

# TM65ANZ Mid Level Calculation

## HOT WATER HEAT PUMP – EMBODIED CARBON



### CAHV-R450YA-HPB

The EcodanPro CAHV is a 40kW monobloc air-to-water heat pump that utilises low Global Warming Potential and zero ozone depleting R454C refrigerant for the production of potable hot water. Specifically designed to produce flow temperature up to 70°C, the CAHV Hot Water Heat Pump is suitable for commercial and industrial applications.

Calculation of product embodied carbon under TM65 ANZ local addendum by CIBSE.

Embodied Carbon Result with 'Mid-level  
TM65 Calculation' Method Total:

**6,834 (kg CO<sub>2</sub>e)**



Assessment Date:

**11<sup>th</sup> October 2022**

Assessor / Organisation:

**Mitsubishi Electric**

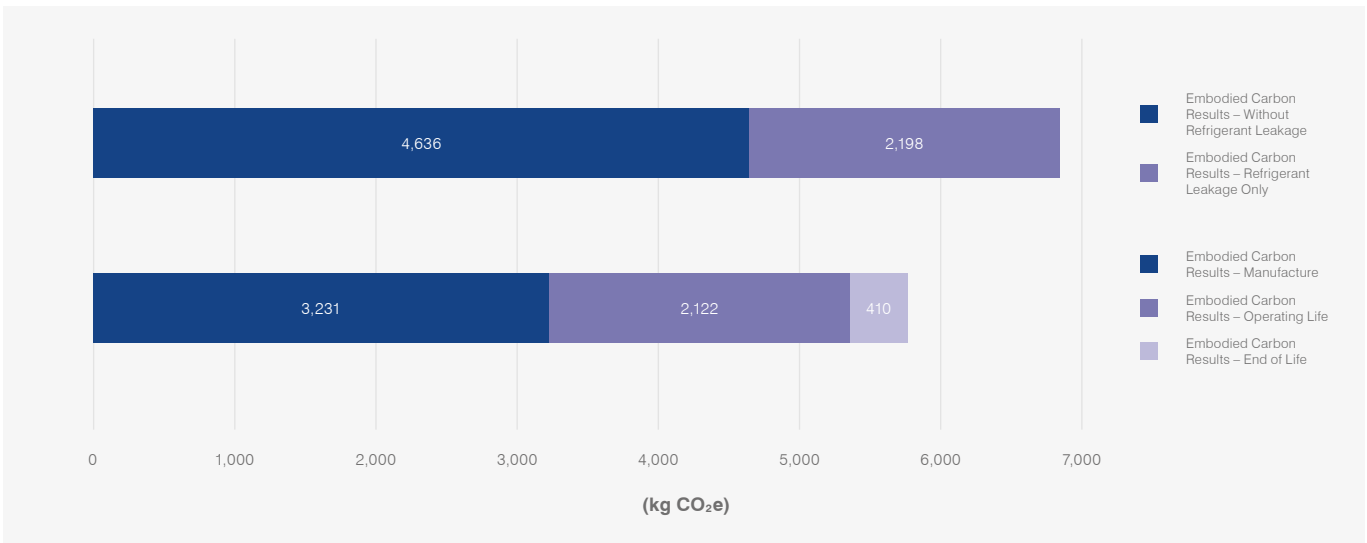
Contact:

**compliance@bdt.co.nz**

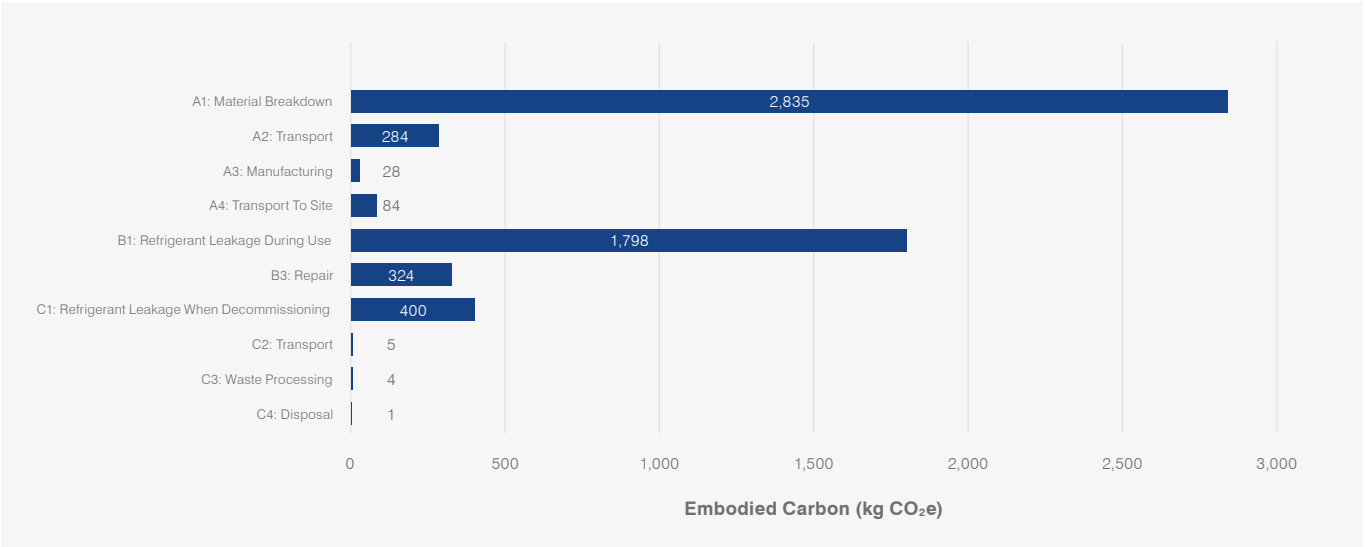
Valid Country:

**New Zealand**

PRODUCT INFORMATION	
Type of product	ATW Heat Pump
Equipment capacity	40kW
Product weight	359kg
Material breakdown for at least 95% of product weight	Yes
Product service life	15 years
Type of refrigerant	R454C
Refrigerant charge	9.0kg
Country of origin	Japan
Product complexity	Category 3: High



## Results Breakdown



## Summary of Embodied Carbon Results (kg CO<sub>2</sub>e)

A1 – C4 (Excluding B1 and C1)	3,566
A1 – C4 with Buffer Factor (Excluding B1 and C1)	4,636
B1: Refrigerant Leakage During Life + C1: Refrigerant Leakage at End of Life	2,198

## Calculation Assumptions

A1: Material carbon coefficient source	TM65 ANZ Table 2.1
A4: Transport to site distances	10,000km by sea, 300km by road (TM65 ANZ assumption)
B1: Refrigerant annual leakage rate	9% (TM65 ANZ assumption)
B3: Materials replaced as part of repair	10% (TM65 ANZ assumption)
C1: End of life leakage rate	30% (TM65 ANZ assumption)
C4: Percentage of unit being recycled	70% (TM65 ANZ assumption)

Note: Data is correct at time of document publication and may be subject to vary based on manufacturing and shipping variations on a case by case basis.

For more information please visit our website  
or call our Applied Products Team.  
[www.mitsubishi-electric.co.nz](http://www.mitsubishi-electric.co.nz) | 0800 784 382

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 PLEASE LOOK AFTER THE ENVIRONMENT AND RECYCLE