production waste based on a nationally calculated figure;
- Recarbonation of concrete is determined through pre-defined values within GCCA tool for the type of construction project (-5.73kg CO_2 eq./ m³ at Stage B, -2.07 kg CO_2 eq./ m³ at Stage C3, and -4.09 kg CO_2 eq./ m³ at Stage C4), where known; and,
- End of life recycling is based upon industry data.

- This EPD Process is certified using GCCA international modelling of energy use and environmental impact to obtain a suitable estimation for products manufactured.
- Pre-defined cement and clinker data provided by the GCCA tool are used only where no better (supplier/source specific) information is available.

Assumptions & Limitations

- This is a project-specific EPD.
- All modelling assumptions adopted from the GCCA Tool.
- Raw material (inbound) transport distances is the previous year's travel distance average weighted according to deliveries across operations.
- Concrete mixes are assumed to use an equal amount of site fuel and energy and responsible for an equal amount of waste flows.
- Actual delivered materials are used to calculate the bill of materials across all producing plants. Concrete plants in the study include: Brooklyn.
- The project-specific travel distances for diesel truck from the main plant to the construction site were applied. Truck type of >32 tonne was assumed to be fully utilized travelling to construction site with empty returns.
- Water usage in operations is averaged over the full geographic region of study.
- Grid purchased electricity mixes is based on the specific state's energy mix from OpenNEM. For this project, energy mix was sourced from coal and peat (59%), gas (3%), solar (14%), wind (20%), hydro (5%), and biomass (0%). The electricity emission (GWP-GHG) is 0.74 kg CO2e/kWh.
- Travel for materials sources internationally included from shipping origin.
- Reference Service Life (RSL) is set to 50 years as per default. It's based on the lowest exposure class A1 & A2 (AS 3600:2018 "Concrete Structures") in relatively benign environments.

In Accordance with Environdec c-PCR-003 Concrete, concrete elements (EN 16757), ISO 14025 and EN15804:A2

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Product EPD Process

Bill of Materials	Low Level [%]	High Level [%]
Cement	9	13
Supplementary Cementitious Materials	4	7
Aggregates	75	76
Water	<1	8
Admixtures	0	<1
Reinforcements	0	<1

The materials (by mass%) contained in MEL01 Australia Data Center mixes are summarized in the table above.

Hazard information related to concrete placement

- GHS classifications
  - Skin Corrosion Category 1
  - Serious Eye Damage –Category 1
  - Skin Sensitisation Category 1
  - Specific Target Organ Toxicity (Repeated Exposure) Category 2

- Hazard Statement(s)
  - H302 –Harmful if swallowed
  - P280 –Wear protective gloves/clothing/eye protection.
  - H314 –Causes severe skin burns and eye damage
  - H317 –May cause an allergic skin reaction
  - H318 – Causes serious eye damage
  - H373 –May cause damage to lungs by inhalation (dust from dried product)

By-Products, Recycled Materials & Allocations

Co-products would be allocated via economic allocations and then normalized based on BOM. The following materials are the product of waste streams of other industrial processes:

Fly ash

- A by-product of coal-fired power stations, fly ash is considered to carry no environmental impact for the purposes of this EPD, hence an economic allocation of $0 has been applied to fly ash. The only burdens are of transport to manufacturing sites.

Ground Granulated Blast Furnace Slag (GGBFS)

- Blast furnace slag is a by-product of steel production that is dried and ground for use in concrete production. To duly allocate the environmental impacts, economic allocation has been employed.

Silica fume

- As a by-product of silicon production, silica fume is considered to carry no environmental burden for the purposes of this EPD.

Recycled concrete aggregate

- A component of the boarder category of construction and demolition waste, environmental impacts are allocated on the basis of reprocessing the material following delivery to the recycling facility.

Manufactured Sand

- A by-product of processing coarse aggregate. This manufactured sand is a direct replacement for natural sand and prevents the need to extract natural resources.

Packaging

- This concrete is not produced with any packaging, instead delivered directly to site immediately following production.

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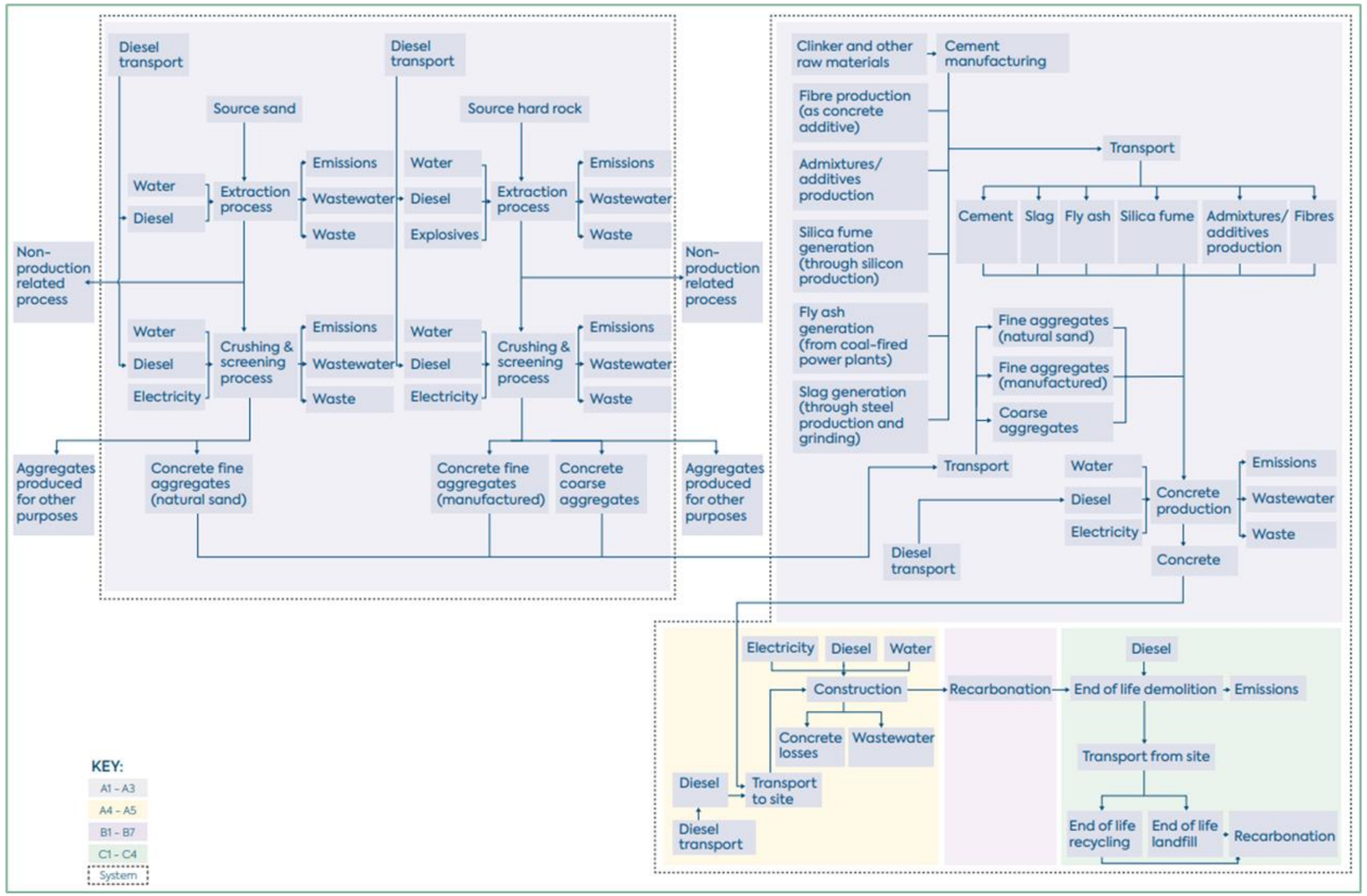
Product Lifecycle Stages

	Product Stage			Construction Stage		Use Stage							End of Life Stage				Benefits & loads for the next product system
	Raw Material Supply	Transport	Manufacturing	Transport	Construction/installation process	Use	Maintenance incl. transport	Repair incl. transport	Replacement incl. transport	Refurbishment incl. transport	Operational Energy Use	Operational Water Use	De-construction & demolition	Transport	Re-use recycling	Final Disposal	Reuse, Recovery Recycling
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	X	X	X	X	X	X
Geography	GLO	GLO	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU	AU
Specific data	>90%																
Variation products	Not Relevant																
Variation sites	<10%																

- All stages of the product lifecycle have been considered for this EPD – cradle to grave. By its nature, there are some stages of the lifecycle that are not applicable to the concrete product.
- The scenario applied for the use stage assumes that under normal use, no maintenance repair or replacement of the product during its service life is required. As a result, the values are displayed as zero.
- Those stages that, due to practicality, cannot be assessed accurately draw on default values of the underlying GCCA tool.
- For Project-specific EPDs, allocation is determined by the supplying plants with estimates as to the likely volume to be delivered from each. Where existing and sufficient data exists, historical data will be used to make this determination.

Product Lifecycle Stages



- The lifecycle model and system boundary is the same for both Generic and Project-specific concrete EPDs, as detailed in the graphic.
- All stages of the lifecycle, from quarry to recycling are covered by the EPD.
- **Cut-off rules**

The cut-off threshold for the LCA study was flows contributing less than 1% for any individual input included in the LCA. No flows were deliberately excluded due to this threshold, however particularly minor impacts (e. g. packaging of chemical admixtures) were not considered. Cut off will occur only when data, or reliable estimates, are not practical to source. The contribution of capital goods (production equipment and infrastructure) and personnel are non-attributable and excluded for the system boundary.

Product Data Sources

LCA Stage	Item	Source	Timing	Data Source	Data Quality		
					Geographical	Technical	Time
Product Description	Product description and density	ERP report Bill of Materials and material specific data	Upon EPD creation	Primary	Very good	Very good	Very good
A1-3 Materials	Raw Materials	ERP report BOM and Mix design compilation used in conjunction with material template Note. Upstream process for raw materials utilise data from ecoinvent 3.10. Specific cement EPD data by the cement manufacturer was used if available. Published cement EPDs were used to create concrete EPDs. In the rare case that specific cement data was not possible, region-specific default cement and clinker values (default values provided by the GCCA tool) would have been used. This would be reflected in "Specific data."	Upon EPD creation	Secondary	Very good	Good	Very good
A1-3 Materials	Inbound travel (raw materials)	ERP report 2. Inbound Travel drawing from actual deliveries from sources to operations. Where delivery data not available, travel calculated based on Google Maps. Train travel (only for operations around Melbourne) calculated by actual Google Maps distance.	Full prior year data, average per delivery Actual travel distances between source and operation.	Primary	Very good	Good	Very good
A1-3 Materials	Allocation Factor (for secondary co products):	Slag: AusLCI Fly Ash & Silica fume: no allocation as they are industrial by-products.	Upon EPD creation	Secondary	Very good	Good	Very good
1-3 Manufacturing	Plant Energy and Fuel Consumption	ERP Report 3. Concrete Energy Use, drawing on actual invoiced usage.	Full prior year data, average per cubic metre	Primary	Very good	Very good	Very good
A1-3 Manufacturing	Electricity Energy Sources	Sourced from OpenNEM https://opennem.org.au; Australian Energy Market Operator. Excludes imports.	Full year prior data, state-based, percentages	Secondary	Very good	Very good	Very good
A1-3 Waste Management	Waste and wastewater	Wastewater volume set to 9L per 1 m^3	Static	Secondary	Very good	Good	Very good
A4-5 Construction	Outbound Travel	For generic EPDs: ERP report 5. Outbound travel drawing from actual deliveries from operations to customer sites. Where data not available, travel calculated based on Google Maps. For project-specific EPDs: The project-specific travel distances from the main plant to the construction site was applied. For both scenarios, diesel truck is used to transport deliveries to customer site/s. A5 uses default GCCA Tool settings for: 2.8 kWh electricity, 1.7 L diesel in building machine, 669 kg water, and 0.7 m^3 wastewater. Note that internal concrete losses are at ~1% (based on internal reports)	Generic EPD: Full prior year data, average per delivery. Project-specific EPD: Actual travel distances between plant and construction site.	Primary	Very good	Good	Very good
B. Use	Re-carbonation	Default GCCA Tool settings	NA	Proxy	Good	Good	Very good,

Product Data Sources

LCA Stage	Item	Source	Timing	Data Source	Data Quality		
					Geographical	Technical	Time
C. End of Life Demolition	Demolition	Default GCCA Tool settings (2.674 L diesel in building machine, 0.0365 mg PM2.5, 0.184 mg PM10, 0.139 mg PM>10). PM refers to particulate matter.	NA	Proxy	Good	Good	Very good,
C. End of Life Transport	Transport	Default GCCA Tool settings	NA	Proxy	Good	Good	Very good
C. End of Life Waste Processing	Recycling Rate at EOL	Masonry materials recycling rate obtained from annual National Waste Report published (e. g. for National Waste Report 2022, page 41, figure 29). Referenced recycling rate is used in industry as closest to concrete-specific value. National Waste Reports	Prior year National Waste Report if available. If not, then latest available	Proxy	Good	Good	Very good
C. End of Life Disposal	Disposal Rate at EOL	Disposal rate inverse of masonry materials recycling rate obtained from annual National Waste Report published National Waste Reports	Prior year National Waste Report if available. If not, then latest available	Proxy	Good	Good	Very good
D Benefits and Loads		Default GCCA Tool settings	NA	NA	NA	NA	NA
General	General	Ecoinvent database used by the GCCA tool Note: This covers environmental information for all raw materials and energy sources. Cement, where data is available, employs specific raw material and energy data for the product manufacture and for each component draws on Eco Invent Data.	NA	Secondary	Very good	Good	Very good

Product Environmental Performance

Product Environmental Performance

Comment	All information about goal and scope necessary for results interpretation are present in the latest version of the “LCA Model” report, available in GCCA’s Industry EPD Tool. Declared GWP-GHG results for modules A1-A3 are <10%. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Since Module C is included in the EPD, the use of Module A1-A3 results without considering the results of Module C is discouraged. EF3.0 based EN15804+A2 impact assessment methodology has been is used for the GWP indicators. The removals and emissions associated with biogenic carbon content of i) the product and ii) the packaging are not significant or even not relevant in the sector. The only limitation is the uptake of CO_2 in A1-A3 (e.g. biobased insulation materials in precast elements or biobased packaging materials) and reemission in A5 (packaging end-of-life) or C3-C4 (product end-of-life). This does not affect the GWP-tot indicator. The tool does not calculate the ‘Radioactive waste disposed’ indicator, it is considered not to be significant for the sector.
Core Environmental Impact Indicators	**GWP-GHG** (Global Warming Potential, GHG) • **GWP-tot** (Global Warming Potential total) • **GWP-fos** (Global Warming Potential fossil fuels) • **GWP-bio** (Global Warming Potential biogenic) • **GWP-luc** (Global Warming Potential land use and land use change) • **ODP** (Depletion potential of the stratospheric ozone layer) • **AP** (Acidification potential, Accumulated Exceedance) • **EP-fw** (Eutrophication potential, freshwater) • **EP-mar** (Eutrophication potential, fraction of nutrients reaching marine end compartment) • **EP-ter** (Eutrophication potential, Accumulated Exceedance) • **POCP** (Formation potential of tropospheric ozone) • **ADPE**[1] (Abiotic depletion potential for non- fossil resources) • **ADPF**[1] (Abiotic depletion for fossil resources potential) • **WDP**[1] (Water (user) deprivation potential, deprivation-weighted water consumption)

[1] *The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.*

Product Environmental Performance

Additional Environmental Impact Indicators	**PM** (Potential incidence of disease due to PM emissions) • **IRP**[2] (Potential Human exposure efficiency relative to U235) • **ETP**[1] (Potential Comparative Toxic Unit for ecosystems) • **HTPC**[1] (Potential Comparative Toxic Unit for humans - cancer) • **HTPNC**[1] (Potential Comparative Toxic Unit for humans - non-cancer) • **SQP**[1] (Potential soil quality index)
Parameters Describing Resource Use	**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) • **NFW** (Net use of fresh water)
Waste Categories	**HWD** (Hazardous waste disposed) • **NHWD** (Non-hazardous waste disposed) • **RWD** (Radioactive waste disposed)
Output Flows	**CRU** (Components for re-use) • **MFR** (Materials for recycling) • **MER** (Materials for energy recovery) • **EE** (Exported energy)
Extra Indicators	**CC**[1] (Emissions from calcination and removals from carbonation) • **CWRS** (Emissions from combustion of waste from renewable sources used in production processes) • **CWNRS** (Emissions from combustion of waste from non-renewable sources used in production processes) • **GWP-prod** (Removals and emissions associated with biogenic carbon content of the bio-based product) • **GWP-pack** (Removals and emissions associated with biogenic carbon content of the bio-based packaging)

[1] The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience 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.

Product Environmental Performance

Product identification	**ZZP40AU46**
EPD Registration Number	**EPD-IES-0015325:001**
Production site(s)	Melbourne
Compressive strength	40
Density	2319 kg/m³
Reference service life	50 Years
Recycling Rate At EoL	81%
Declared unit	1 m^3
Scope	A1-A3 + A4-A5 + B1-B7 + C1-C4 + D, cradle-to-grave
Methodology	GCCA's Industry EPD Tool for Cement and Concrete (V5.0), International version
Reference Year	2024

Product Environmental Performance

EPD Registration Number EPD-IES-0015325:001

Core environmental impact indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq.	2.73E+02	2.77E+00	1.19E+01	-5.73E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E+00	1.01E+01	3.71E+00	2.73E+00	-1.36E+01
GWP-tot	kg CO_2 eq.	2.73E+02	2.77E+00	1.19E+01	-5.73E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E+00	1.01E+01	3.71E+00	2.73E+00	-1.36E+01
GWP-fos	kg CO_2 eq.	2.37E+03	2.76E+00	3.29E+01	-5.73E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.63E+00	1.01E+01	3.70E+00	2.73E+00	-1.36E+01
GWP-bio	kg CO_2 eq.	1.69E-01	1.13E-04	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-03	2.16E-03	6.87E-03	3.76E-04	-3.38E-02
GWP-luc	kg CO_2 eq.	9.62E-02	1.12E-03	3.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-04	4.84E-03	7.08E-03	1.40E-03	-1.07E-02
ODP	kg CFC 11 eq.	1.53E-06	4.31E-08	2.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-07	1.46E-07	4.41E-08	7.89E-08	-1.11E-07
AP	mol H+ eq.	8.64E-01	1.15E-02	8.89E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.69E-02	5.24E-02	3.18E-02	1.93E-02	-8.58E-02
EP-fw	kg P eq.	3.49E-02	7.09E-05	7.94E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.17E-05	3.38E-04	7.81E-04	7.39E-05	-1.23E-03
EP-mar	kg N eq.	7.17E-02	4.19E-03	3.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.03E-02	1.96E-02	7.37E-03	7.37E-03	-2.04E-02
EP-ter	mol N eq.	2.31E+00	4.57E-02	3.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.41E-01	2.13E-01	7.66E-02	8.05E-02	-2.58E-01
POCP	kg NMVOC eq.	6.10E-01	1.67E-02	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-01	7.15E-02	2.29E-02	2.88E-02	-6.98E-02
ADPE	kg Sb eq.	1.94E-04	7.77E-06	1.97E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-06	2.76E-05	3.03E-05	4.35E-06	-7.21E-05
ADPF	MJ, net calorific value	1.39E+03	4.04E+01	1.31E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E+02	1.42E+02	7.45E+01	6.69E+01	-1.63E+02
WDP	m^3 world eq. deprived	3.11E+01	1.94E-01	1.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-01	8.29E-01	1.19E+00	1.87E-01	-2.73E+01

Parameters describing resource use

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ, net calorific value	3.12E+01	5.30E-01	5.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.73E-01	2.77E+00	9.47E+00	6.21E-01	-1.35E+01
PERM	MJ, net calorific value	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
PERT	MJ, net calorific value	3.12E+01	5.30E-01	5.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.73E-01	2.77E+00	9.47E+00	6.21E-01	-1.35E+01
PENRE	MJ, net calorific value	5.41E+02	4.04E+01	1.23E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E+02	1.42E+02	7.45E+01	6.69E+01	-1.63E+02
PENRM	MJ, net calorific value	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
PENRT	MJ, net calorific value	5.41E+02	4.04E+01	1.23E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E+02	1.42E+02	7.45E+01	6.69E+01	-1.63E+02
SM	kg	9.42E+01	0.00E+00	9.42E-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	0.00E+00
RSF	MJ, net calorific value	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
NRSF	MJ, net calorific value	1.19E+02	0.00E+00	1.19E+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
NFW	m^3	1.61E+00	5.94E-03	3.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.19E-03	2.37E-02	3.38E-02	6.94E-02	-6.45E-01

Product Environmental Performance

EPD Registration Number EPD-IES-0015325:001

Additional environmental impact indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	9.35E-06	2.83E-07	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-06	1.11E-06	3.69E-07	4.40E-07	-1.39E-06
IRP	kBq U235 eq.	5.65E+02	3.56E-02	5.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.65E-02	1.83E-01	7.10E-01	4.27E-02	-1.17E+00
ETP	CTUe	1.80E+02	9.71E+00	1.67E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E+01	4.09E+01	1.84E+01	9.15E+00	-8.71E+01
HTPC	CTUh	6.57E-07	1.38E-08	4.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-08	6.46E-08	1.43E-08	1.23E-08	-1.60E-07
HTPNC	CTUh	1.28E-05	2.67E-08	1.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-08	9.11E-08	5.19E-08	1.20E-08	-1.10E-07
SQP	dimensionless	1.00E+03	4.06E+01	3.18E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.86E+00	1.32E+02	4.06E+01	1.32E+02	-1.73E+02

Other environmental information describing waste categories

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	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
NHWD	kg	1.80E-01	0.00E+00	4.35E+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	4.34E+02	0.00E+00
RWD	kg	3.16E-04	8.72E-06	4.76E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-05	4.50E-05	1.74E-04	1.04E-05	-2.85E-04

Environmental information describing output flows

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	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
MFR	kg	2.15E-02	0.00E+00	1.88E+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	1.88E+03	0.00E+00	0.00E+00
MER	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
EE	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

Extra indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CC	kg CO_2 eq.	1.41E+02	0.00E+00	1.29E+00	-5.73E+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	-2.07E+00	0.00E+00	0.00E+00
CWRS	kg CO_2 eq.	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
CWNRS	kg CO_2 eq.	9.42E+00	0.00E+00	9.42E-02	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
GWP-prod	kg CO_2	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
GWP-pack	kg CO_2	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

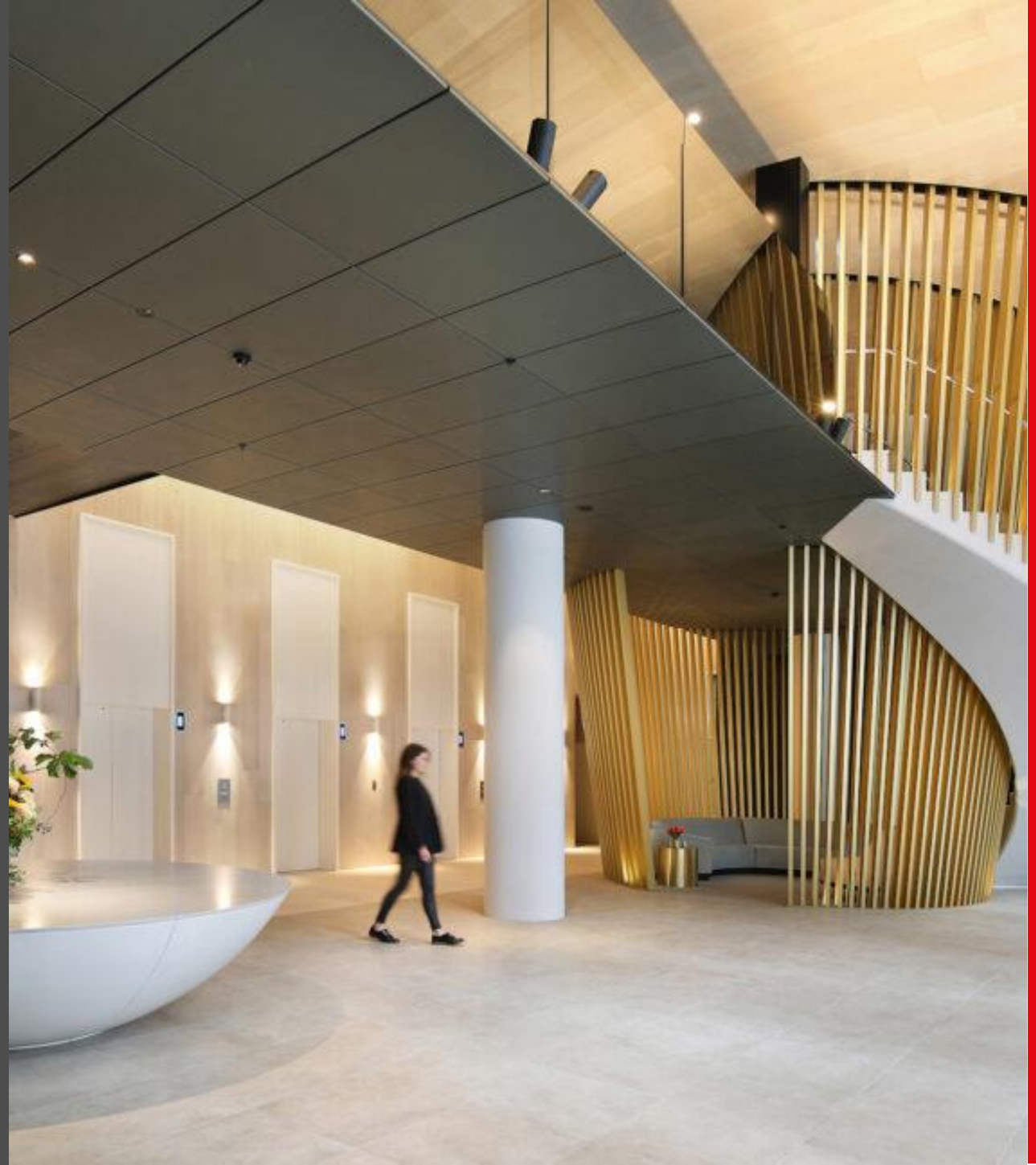
Product Environmental Performance

- The EPD values presented are indicative of local material performance at the time of publishing and are subject to change based on material availability and seasonal factors.

Product Identification	EPD Registration Number	Compressive strength [MPa]	A1-A3 GWP-tot[1] [kg CO_2 eq./m^3]	Full Lifecycle GWP-tot[1] [kg CO_2 eq./m^3]	Application
P402080	EPD-IES-0015324:001	40	235	258	General Works
ZZP40AU46	EPD-IES-0015325:001	40	273	294	PT Slab

[1]More detailed information is provided in the mix-specific tables and assumptions covered in Life Cycles & Processes section.

References



EPD Owner	XL Concrete Pty Ltd 6 Mckay Crescent, Fairfield VIC 3078 Phone: (03) 9499 9700 Online: xlconcrete.com.au	
Programme Operator	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden Online: www.environdec.com Email: info@environdec.com	
Regional Programme	EPD Australasia Limited, 315a Hardy St, Nelson 7010 New Zealand Online: epd-australasia.com Email: info@epd-Australasia.com	
Process EPD Certified By	Megan Blizzard Epsten Group, Inc. 101 Marietta St. NW, Suite 2600, Atlanta, Georgia 30303, USA www.epstengroup.com Accredited by: A2LA, Certificate #3142.03	
Product Category Rules	CEN standard EN 15804:A2 (PCR 2019:14 Construction Products, Version 1.3.4) served as the core PCR. Environdec c-PCR-003 Concrete, concrete elements (EN 16757:2023) served as sub-PCR.	
EN 15804 PCR Review	The Technical Committee of the International EPD®System. Chair: Claudia A. Peña. The review panel may be contacted via info@environdec.com.	
EPD Registration Number	EPD-IES-0015325:001	
Independent Verification of the Declaration and Data, According to ISO 14025:	☒ EPD process certification ❑ EPD verification	
Valid From	2025-02-10	
Valid To	2025-02-10	
Version	v.1 2025-02-10	
Description of Version Differences (if NOT VERSION 1.0)	N/A	
Geographical Scope	VICTORIA - MELBOURNE	
Important Notes	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. The EPD Owner maintains full ownership, liability and responsibility for the EPD.	
Product Group Classification	UN CPC 88 - Concrete, cement and plaster article manufacturing services	
ANZSIC Classification	2033 Ready Mix Concrete Manufacturing	

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XL CONCRETE

Fairfield plant
6 McKay Crescent
Fairfield VIC 3078

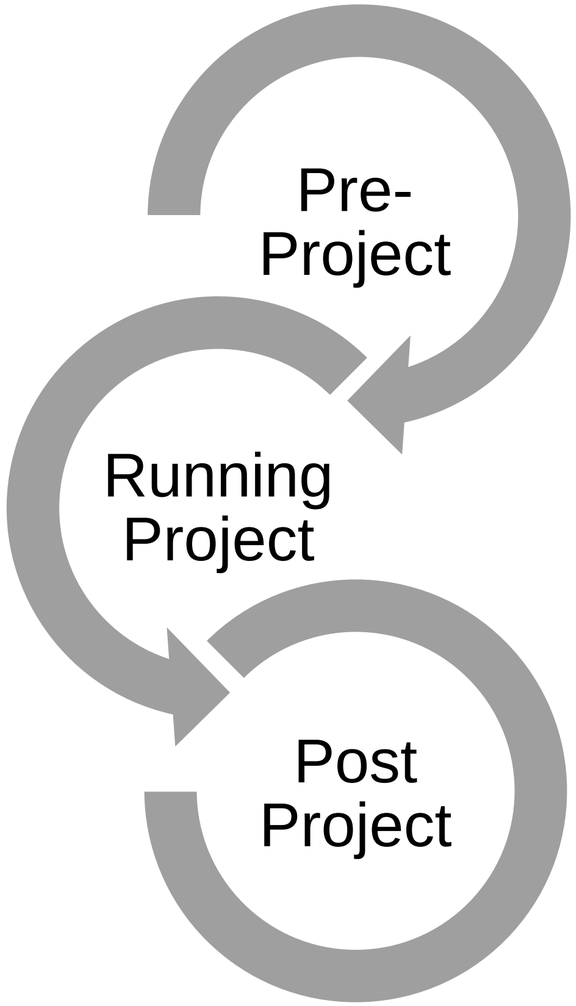
Somerton plant
24-36 Thorny Croft Street
Somerton VIC 3062

Brooklyn plant
Jones Rd,
Brooklyn VIC 3012

Westall plant
26 Westall Rd,
Springvale VIC 3171

Port Melbourne plant
213 to 215 Boundary St,
Port Melbourne VIC 3207

CO_2 Service Offer



CO_2 is set to become a crucial budgeting currency in the construction sector. As such, it must be managed accordingly. Most provided embodied carbon emission data out there is based on estimates and typically handed over to the customer before a project starts.

At Heidelberg Materials Australia, we believe there's a better way to communicate carbon values, which also eliminates the current gap of carbon monitoring options during the construction phase in the market:

1) **Pre-project:** Predicting - We can provide you indicative CO_2 values for your specific project with our 3rd party verified CO_2 calculator (targeted & fast & reliable).

2) **Running project:** Monitoring - You get regular updates of your deliveries and how you track towards your carbon targets (no more surprises).

3) **Post-project:** Verification - You'll receive a final report and a project-specific EPD based on actual deliveries (highest accuracy).