



# Atlan

STORMWATER

## AtlanFlow® EPD

MANUFACTURED BY ATLAN STORMWATER

Environmental Product Declaration of multiple products based on average results of product group AtlanFlow: AtlanFlow ATF110.8, AtlanFlow ATF160.8, AtlanFlow ATF225.8, AtlanFlow ATF300.8, AtlanFlow ATF375.8, AtlanFlow ATF450.8, AtlanFlow ATF525.8, AtlanFlow ATF600.8, AtlanFlow ATF750.8, AtlanFlow ATF900.8, AtlanFlow ATF1050.8.

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

**Program:** International EPD System  
[www.environdec.com](http://www.environdec.com)

**Program Operator:** EPD International AB

**Regional Program:** EPD Australasia  
[www.epd-australasia.com](http://www.epd-australasia.com)

**EPD Registration No.** EPD-IES-0019820:001

**Version Date:** 2025-10-15

**Validity Date:** 2030-10-14

**Geographical Scope:** Australia

**Version:** 001

An EPD 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](http://www.environdec.com)



# Information About EPD Owner

Our Environmental Product Declaration (EPD) presents verified environmental performance data for the AtlanFlow system. Developed in line with ISO 14025 and EN 15804, it reflects our commitment to data transparency, sustainable infrastructure, and water-sensitive urban design (WSUD).

The AtlanFlow system included in our EPD has undergone a life cycle assessment (LCA), measured from raw material extraction through to end-of-life. The data in this document provides our customers with the confidence to specify Atlan solutions based on independently verified environmental impacts.

Our EPDs form part of Atlan's broader commitment to improving stormwater outcomes across Australia, and the world, by enabling informed decision-making and driving progress toward cleaner, healthier waterways.

*Joy in Water* guides our mission to create, inspire and nurture, shaping how we design, manufacture and support every product we bring to market.

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**Atlan is an Australian stormwater specialist, engineering smart, sustainable water solutions since 1972.**

As a family-owned business, we've dedicated over 50 years to helping communities protect what matters most: clean waterways, thriving ecosystems and safe, resilient spaces. Atlan systems are designed and manufactured in Australia, and trusted around the world.

Our products are everywhere water meets urban life: below roads and ovals, beneath car parks and playgrounds, inside basins, wetlands and channels. From large-scale detention systems to precision filtration devices, every Atlan solution is designed to perform in the real world with durability, modularity and ease of maintenance at its core. But we're more than a product provider.

We're collaborators, educators and problem-solvers. We work closely with councils, engineers, and contractors to shape our cities by delivering innovative, compliant stormwater infrastructure that lasts. And we back our systems with independent field testing and verified environmental data, because we believe trust is earned, not claimed.

We believe clean waterways are a right, not a privilege and we work to ensure a *Joy in Water* experience for you, with your family & friends.





# Additional Environmental Information

**Our commitment to sustainability starts with purpose-led design. Inspired by our *Joy in Water* philosophy, we create solutions that deliver long-term performance.**

Sustainability, like water, always finds a path forward. It flows through every part of our business, driving innovation, efficiency, and creating new possibilities.

That's why we manufacture AtlanFlow locally, supporting regional jobs. It's why our modular systems are designed to stand the test of time.

We back our environmental claims with data. Our EPDs give project partners access to verified, lifecycle-based insights into carbon emissions, energy use and resource recovery potential. They also support Green Star and IS Rating assessments, and help councils and developers make more informed, lower-impact infrastructure decisions.

Beyond our products, sustainability defines our mission. We support clean-up programs, stormwater education, and reform efforts to stop pollution at the source in our urban catchments. We also partner with researchers and educators to improve standards, share insights, and accelerate the shift to water-sensitive cities.

Because for us, sustainability is vital for our global communities - their people, flora and fauna. It shapes how we approach protecting *Joy in Water* for future generations.



The following sustainability highlights reflect key environmental features of the AtlanFlow system.



**Locally Manufactured**  
AtlanFlow is made in Australia



**Designed to Australian Standards**  
Compliant with key standards including AS/NZS5065:2005 and AS/NZS2566.1:1998



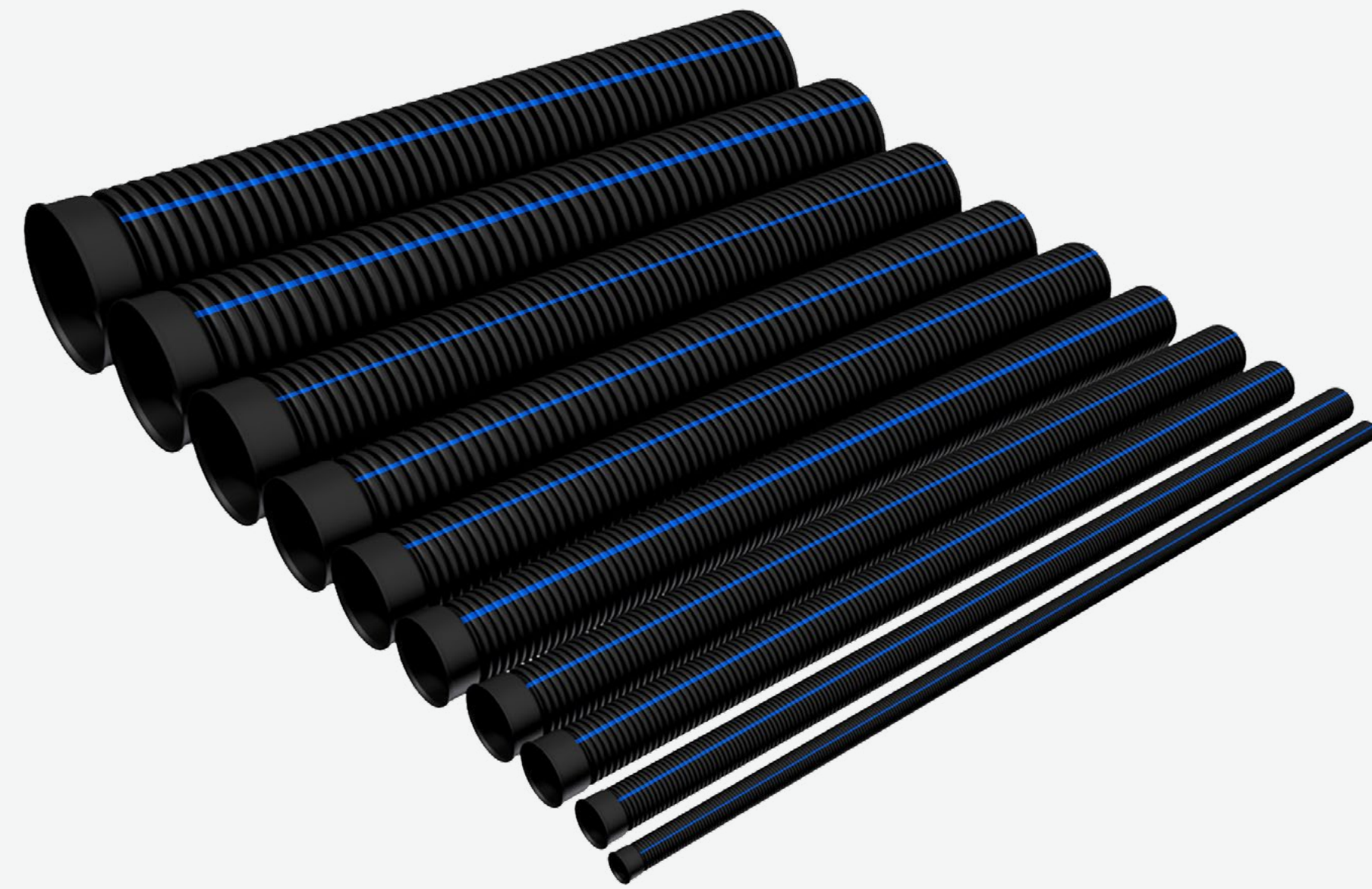
**Independently Tested & Verified**  
EPDs provide verified lifecycle data for carbon and resource use



**Supports Green Star & IS Ratings**  
Contributes to Green Building and Infrastructure Sustainability outcomes  
Verified product data supports project ESG reporting and procurement



# Product Information



## AtlanFlow®

AtlanFlow ATF110.8, AtlanFlow ATF160.8, AtlanFlow ATF225.8, AtlanFlow ATF300.8, AtlanFlow ATF375.8, AtlanFlow ATF450.8, AtlanFlow ATF525.8, AtlanFlow ATF600.8, AtlanFlow ATF750.8, AtlanFlow ATF900.8, AtlanFlow ATF1050.8

AtlanFlow SN8 HDPE corrugated pipe is a dual wall (corrugated outer wall and smooth inner wall) pipe engineered from high density polyethylene (HDPE). It is light, strong, and durable, requires low cover, and is hydraulically efficient with superior performance in gravity-flow drainage applications.

# General Information

## Program Information

### Program: EPD International AB

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Stockholm, Sweden

e: [support@environdec.com](mailto:support@environdec.com)

### Regional Program:

#### EPD Australasia Limited

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Richmond 7020 New Zealand

w: <https://epd-australasia.com>

e: [info@epd-australasia.com](mailto:info@epd-australasia.com)

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

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Product Category Rules (PCR) 2019:14  
Construction products, Version 2.0.1

**UN CPC Code:** 36320

### PCR review was conducted by:

The Technical Committee of the  
International EPD® System.

A full list of members available on  
[www.environdec.com](http://www.environdec.com) for a list of  
members. The review panel may be  
contacted via [support@environdec.com](mailto:support@environdec.com).

**Review chair:** Rob Rouwette (chair),  
Noa Meron (co-chair)

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

- EPD process certification  
 EPD verification by individual verifier

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### Third party verifier:

Kimberly Robertson,  
Force Consulting

e: [kimberlyrobertson@xtra.co.nz](mailto:kimberlyrobertson@xtra.co.nz)

**Approved by:** EPD Australasia Ltd

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### 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 published in different EPD  
programmes, may not be comparable. For  
two EPDs to be comparable, they shall  
be based on the same PCR (including  
the same first-digit 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 identical scope in terms of  
included life-cycle stages (unless the  
excluded life-cycle stage is demonstrated  
to be insignificant); apply identical impact  
assessment methods (including the same  
version of characterisation factors); and  
be valid at the time of comparison.

For further information about  
comparability, see EN 15804 and ISO  
14025.

## Company Information

### Owner of the EPD:

Atlan Stormwater

### Contact Details:

James Hales  
Director, Atlan Stormwater

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NSW 2127

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### Manufacturer Sites:

AtlanFlow products are manufactured  
in Thurgoona NSW

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### EPD produced by:

#### Edge Environment Pty Limited

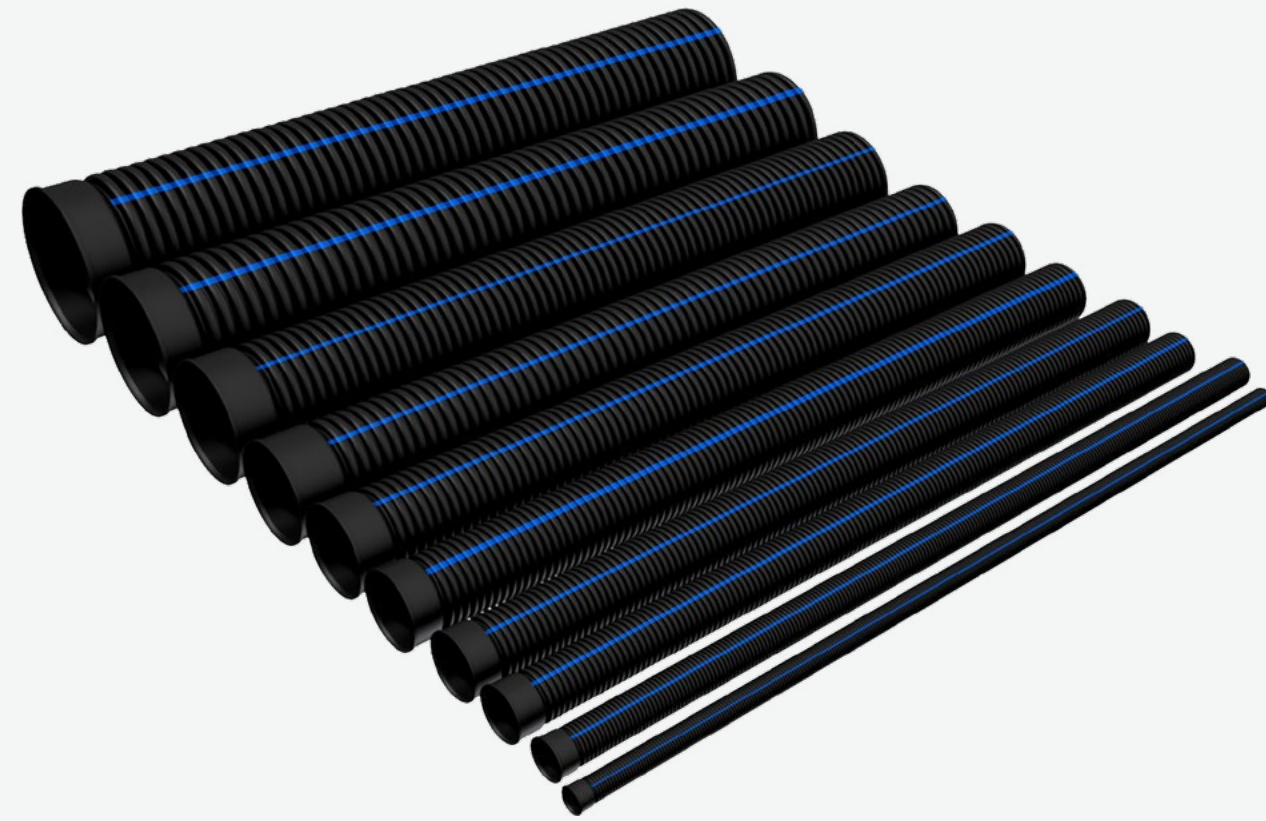
Yumi Kobayashi, Sazal Kundu

Greenhouse, Level 3, 180 George Street  
Sydney, NSW, 2000

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## Product Information



**Product Name:** AtlanFlow

**Product Identification:** AtlanFlow ATF110.8, AtlanFlow ATF160.8, AtlanFlow ATF225.8, AtlanFlow ATF300.8, AtlanFlow ATF375.8, AtlanFlow ATF450.8, AtlanFlow ATF525.8, AtlanFlow ATF600.8, AtlanFlow ATF750.8, AtlanFlow ATF900.8, AtlanFlow ATF1050.8

AtlanFlow SN8 HDPE corrugated pipe is a dual wall (corrugated outer wall and smooth inner wall) pipe engineered from high density virgin polyethylene (HDPE). It is light, strong, and durable, requires low cover, and is hydraulically efficient with superior performance in gravity-flow drainage applications.

**Product Application:** Road and rail, Subdivisions, Car parks / open spaces, Commercial, Industrial, Rural, Mining.

**UN CPC Code:** 36320 Tubes, pipes and hoses, and fittings therefor, of plastics.

**ANZSIC Code:** 1912 Rigid and Semi-Rigid Polymer Product Manufacturing.

**Geographical Scope:** Australia

**Manufacturing site:** Thurgoona NSW

## LCA Information

**Declared Unit:** 1 kg of product

The results of the environmental performance are presented per declared unit. The performance per metre of the product can be obtained by multiplying the results by the mass of the product per metre as provided in the content declaration section.

**Time Representativeness:** The LCA study was conducted based on production data from 1 January 2024 to 31 December 2024.

**Database(s) and LCA software used:** The inventory data for the process are entered into the SimaPro (v10.1) LCA software program and linked to the pre-existing data for the upstream feedstocks and services selected in order of preference from:

- For Australia, the Australian Life Cycle Inventory (AusLCI) v2.45 compiled by the Australian Life Cycle Assessment Society (ALCAS 2024). The AusLCI database at the time of this report was less than 2 years old.
- Other authoritative sources, e.g., ecoinvent v3.10, (ecoinvent 2023). At the time of reporting, the ecoinvent v3.10 database was less than 2 years old.

**System Boundaries:** The scope of this EPD is cradle to gate with modules C1–C4 and module D (A1–A3 + C + D).

The following life cycle stages have not been declared, as they are deemed not applicable or predictable for AtlanFlow:

- Transport (A4); Construction installation (A5): Unpredictable due to uncertainty in the installation location and installation method applied.
- Material emissions from usage (B1); Maintenance (B2); Repair (B3); Replacement (B4); Refurbishment (B5); Operational energy use (B6) and Operational water use (B7): Inapplicable due to no activity during the use stage.

	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	Deconstruction 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
<b>Modules declared</b>	x	x	x	ND	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
<b>Geography</b>	GLO	GLO	AU	-	-	-	-	-	-	-	-	-	AU	AU	AU	AU	AU
<b>Primary data used</b>		15%		-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Variation - products</b>		0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Variation - sites</b>		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = not declared (such a declaration shall not be regarded as an indicator of zero result).

**This EPD has been produced in conformance with the requirements of PCR2019:14, General Program Instructions (GPI) V5.0.1 and EN 15804.**

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

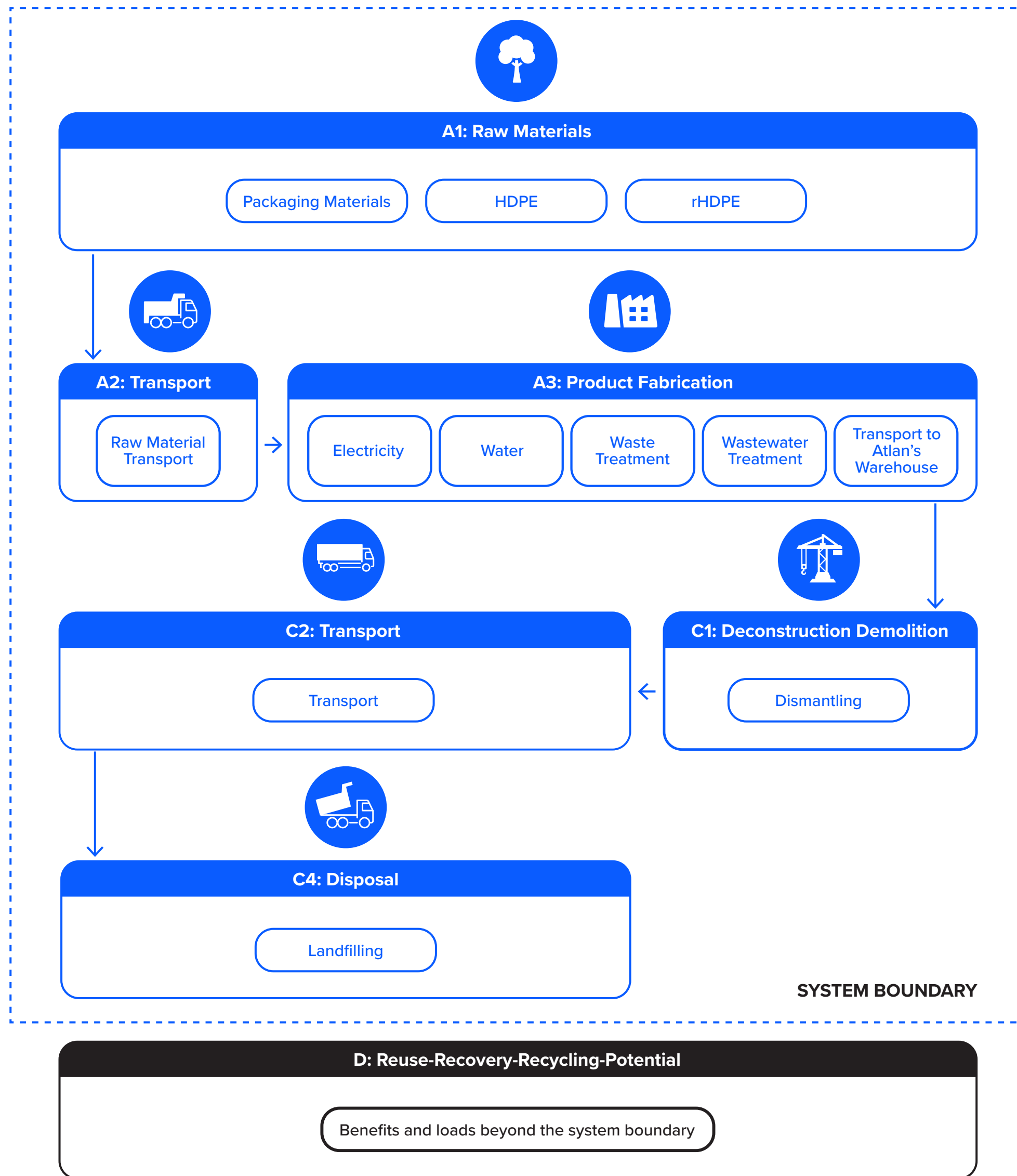


Figure 1: System Diagram

### Upstream Processes

The upstream processes include those involved in Module A1 – Raw material supply. This module includes:

- Extraction, transport and manufacturing of raw materials.
- Generation of electricity from primary and secondary energy resources, also including their extraction, refining and transport for Modules A1.
- Processing up to the end-of-waste state or disposal of final residues including any packaging not leaving the factory gate with the product.

### Core Processes

The core processes include those involved in Module A2 and Module A3, including:

- External transportation of materials to the core processes and internal transport.
- Manufacturing of the AtlonFlow products.
- Packaging materials.
- Processing of waste to landfill and recycling of 100% of cardboard from input material packaging and used oil.

### Downstream Processes

This study assumes that the most likely end-of-life scenario for AtlonFlow is that it remains underground. Therefore, although HDPE is recyclable, recycling was not considered. This assumption aligns with other EPDs for underground water management infrastructure.

### Cut-off rules and Exclusion of Small Amounts

It is common practice in LCA/LCI protocols to propose exclusion limits for inputs and outputs that fall below a certain threshold % of the total, but with the exception that where the input/output has a “significant” impact it should be included. According to the PCR 2019:14 v2.0.1, Life cycle inventory data shall according to EN 15804 A2 include a minimum of 95% of total inflows (mass and energy) per module. Inflows not included in the LCA shall be documented in the EPD. Data gaps in included stages in the downstream modules shall be reported in the EPD, including an evaluation of their significance. The manufacturing waste intended

for recycling requires additional reprocessing after reaching the end-of-waste state. The impacts caused by the reprocessing was considered, however, transport associated with this reprocessing has been excluded, as the quantity of waste is minimal and the transport distance is expected to be short. In accordance with the PCR 2019:14 v2.0.1, the following system boundaries are applied to manufacturing equipment and employees:

- Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process are not accounted for in the LCI. Capital equipment and buildings typically account for less than a few percent of nearly all LCIs and this is usually smaller than the error in the inventory data itself. For this project, it is assumed that capital equipment makes a negligible contribution to the impacts as per Frischknecht et al. (Frischknecht, 2007) with no further investigation.
- Personnel-related impacts, such as transportation to and from work, are also not accounted for in the LCI. The impacts of employees are also excluded from inventory impacts on the basis that if they were not employed for this production or service function, they would be employed for another. It is very hard to decide what proportion of the impacts from their whole lives should count towards their employment. For this project, the impacts of employees are excluded.

### Allocation

In a process step where more than one type of product is generated, it is necessary to allocate the environmental stressors (inputs and outputs) from the process to the different products (functional outputs) in order to get product-based inventory data instead of process-based data. An allocation problem also occurs for multi-input processes. In an allocation procedure, the sum of the allocated inputs and outputs to the products shall be equal to the unallocated inputs and outputs of the unit process.

Energy and utilities used as well as waste generated during production are allocated to individual products using the mass allocation method, based on production volumes of each product. The background data are from eitherecoinvent 3.10 EN15804 or AusLCI v2 EN15804, all of which use allocation methods compliant with the current PCR. Exceptions apply where an upstream EPD was used, specifically for recycled HDPE. The allocation methods in the EPD comply with PCR 2019:14 version 2.01.

## Data Quality Assessment

The EPD is based on data collected by Atlan from their production site over a one-year period starting in January 2024. It is representative of AtlanFlow production at the site located in Thurgoona NSW, accounting for 100% of its production.

The EPD incorporates background data from ecoinvent 3.10, EN15804, and AusLCI v2 EN15804 version 2.45. EPD data is used for recycled HDPE. The quality of the data used, assessed in terms of temporal, geographical, and technological representativeness in accordance with EN 15804:2012+A2:2019, Annex E, E2, is rated as either good or very good. No relevant data used in the assessment was classified as fair, poor, or very poor.

## Electricity Modelling

The AusLCI dataset for New South Wales' residual grid mix was used for electricity in the core process. The contribution of each energy source is provided in the table below. The GWP-GHG characterization factor is 0.81 kg CO<sub>2</sub> eq./kWh.

Source	NSW
Hydro	16%
Coal	74%
Natural Gas	2.6%
Oil	0.15%
Solar	6.9%
Bagasse	0.35%

## Compliance with Standards

The methodology and report format has been modified to comply with:

- ISO 14040:2006+A1:2020 and ISO14044:2006+A2:2020 which describe the principles, framework, requirements and provides guidelines for life cycle assessment (LCA).
- ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations -- Principles and procedures, which establishes the principles and specifies the procedures for developing Type III environmental declaration programmes and Type III environmental declarations.
- EN 15804:2012+A1:2013; Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- EN 15804:2012+A2:2019; Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- Product Category Rules (PCR) 2019:14, v2.0.1 – Construction products – Hereafter referred to as PCR 2019:14.
- General Programme Instructions (GPI) for the International EPD System v5.0.1 – containing instructions regarding methodology and the content that must be included in EPDs registered under the International EPD System.
- Instructions of EPD Australasia V4.2 – a regional annex to the general programme instructions of the International EPD System.
- EN 15941:2024 Sustainability of construction works – Data quality for environmental assessment of products and construction work – Selection and use of data (EN 15941, 2024).
- ECO Platform standards including LCA calculation rules v2.0, and digital data requirements v1.1.

	Type of source	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
<b>Manufacturing of product</b>	Database	AusLCI v2 EN15804 Version 2.45	2024	Representative secondary	0%
<b>Generation of electricity used in manufacturing of product</b>	Database	AusLCI v2 EN15804 Version 2.45	2024	Primary	12%
<b>Transport of raw materials to manufacturing site</b>	Database	ecoinvent 3.10, EN15804	2024	Primary	0%
<b>Production of HDPE</b>	Database	AusLCI v2 EN15804 Version 2.45	2024	Representative secondary	0%
<b>Production of recycled HDPE</b>	EPD	EPD-IES-0014124	2024	Representative secondary	0%
<b>Production of packaging</b>	Database	ecoinvent 3.10, EN15804	2024	Representative secondary	0%
<b>Transport of products to warehouse</b>	Database	ecoinvent 3.10, EN15804	2024	Primary	3.0%
<b>Other processes</b>	Database	ecoinvent 3.10, EN15804, AusLCI v2 EN15804 Version 2.45	2024	Representative secondary	0%
<b>Total share of primary data, of GWP-GHG results for A1-A3</b>					<b>15%</b>

## Assumptions, Choices, and Limitations

Assumption or limitation	Impact on LCA results	Impact on LCA results
<b>Raw material data for the product</b>	Minor	The raw material loss during the manufacturing is minimal, for example, due to the use of a closed mould precasting process specially developed to eliminate waste, therefore it was assumed that their contributions to the products' environmental performance is negligible.
<b>Exclusion of employees, capital good and infrastructure</b>	Minor	Personnel-related impacts, such as transportation to and from work, are also not accounted for in the LCI. The impacts of employees are also excluded from inventory impacts on the basis that if they were not employed for this production or service function, they would be employed for another. It is very hard to decide what proportion of the impacts from their whole lives should count towards their employment. For this project, the impacts of employees are excluded.
<b>End-of-Life treatment</b>	Medium	Due to the lack of specific information, the products were assumed to be abandoned and remain underground at the end of their life.

## Environmental Performance Related Information

The potential environmental impacts, use of resources and waste categories included in this EPD were calculated using the SimaPro v10.1 tool. The characterisation factors are based on version 3.1 of the EN 15804+A2 package for the Product Environmental Footprint (PEF) framework (EF 3.1).

The impact results of the biogenic carbon and energy resource use are coherent with the guidance and requirement in Annex 2 and Annex 3 - Option A of PCR 2019:14

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.

Impact Category	Abbreviation	Measurement Unit	Assessment Method and Implementation
<b>Potential Environmental Impacts</b>			
<b>Total global warming potential</b>	<b>GWPT</b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2021
<b>Global warming potential (fossil)</b>	<b>GWPF</b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2021
<b>Global warming potential (biogenic)</b>	<b>GWPB</b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2021
<b>Global warming potential (Land use and land transformation)</b>	<b>GWPL</b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2021
<b>Acidification potential</b>	<b>AP</b>	mol H <sup>+</sup> eq.	Accumulated Exceedance, Seppälä et al. 2006, Posch et al., 2008
<b>Eutrophication – aquatic freshwater</b>	<b>EP – freshwater</b>	kg P equivalent	EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe
<b>Eutrophication – aquatic marine</b>	<b>EP – marine</b>	kg N equivalent	EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe
<b>Eutrophication – terrestrial</b>	<b>EP – terrestrial</b>	mol N equivalent	Accumulated Exceedance, Seppälä et al. 2006, Posch et al.
<b>Photochemical ozone creation potential</b>	<b>POCP</b>	kg NMVOC equivalents	LOTOS-EUROS, Van Zelm et al., 2008, as applied in ReCiPe
<b>Abiotic depletion potential (elements)*</b>	<b>ADPE</b>	kg Sb equivalents	CML (v4.8)
<b>Abiotic depletion potential (fossil fuels)*</b>	<b>ADPF</b>	MJ net calorific value	CML (v4.8)
<b>Ozone depletion potential</b>	<b>ODP</b>	kg CFC 11 equivalents	Steady-state ODPs, WMO 2014
<b>Water Depletion Potential*</b>	<b>WDP</b>	m <sup>3</sup> equivalent deprived	Available WATER REMaining (AWARE) Boulay et al., 2016 (includes Australia flows calculated using 36 Australian catchments)
<b>Additional environmental impact indicators</b>			
<b>Global warming potential, excluding biogenic uptake, emissions and storage</b>	<b>GWP-GHG<sup>1</sup></b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2021
<b>Global warming potential, IPCC 2013 AR5</b>	<b>GWP-GHG (IPCC AR5)</b>	kg CO <sub>2</sub> equivalents (GWP100)	Baseline model of 100 years of the IPCC based on IPCC 2013 (AR5)
<b>Particulate matter</b>	<b>PM</b>	Disease incidence	SETAC-UNEP, Fantke et al. 2016
<b>Ionising radiation - human health**</b>	<b>IRP</b>	kBq U-235 eq	Human Health Effect model
<b>Eco-toxicity (freshwater)*</b>	<b>ETP-fw</b>	CTUe	USEtox
<b>Human toxicity potential - cancer effects*</b>	<b>HTP-c</b>	CTUh	USEtox
<b>Human toxicity potential - non cancer effects*</b>	<b>HTP-nc</b>	CTUh	USEtox
<b>Soil quality*</b>	<b>SQP</b>	dimensionless	Soil quality index (LANCA®)

\*Disclaimer – 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.

\*\*Disclaimer – 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.

<sup>1</sup>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 CO<sub>2</sub> is set to zero.

Impact Category	Abbreviation	Measurement Unit	Assessment Method and Implementation
<b>Resource use</b>			
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	PERE	MJ, net calorific value	Manual for direct inputs
Use of renewable primary energy resources used as raw materials	PERM	MJ, net calorific value	Manual for direct inputs <sup>2</sup>
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	PERT	MJ, net calorific value	ecoinvent version 3.10 and expanded by PRé Consultants <sup>3</sup>
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	PENRE	MJ, net calorific value	Manual for direct inputs
Use of non- renewable primary energy resources used as raw materials	PENRM	MJ, net calorific value	Manual for direct inputs
Total use of non- renewable primary energy resources (primary energy and primary energy resources used as raw materials)	PENRT	MJ, net calorific value	ecoinvent version 3.10 and expanded by PRé Consultants <sup>4</sup>
Use of secondary material	SM	kg	Manual for direct inputs
Use of renewable secondary fuels	RSF	MJ, net calorific value	Manual for direct inputs
Use of non-renewable secondary fuels	NRSF	MJ, net calorific value	Manual for direct inputs
Use of net fresh water	FW	m <sup>3</sup>	ReCiPe 2016
<b>Waste categories</b>			
Hazardous waste disposed	HWD	kg	EN 15804+A2 LCI
Non-hazardous waste disposed	NHWD	kg	EN 15804+A2 LCI
Radioactive waste disposed/stored	RWD	kg	EN 15804+A2 LCI

Impact Category	Abbreviation	Measurement Unit	Assessment Method and Implementation
<b>Output flow categories</b>			
Components for re-use	CRU	kg	Manual for direct inputs
Material for recycling	MFR	kg	Manual for direct inputs
Materials for energy recovery	MERE	kg	Manual for direct inputs
Exported energy - electricity	EE - e	MJ per energy carrier	Manual for direct inputs
Exported energy - thermal	EE - t	MJ per energy carrier	Manual for direct inputs
<b>Potential Environmental Impacts – Indicators According to EN 15804+A1</b>			
Global warming	GWP	kg CO <sub>2</sub> equivalents	CML (v4.02) based on IPCC AR4
Ozone layer depletion	ODP	kg CFC-11 equivalents	CML (v4.02) based on WMO 1999
Acidification	AP	kg SO <sub>2</sub> equivalents	CML (v4.02)
Eutrophication	EP	kg PO <sub>4</sub> <sup>3-</sup> equivalents	CML (v4.02)
Photochemical oxidation	POCP	kg C <sub>2</sub> H <sub>4</sub> equivalents	CML (v4.02)
Abiotic depletion	ADPE	kg Sb equivalents	CML (v4.02)
Abiotic depletion (fossil fuels)	ADPF	MJ, net calorific value	CML (v4.02)

<sup>2</sup> Calculated based on the lower heating value of renewable raw materials. LHV is taken from <https://phyllis.nl/>, as recommended by SimaPro in compliance with EN15804+A2: <https://support.sima-pro.com/s/article/How-to-calculate-EN-15804-A2-indicators-in-desktop-SimaPro>.

<sup>3</sup> Calculated as sum of non-renewables, fossil and non-renewable, nuclear.

<sup>4</sup> Calculated as sum of non-renewables, fossil and non-renewable, nuclear.

# Content Declaration

Name	Variation	Variation details	ID (mm)	OD (mm)	Effective length (mm)	Mass per m of product (kg)
AtlanFlow	ATF110.8	OD110 HDPE SN8 corrugated drainage pipe	93	110	6404	0.83
AtlanFlow	ATF160.8	OD160 HDPE SN8 corrugated drainage pipe	137	160	6370	1.33
AtlanFlow	ATF225.8	DN225 HDPE SN8 corrugated drainage pipe	218	252	6280	3.1
AtlanFlow	ATF300.8	DN300 HDPE SN8 corrugated drainage pipe	295	343	6180	5.2
AtlanFlow	ATF375.8	DN375 HDPE SN8 corrugated drainage pipe	364	423	6180	8.5
AtlanFlow	ATF450.8	DN450 HDPE SN8 corrugated drainage pipe	436	504	6120	12.5
AtlanFlow	ATF525.8	DN525 HDPE SN8 corrugated drainage pipe	519	601	6030	16.8
AtlanFlow	ATF600.8	DN600 HDPE SN8 corrugated drainage pipe	589	685	5900	20.3
AtlanFlow	ATF750.8	DN750 HDPE SN8 corrugated drainage pipe	729	845	5910	34
AtlanFlow	ATF900.8	DN900 HDPE SN8 corrugated drainage pipe	870	1012	5970	43.2
AtlanFlow	ATF1050.8	DN1050 HDPE SN8 corrugated drainage pipe	1016	1186	5920	60

Content Declaration for AtlanFlow, per 1kg of product.

Product components	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/ declared unit
HDPE	1	18%	0	0
<b>TOTAL</b>	<b>1</b>	<b>18%</b>	<b>0</b>	<b>0</b>
Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/declared unit	
Polyethylene terephthalate	1.0E-03	0.1%	0	
Timber	4.2E-02	4.2%	2.1E-02	
<b>TOTAL</b>	<b>4.3E-02</b>	<b>4.3%</b>	<b>2.1E-02</b>	

## Additional information on the release of dangerous substances to indoor air, soil and water:

The products are highly inert and are used predominantly in outdoor applications. They do not release any dangerous substances to indoor air, soil, or water.

None of the products contain one or more substances that are listed in the “Candidate List of Substances of Very High Concern for authorisation”. Based on available information, Atlan products are not classified as hazardous according to safe work Australia criteria and no signal of hazard or precautionary statements have been allocated according to the GHS classification.

# Environmental Performance

Results per declared unit.

Mandatory Impact Category Indicators (EN 15804)	Unit	A1-A3	C1	C2	C3	C4	D
<b>GWPT</b>	kg CO <sub>2</sub> eq.	2.8E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-8.5E-03
<b>GWPF</b>	kg CO <sub>2</sub> eq.	2.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-9.6E-03
<b>GWPB</b>	kg CO <sub>2</sub> eq.	6.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.9E-04
<b>GWPL</b>	kg CO <sub>2</sub> eq.	3.8E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-04
<b>ODP</b>	kg CFC 11 eq.	2.6E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-2.9E-11
<b>AP</b>	mol H <sup>+</sup> eq.	7.8E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-6.2E-05
<b>EP-freshwater</b>	kg P eq.	7.4E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-3.5E-06
<b>EP-marine</b>	kg N eq.	2.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.1E-08
<b>EP-terrestrial</b>	mol N eq.	2.1E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.3E-04
<b>POCP</b>	kg NMVOC eq.	9.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-4.1E-05
<b>ADPE</b>	kg Sb eq.	4.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-4.7E-09
<b>ADPF</b>	MJ	7.7E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.1E-01
<b>WDP</b>	m <sup>3</sup> eq. deprived	6.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-2.2E-03

**Acronyms:** GWPT = Total global warming potential; GWPF = Global warming potential (fossil); GWPB = Global warming potential (biogenic); GWPL = Global warming potential (Land use and land transformation); AP = Acidification potential; EP – freshwater = Eutrophication – aquatic freshwater; EP – marine = Eutrophication – aquatic marine; EP – terrestrial = Eutrophication – terrestrial; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential (elements); ADPF = Abiotic depletion potential (fossil fuels); ODP = Ozone depletion potential; WDP = Water Depletion Potential

## Environmental Performance Continued

Results per declared unit.

Additional Environmental Impact Indicators	Unit	A1-A3	C1	C2	C3	C4	D
<b>GWP-GHG<sup>7</sup></b>	kg CO <sub>2</sub> eq.	2.8E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-8.5E-03
<b>GWP-GHG (IPCC AR5)</b>	kg CO <sub>2</sub> eq.	2.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-8.6E-03
<b>PM</b>	disease incidence	5.9E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-6.0E-10
<b>IRP</b>	kBq U-235 eq.	1.0E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.1E-03
<b>ETP-fw</b>	CTUe	2.9E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-3.1E-03
<b>HTP-c</b>	CTUh	9.9E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-3.7E-12
<b>HTP-nc</b>	CTUh	9.7E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-9.1E-11
<b>SQP</b>	dimensionless	1.6E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.7E+00
Resource Use	Unit	A1-A3	C1	C2	C3	C4	D
<b>PERE</b>	MJ	2.4E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-3.0E-01
<b>PERM</b>	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
<b>PERT</b>	MJ	2.4E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-3.0E-01
<b>PENRE</b>	MJ	9.6E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.1E-01
<b>PENRM</b>	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
<b>PENRT</b>	MJ	9.6E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.1E-01
<b>SM</b>	kg	2.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
<b>RSF</b>	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
<b>NRSF</b>	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
<b>FW</b>	m <sup>3</sup>	1.5E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-6.0E-05

**Acronyms:** GWP-GHG = Global warming potential, excluding biogenic uptake, emissions and storage; PM = Particulate matter; IRP = Ionising radiation - human health; ETP-fw = Eco-toxicity (freshwater); HTP-c = Human toxicity potential - cancer effects; HTP-nc = Human toxicity potential - non cancer effects; SQP = Soil quality

**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 (primary energy and primary energy resources used as raw materials); ENRE = 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 (primary energy and primary energy resources used as raw materials); SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

<sup>7</sup> 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 CO<sub>2</sub> is set to zero.

## Environmental Performance Continued

Results per declared unit.

Waste	Unit	A1-A3	C1	C2	C3	C4	D
HWD	kg	3.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-4.6E-04
NHWS	kg	7.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-1.6E-02
RWD	kg	7.3E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-2.7E-07
Output Flow	Unit	A1-A3	C1	C2	C3	C4	D
CRU	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
MFR	kg	3.9E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
MFRE	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EE - e	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EE - t	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

**Acronyms:** HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed/stored

**Acronyms:** CRU = Components for re-use; MFR = Material for recycling; MERE = Materials for energy recovery; EE = Exported energy

## Annex

Results per declared unit.

Potential environment impact (EN15804+A1:2013)	Unit	A1-A3	C1	C2	C3	C4	D
<b>GWP</b>	kg CO <sub>2</sub> eq	2.8E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-8.6E-03
<b>ODP</b>	kg CFC-11 eq	1.9E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-2.6E-11
<b>AP</b>	kg SO <sub>2</sub> eq	4.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-5.2E-05
<b>EP</b>	kg PO <sub>4</sub> <sup>3-</sup> eq	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-9.0E-06
<b>POCP</b>	kg C <sub>2</sub> H <sub>4</sub> eq	2.6E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-2.1E-06
<b>ADPE</b>	kg Sb eq	5.8E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-4.7E-09
<b>ADPF</b>	MJ	7.1E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

**Acronyms:** GWP = Global warming; ODP = Ozone layer depletion; AP = Acidification; EP = Eutrophication; POCP = Photochemical oxidation; ADPE = Abiotic depletion; ADPF = Abiotic depletion

The indicators and characterisation methods are from EN 15804:2012+A1:2013, but other LCA rules (system boundaries, allocation, etc.) are according to EN15804:2012+A2:2019; i.e., the results of the "A1 indicators" shall not be claimed to be compliant with EN 15804:2012+A1:2013

## Abbreviations

**GWPF:** Global warming potential (fossil)  
**ADPE:** Abiotic depletion potential (elements)  
**ADPF:** Abiotic depletion potential (fossil fuels)  
**AP:** Acidification potential  
**AU:** Australia  
**CEN:** European Committee for Standardization  
**CPC:** Central product classification  
**CRU:** Components for re-use  
**EE - e:** Exported energy - electricity  
**EE - t:** Exported energy - thermal  
**EF:** Environmental Footprint  
**EN:** European Norm (Standard)  
**EP – freshwater:** Eutrophication – aquatic freshwater  
**EP – marine:** Eutrophication – aquatic marine  
**EP – terrestrial:** Eutrophication – terrestrial  
**EPD:** Environmental Product Declaration  
**ETP-fw:** Eco-toxicity (freshwater)  
**FW:** Use of net fresh water  
**GHS:** Globally Harmonized System  
**GLO:** Global  
**GPI:** General Programme Instructions  
**GWPB:** Global warming potential (biogenic)  
**GWP-GHG:** Global warming potential, excluding biogenic uptake, emissions and storage  
**GWP-GHG (IPCC AR5):** Global warming potential, IPCC 2013 AR5  
**GWPL:** Global warming potential (Land use and land transformation)  
**GWPT:** Total global warming potential  
**HTP-c:** Human toxicity potential - cancer effects  
**HTP-nc:** Human toxicity potential - non cancer effects  
**HWD:** Hazardous waste disposed  
**IRP:** Ionising radiation - human health  
**ISO:** International Organization for Standardization

**LCA:** Life Cycle Assessment  
**LCI:** Life cycle inventory  
**MERE:** Materials for energy recovery  
**MFR:** Material for recycling  
**ND:** Not declared  
**NHWD:** Non-hazardous waste disposed  
**NRSF:** Use of non-renewable secondary fuels  
**NSW:** New South Wales  
**ODP:** Ozone depletion potential  
**OSD:** On-site Stormwater Detention  
**PCR:** Product Category Rules  
**PEF:** Product Environmental Footprint  
**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 (primary energy and primary energy re-sources used as raw materials)  
**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 (primary energy and primary energy resources used as raw materials)  
**PM:** Particulate matter  
**POCP:** Photochemical ozone creation potential  
**QLD:** Queensland  
**RSF:** Use of renewable secondary fuels  
**RWD:** Radioactive waste disposed/stored  
**SM:** Use of secondary material  
**SQP:** Soil quality  
**WDP:** Water Depletion Potential

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## Version History

Original version of the EPD



**Atlan**  
STORMWATER

*Joy in water*  
We believe clean waterways  
are a right not a privilege.

# AtlanFlow® EPD

MANUFACTURED BY ATLAN STORMWATER

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

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[www.environdec.com](http://www.environdec.com)

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