

# HESPERIA



## Project Net Zero Carbon Report

### Victoria House

Version 1.0

Prepared by: Hesperia Sustainability Group

POTENTIAL IN PLACE

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## Purpose of this Document

The Project Net Zero Report has been developed on the basis of As Constructed project documentation. The intent of this document is to summarise the project position in terms of embodied carbon emissions, reduction strategies implemented and their effectiveness, as well as any carbon offsetting undertaken.

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# 1. Executive Summary

This project is a Net Zero Carbon Building based on the methodology outlined in this report, which is designed to align to the reporting required under the World Green Building Council Net Zero Carbon Commitment.

## 1.1 Embodied Carbon

Description	Quantity	Detail
As Constructed Upfront Carbon Footprint (tCO <sub>2</sub> e)	9,484	Includes modules A1 - A5 of EN15978
Upfront Carbon Intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	0.460	9,484 tCO <sub>2</sub> e / 20,543 m <sup>2</sup> (460 kg CO <sub>2</sub> e/m <sup>2</sup> )
New Build (tCO <sub>2</sub> e/m <sup>2</sup> )	0.488	Rate calculated on the residential towers only.
Refurbishment (tCO <sub>2</sub> e/m <sup>2</sup> )	0.067	Rate calculated on the reused heritage building only.
Percentage Carbon Reduction on reference case (%)	4.7%	Reduction due mainly to adaptive reuse of existing building. No other strategies specifically to reduce carbon as the project commenced prior to Hesperia setting policies around carbon reduction.
Offsets Retired (tCO <sub>2</sub> e)	9,484	Verified offsets (Climate Active compliant).
Percentage of Project Offset (%)	100%	Net zero outcome
Percentage of Nature Based Offsets (%)	50%	Yarra Yarra Biodiverse Revegetation project, Western Australia
Offsetting co-benefit outcome	31	Hectares of Revegetation
	76,000	Trees and shrubs planted

## 1.2 Operational Carbon Forecast

Annual Carbon Emissions in Operation	Whole Building	Detail
Electricity consumption (tCO <sub>2</sub> e/year)	0	Source: Australian Energy Regulator.
Water consumption (tCO <sub>2</sub> e/year)	42	Source: Australian National Greenhouse Gas Accounts Factor
Gas consumption (tCO <sub>2</sub> e/year)	1.6	Source: Australian National Greenhouse Gas Accounts Factor
Refrigerant leakage (tCO <sub>2</sub> e/year)	4.3	Source: AER.gov.au report for household benchmark.
Municipal Waste (tCO <sub>2</sub> e/year)	5.4	Source: Australian National Greenhouse Gas Accounts Factor.
Organic Waste (tCO <sub>2</sub> e/year)	26	Source: WA Waste Authority
Total annual emissions forecast	77	Total of the above metrics

\*no benchmark comparison available

## 2. Net Zero Methodology

Hesperia is a signatory to the World Green Building Council (WGBC) Net Zero Carbon Commitment. This commitment has been used to structure Hesperia's Net Zero methodology. See Hesperia's profile page here:

[HESPERIA - World Green Building Council \(worldgbc.org\)](https://www.worldgbc.org/en/members/hesperia)

The detailed methodology used for this report is available in a separate document on Hesperia's website.

Hesperia also committed to achieving Carbon Neutral Organization status, which has been in place since 2020. Hesperia's corporate Carbon Neutral Organisation disclosures are available here: [Hesperia | Climate Active](#)

### 3. Project Information

Victoria House is a mixed-use project located in Shenton Park. The project has delivered a mixture of medical, commercial and hospitality tenancies located within a State Heritage Listed Building. The project provides high-quality contemporary living spaces and a vibrant precinct.

Description	Detail
Project Name	Victoria House
Location	Montario Quarter - 4 Thorburn Way, Shenton Park
Site Area (m2)	8,481
Gross Floor Area (m2)	20,543
New Build	18,584
Refurbishment	1,959
Net Lettable Area (m2)	10,100
Floors (#)	Hospitality: 1 Commercial: 2 Residential: 5-6
Primary Usage	Hospitality (F&B) / Commercial / Residential
Structural Life (Years)	60 <sup>1</sup>
Design Life (Years)	60

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<sup>1</sup> Based on the GBCA Green Star Buildings version 1c Credit 26 (Life Cycle Impacts) guidance that, when the service life of permanent building elements is not stated, 60 years should be assumed.

## 4. Carbon Reduction Strategies

### 4.1 Upfront (Embodied) Carbon Reduction Strategies

Victoria House has been treated by Hesperia as a Net Zero Carbon development but is considered as a 'legacy project' in that the project was already significantly advanced when Hesperia began implementing the Net Zero framework. The design and development did not benefit from the implementation of carbon reduction strategies being documented and addressed. Despite this, the combination of an efficient architectural approach and the adaptive reuse of the heritage Victoria House building has resulted in a significant reduction in upfront carbon, which is quantified in the emissions summary section.

### 4.2 Operational Low Carbon Strategies

While not the direct subject of this report, it is important to Hesperia that our Net Zero approach is as holistic as practical. This section provides a brief summary of other strategies that have been implemented to reduce overall carbon and other environmental impacts.

#### 4.2.1 Electricity

The electricity supply at Victoria House is delivered through an embedded network, meaning that there is a single point of connection to the grid through a master meter, with all electricity customers behind that master meter supplied through sub-meters. There is a single entity that holds the account for the main meter and on-sells electricity to the consumers within the embedded network. This is a very common arrangement in buildings managed through strata titling. At Victoria House, the entity managing the embedded network is Empowered, a Hesperia subsidiary that make the transition to clean energy in WA accessible for more households and businesses.

Empowered will supply residents and businesses at Victoria House with 100% renewable electricity through a mix of 80kW onsite solar generation and offsite renewable energy imported through the grid. With electricity expected to account for around 80% of energy consumption in the dwellings at Victoria House, Empowered is a major contributor to low carbon lifestyles for residents.

#### 4.2.2 Reticulated Natural Gas

Hesperia sees gas a transition fuel that is already redundant in many applications, including residential buildings. Hesperia's starting point is to exclude reticulated gas connections unless fundamental to a tenant activity in the building, such as commercial kitchens or industrial processes. Even these exceptions are rapidly becoming redundant; for example, Hesperia no longer assumes that a commercial kitchen will require gas as induction cooking is gaining acceptance.

As a legacy project in terms of Hesperia's Sustainability Strategy, Victoria House is connected to the reticulated gas supply and uses gas for the hot water system and the commercial kitchen. This will be reviewed by the Strata Company and commercial tenants as the currently installed gas appliances reach their end of life.

#### 4.2.3 Support for Low Carbon Transport

Victoria House has been designed to be bicycle friendly for residents, staff and visitors. There is secure parking and suitable access provided. Residents may install their own EV charging point subject to the approval of the Strata Company. There are no public or shared charge points provided on site.



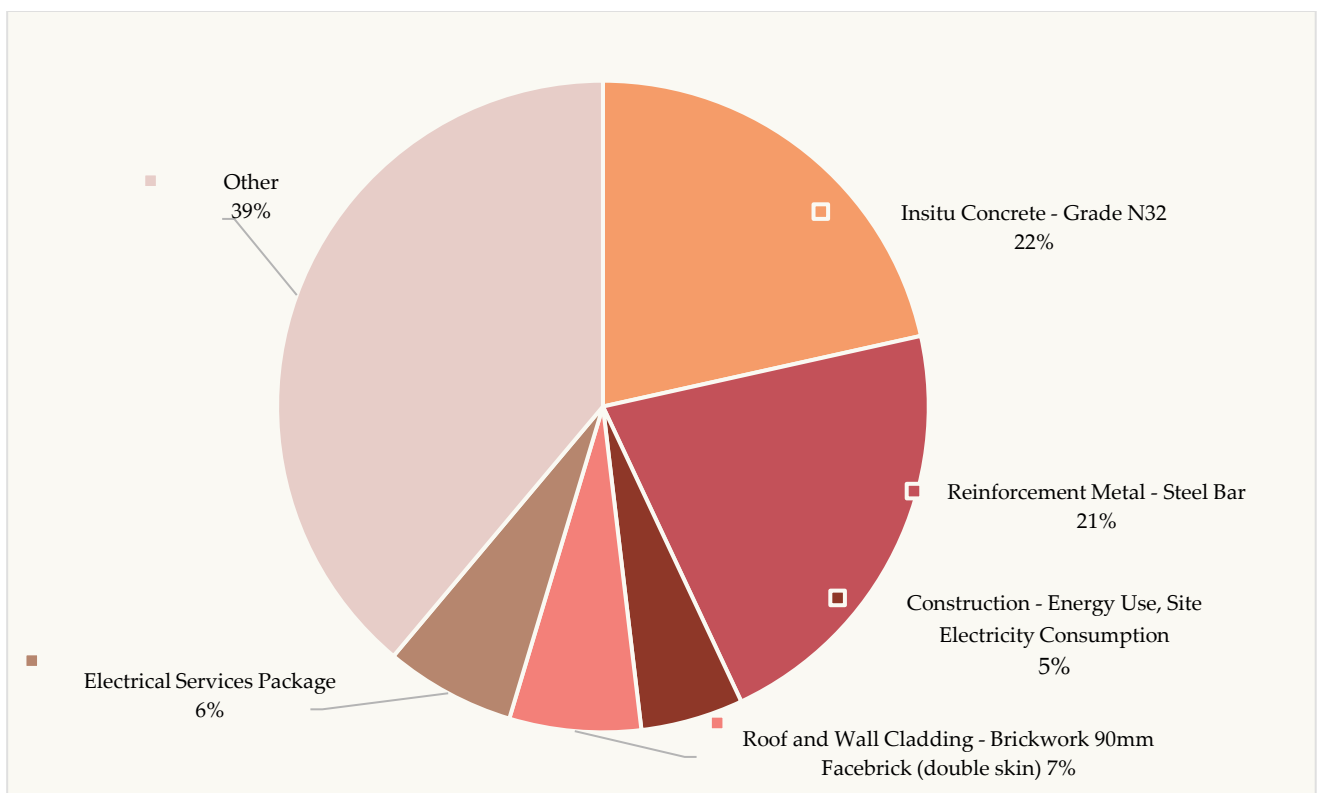
## 5. Greenhouse Gas Emissions – Sources and Estimates

### 5.1 Upfront (Embodied) Carbon Sources

The table below outlines the ten major impacts on Upfront Carbon for the development. The contribution of each item is due to a combination of the quantity and the carbon intensity of that item.

Carbon Source	Carbon Quantity	Share of Total
	(Kg CO <sub>2</sub> e)	(%)
Insitu Concrete - Grade N32	2,041	22%
Reinforcement Metal - Steel Bar	2,039	21%
Construction - Energy Use, Site Electricity Consumption	483	5%
Roof and Wall Cladding - Brickwork 90mm Face brick (double skin)	619	7%
Electrical Services Package	614	6%
Other	3,688	39%
<b>Total</b>	<b>9,484</b>	<b>100%</b>

#### 5.1.1 Upfront Carbon Sources Chart



## 5.2 Upfront Carbon Emission Summary

The Emissions Summary below provide an overview of the total reduction in Upfront Carbon, separated by category, for the development. The Life Cycle Assessment Report (attached) provides a detailed overview of the emissions.

Category	Reference (t CO <sub>2</sub> e)	As Constructed (t CO <sub>2</sub> e)	Change (t CO <sub>2</sub> e)	Change (+/-) %	Key Reduction Initiatives
A1 – A3	8,957	8,561	396	- 4.6%	N/A
A4	299	293	6	- 2.0%	N/A
A5	692	630	62	- 9.8%	N/A
<b>Totals</b>	<b>9,948</b>	<b>9,484</b>	<b>464</b>	<b>- 4.7%</b>	<b>N/A</b>

Analysis: Victoria House is a legacy project delivered prior to the Hesperia Project Sustainability Standard being developed and applied. There were no carbon reduction measures recorded for the project, hence there is no assessment of the reduction achieved.

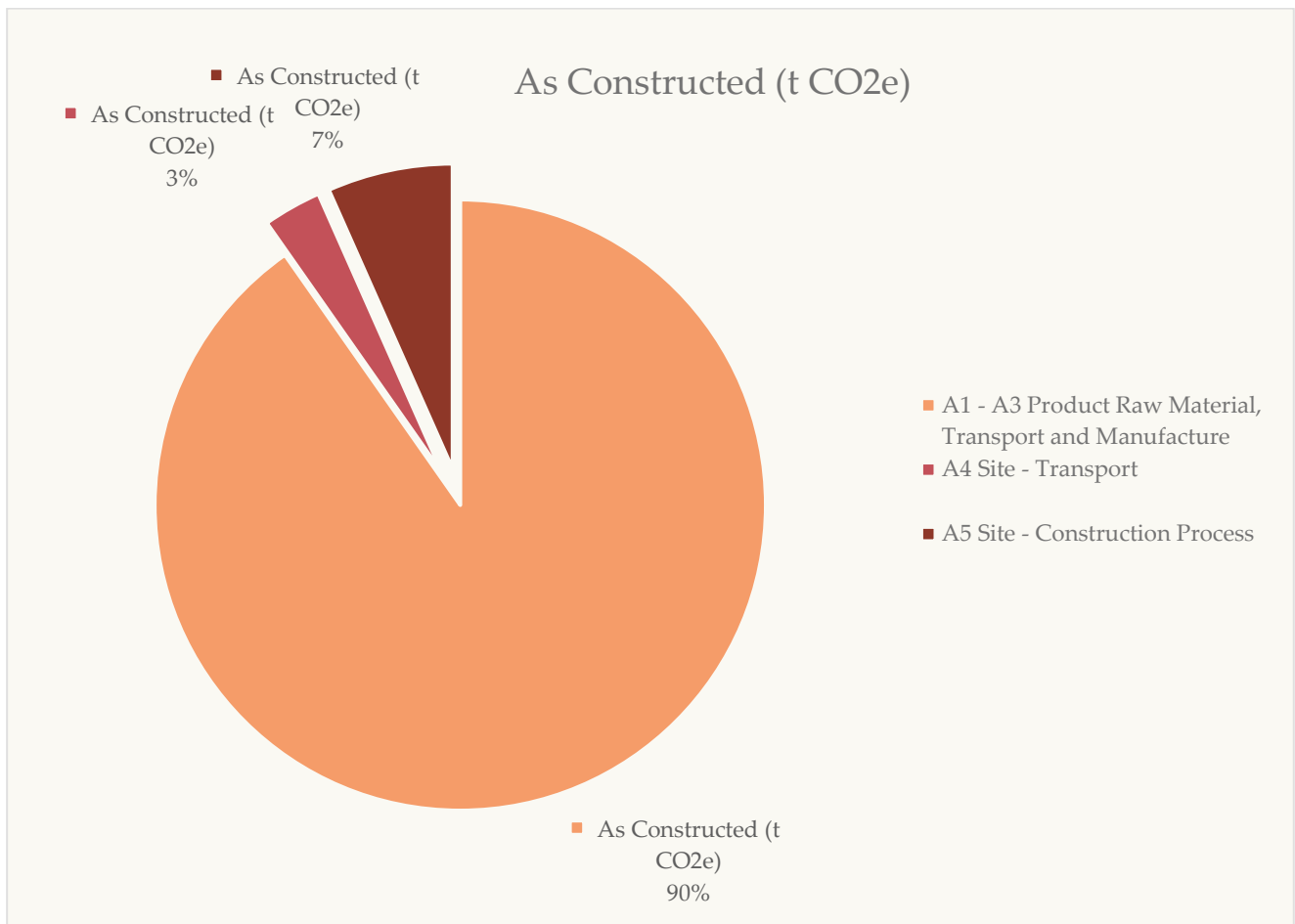
### 5.2.1 Carbon Impact of New Buildings versus Adaptive Reuse of Victoria House

These are square meter rate figures comparing the carbon impact of the adaptive reuse of Victoria House with the new build residential towers.

New Build Residential	Reference (kg CO <sub>2</sub> e/m <sup>2</sup> )	As Constructed (kg CO <sub>2</sub> e/m <sup>2</sup> )	Change (kg CO <sub>2</sub> e/m <sup>2</sup> )	Change (+/-) %	Key Reduction Initiatives
A1 – A3	443	443	0	0	N/A
A4	16	16	0	0	N/A
A5	29	29	0	0	N/A
<b>Totals</b>	<b>488</b>	<b>488</b>	<b>0</b>	<b>0</b>	<b>N/A</b>

Adaptive Reuse of Victoria House	Reference (kg CO <sub>2</sub> e/m <sup>2</sup> ) (kg CO <sub>2</sub> e/m <sup>2</sup> )	As Constructed (kg CO <sub>2</sub> e/m <sup>2</sup> ) (kg CO <sub>2</sub> e/m <sup>2</sup> )	Change (kg CO <sub>2</sub> e/m <sup>2</sup> ) (kg CO <sub>2</sub> e/m <sup>2</sup> )	Change (+/-) % (+/-) %	Key Reduction Initiatives
A1 – A3	222	22	-200	-90%	Reuse of building
A4	3	0	-3	-100%	Reduced material transport
A5	74	45	-29	-39%	Reduced construction activity
<b>Totals</b>	<b>299</b>	<b>67</b>	<b>-232</b>	<b>-78%</b>	

## 5.2.2 Upfront Carbon Profile



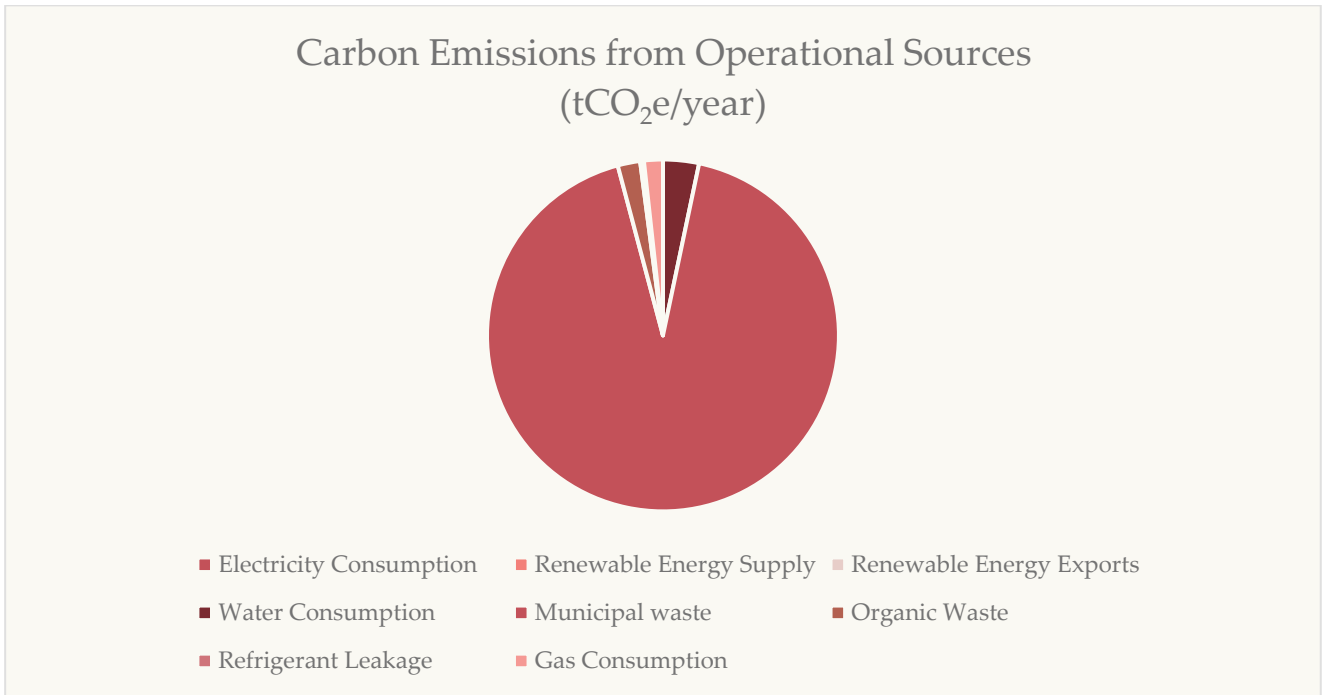
## 5.3 Operational Carbon Sources

The table below outlines the seven major impacts of Operational Carbon for the development. The contribution of each item is due to a combination of the quantity and the carbon intensity of that item.

Carbon Source	Forecast Annual Quantity (unit)	Share of Total Quantity (%)	Carbon Quantity (tCO <sub>2</sub> e)	Share of Total Emissions (%)
Electricity Consumption	412,870 kWh/year	65%	0	0%
Renewable Energy Supply	124,027 kWh/year	18%	0	0%
Renewable Energy Exports	99,737 kWh/year	15%	0	0%
Water Consumption	13,601 kL/year	2%	42	1%
Municipal waste	3,402 kg/year	0%	5.4	98%
Organic Waste	12,376kg/year	0%	26	1%
Refrigerant Leakage	129.6 kg/year	0%	4.37	0%

Carbon Source	Forecast Annual Quantity (unit)	Share of Total Quantity (%)	Carbon Quantity (tCO <sub>2</sub> e)	Share of Total Emissions (%)
Gas Consumption	394,983 MJ/year	0%	1.6	0%
<b>Total</b>	Not applicable	100%	<b>3,377</b>	100%

### 5.3.1 Operational Carbon Profile



## 6. Offsetting

Offsetting has been based on using verified carbon offset units equal to the final footprint assessment for the project. The chosen offset projects demonstrate strong environmental and social co-benefits.

Offsets have been retired against the upfront embodied footprint only. Operational emissions are outside Hesperia's direct control for this project.

Offset Project Type	Verification	Verified Quantity Retired (1 offset = 1 tonne CO <sub>2</sub> e)
Australian Biodiversity	Independently verified biodiversity plantings, Gold Standard (VERs and PERs) stapled credits.	3,392
International Biodiversity	Papua New Guinea, Topaiyo VCS VCU. VCS-REDD+ NIHT	1,350
International Renewable Energy	Musi Hydro Power Plan, Bengkulu VCU. ID 1487.	4,742
<b>Total</b>		<b>9,484</b>

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## 7. Attachments and Data Sources

These documents are published with this report.

Documentation	Description of attached item
<b>Life Cycle Assessment Report</b>	LCA report delivered by Perspektiv (November 2023).
<b>Offset Retirement Certificate</b>	Evidencing the cancellation of offsets in the relevant registry.

### 7.1 Supporting Documents

Hesperia has these documents on file, archived as supporting documents for this report.

Documentation	Description of item on file (archived by Hesperia)
<b>As Constructed Materials Inventory</b>	Extracts completed by Quantity Surveyors from the As Constructed documentation of each construction.
<b>As Constructed Drawings</b>	Confirmed as correct by the Main Contractor.