

A close-up photograph of a person's hand holding a single, small, green leaf. The hand is positioned palm-up, and the leaf is held gently between the fingers. The background is dark and out of focus. The entire image is framed by a teal border.

**Upfront Carbon
Analysis of
New Zealand
Fenestration Systems**

A REPORT FROM AND PRESENTED BY

Dyann Stewart

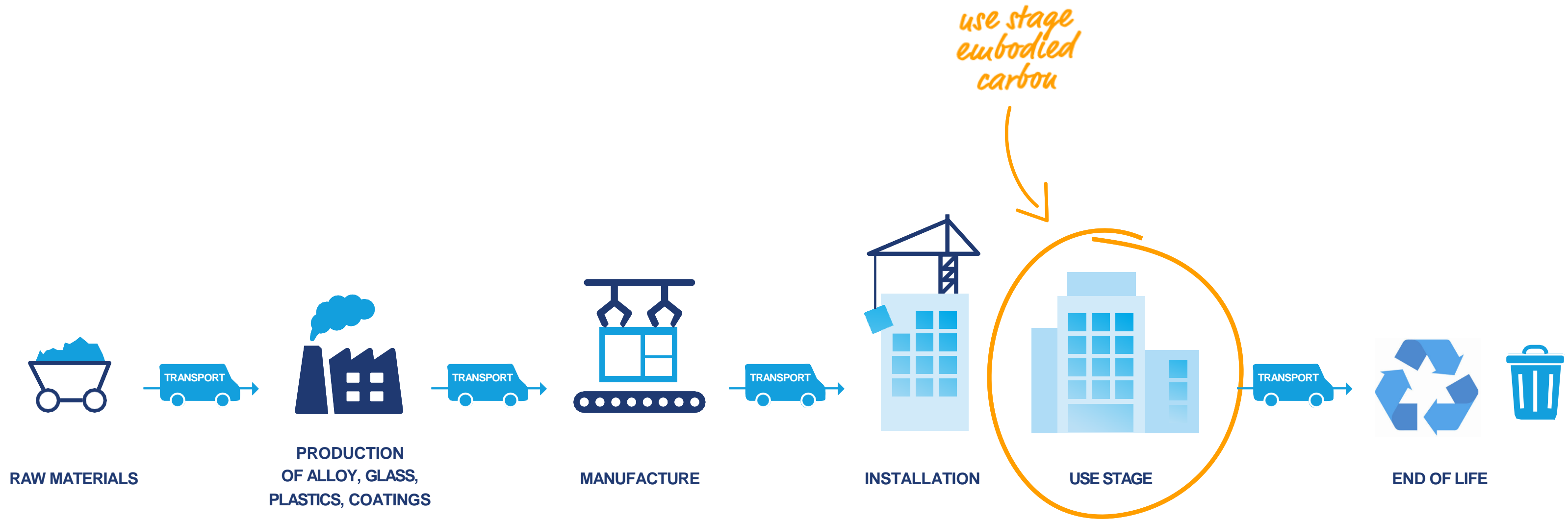
DPS Consulting

COMMISSIONED BY

TECHNOFORM

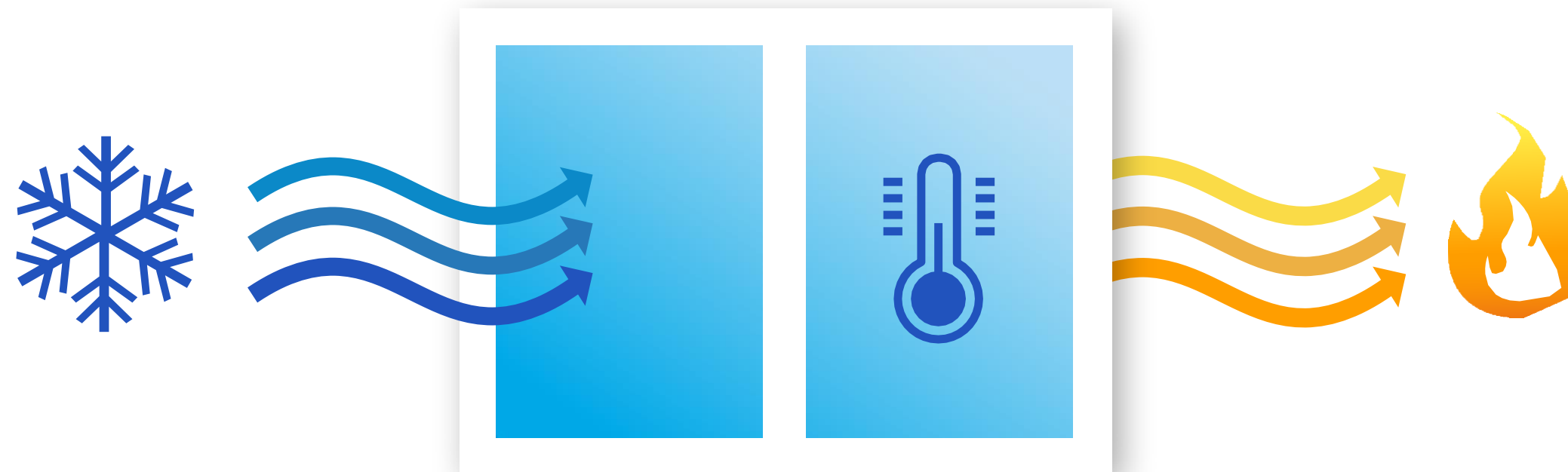


**Are we accurately measuring
the carbon footprint of the windows
and doors available on the
New Zealand market?**



PRODUCT LIFECYCLE

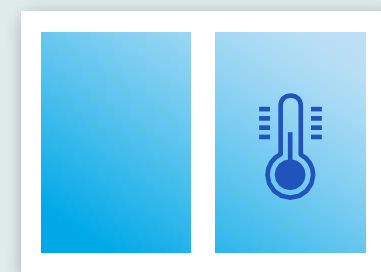
Current legislation measures only the **Operational Carbon** (Heating and cooling) component of windows and doors.





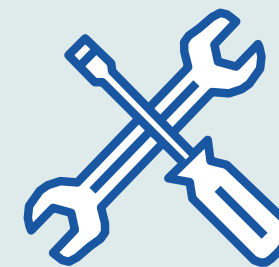
Operational Carbon is just one component of the use stage

Other factors that influence the use stage, beyond operational carbon, involve the carbon footprint associated with window maintenance and repairs.



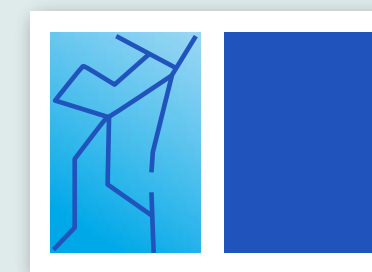
OPERATIONAL ENERGY

+



MAINTENANCE

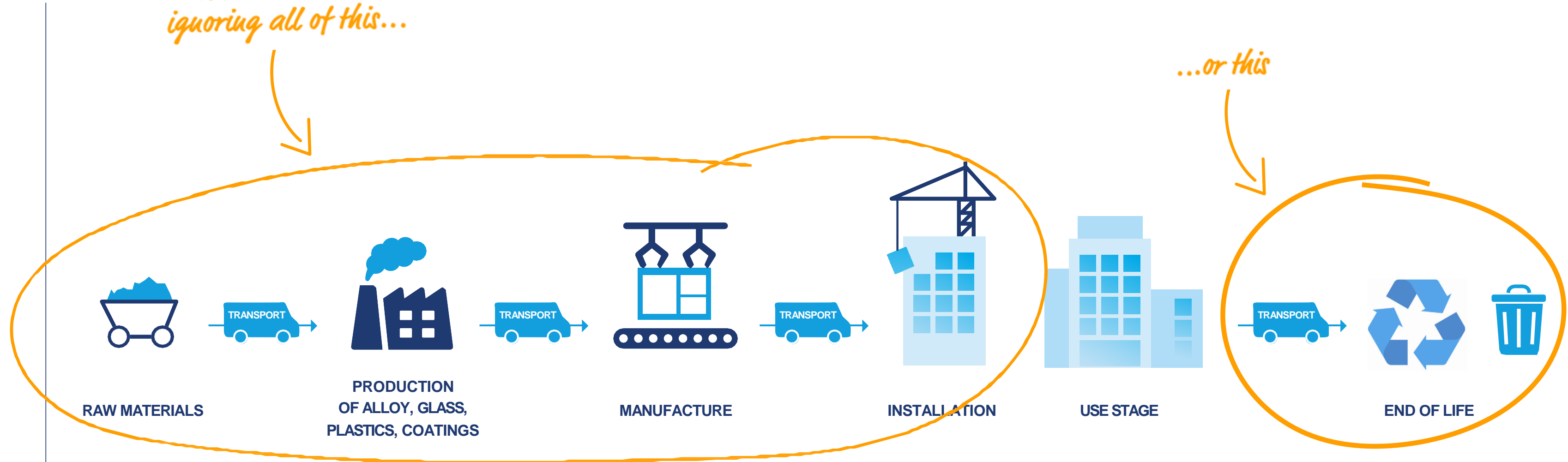
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REPAIR / REPLACEMENT

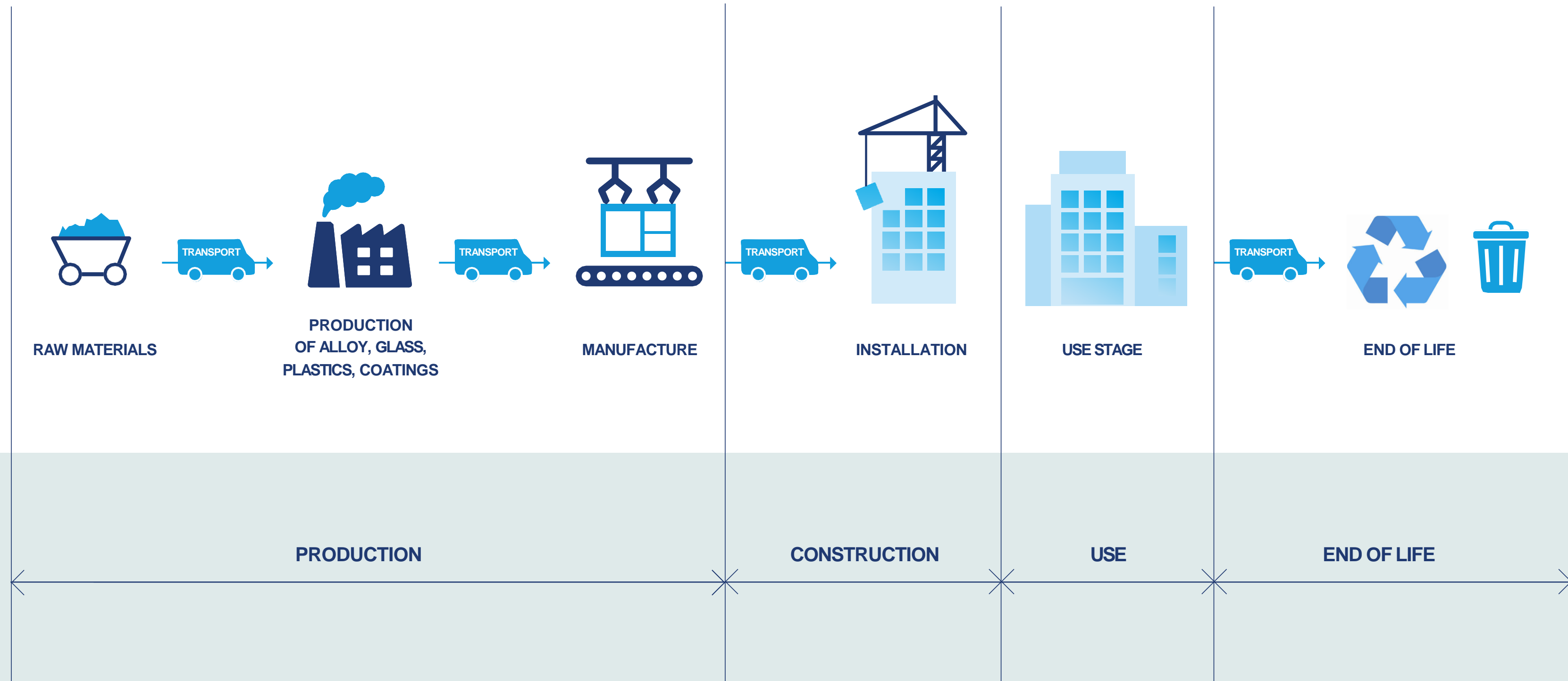
We shouldn't be ignoring all of this...

...or this

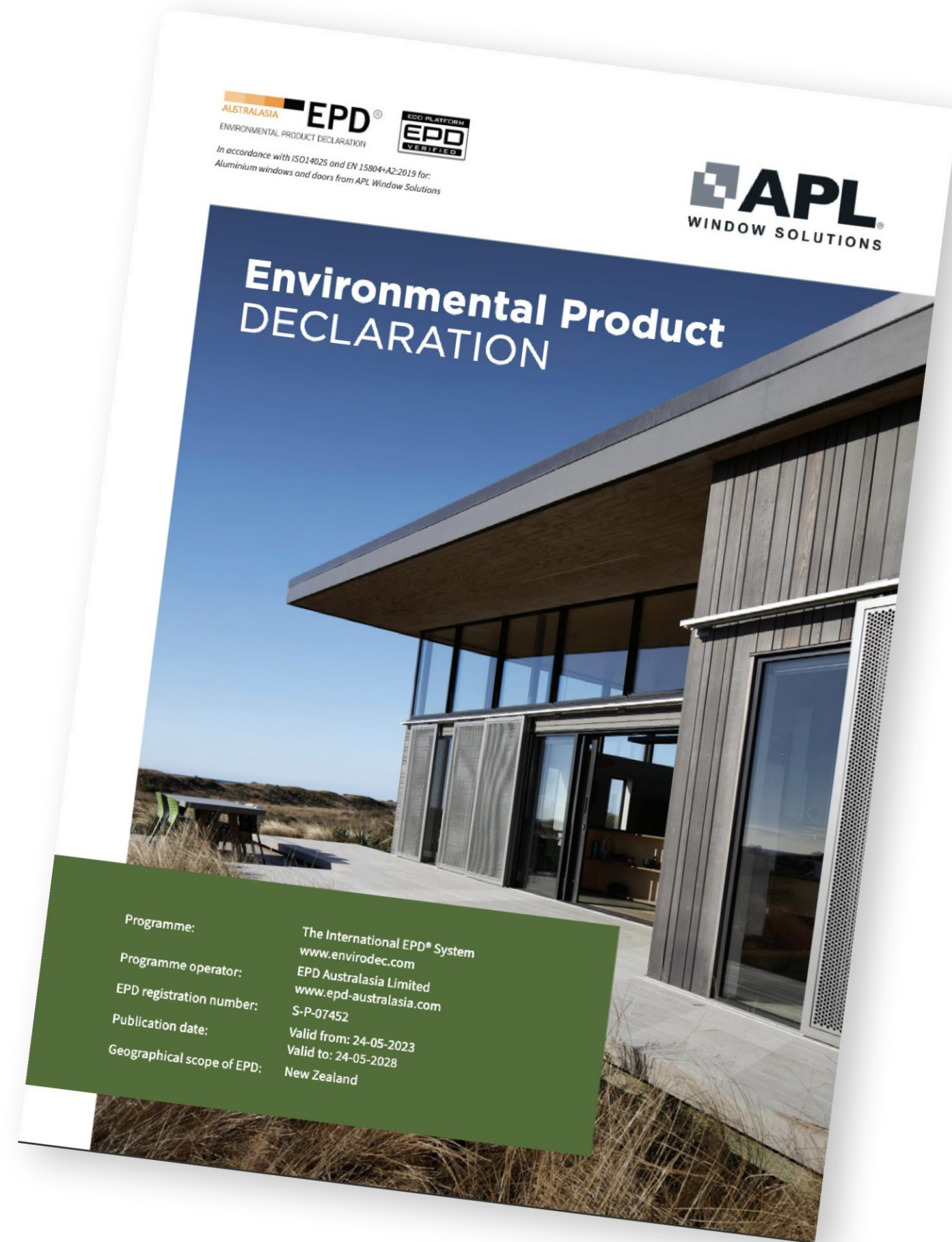


PRODUCT LIFECYCLE

Environmental Product Declarations (EPD'S) measure carbon in a more accurate way by including the full product lifecycle.



There are already a number of New Zealand manufacturers that have EPD's specific to the NZ market.



Typically, EPD's supplied with imported products don't include international shipping, which for a country as remote as NZ makes those EPD's misleading.

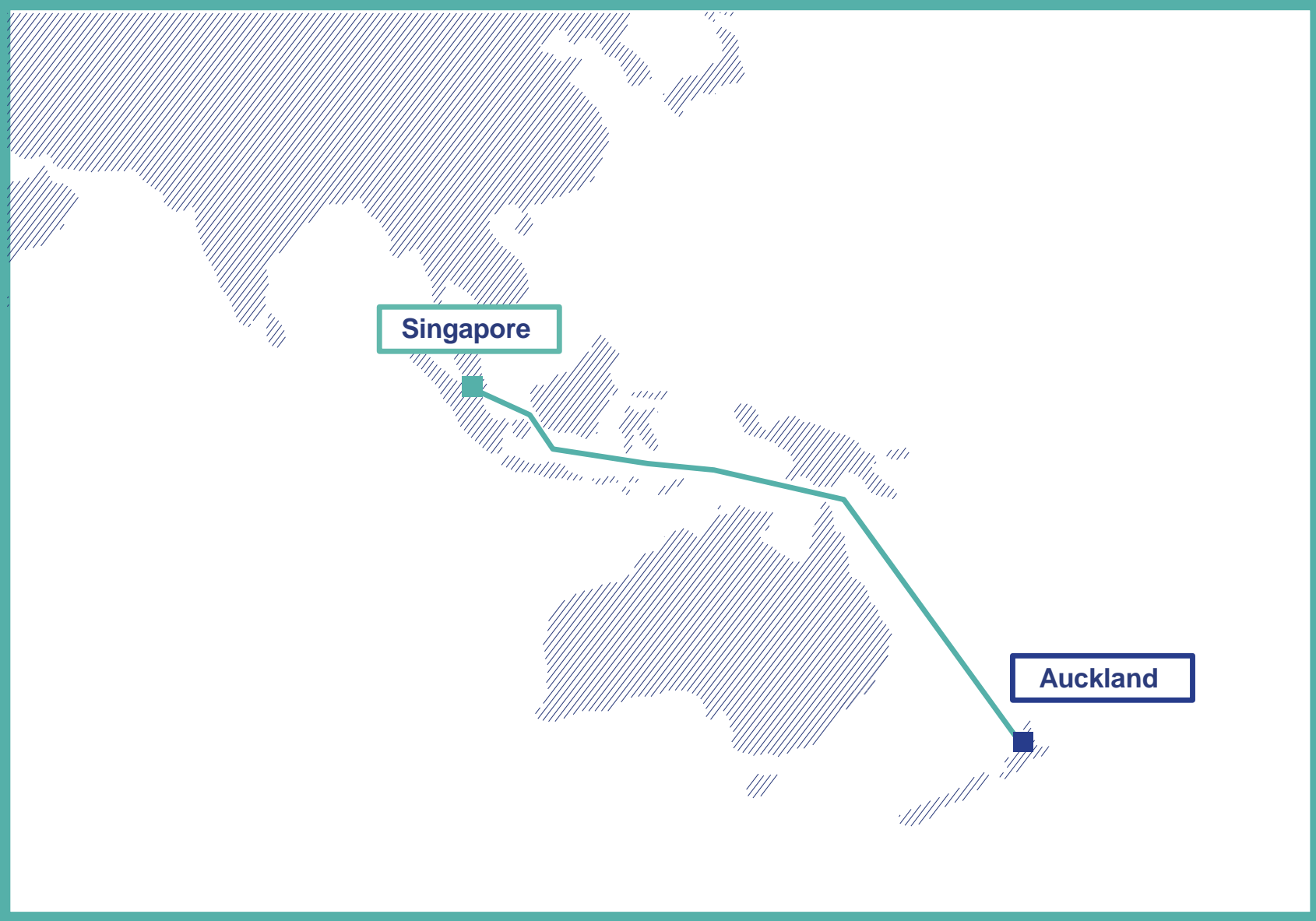
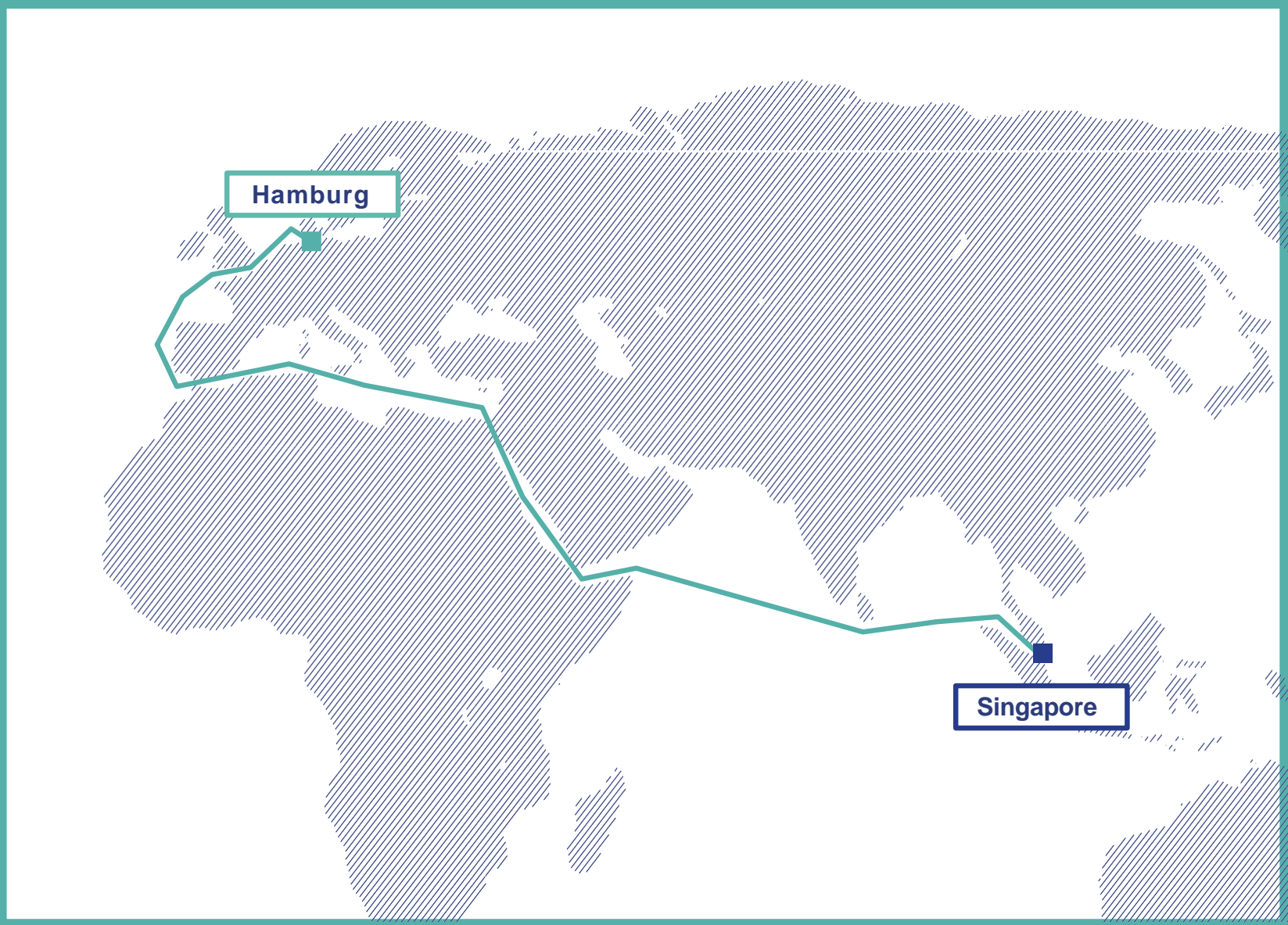
Total sea journey from Hamburg, Germany to Auckland, New Zealand

15,718.23 km – Hamburg to Singapore

8,978.99 km – Singapore to Auckland

24,697.22 km

Transit time: 42 days, 19 hours



China's proximity decreases emissions from international transport, yet raw material extraction and manufacturing can yield significant carbon emissions.

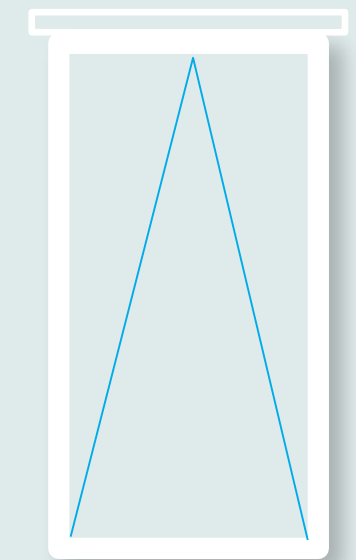
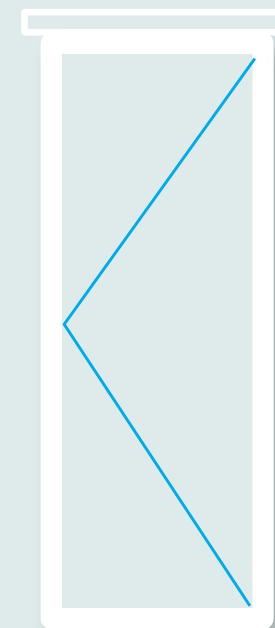
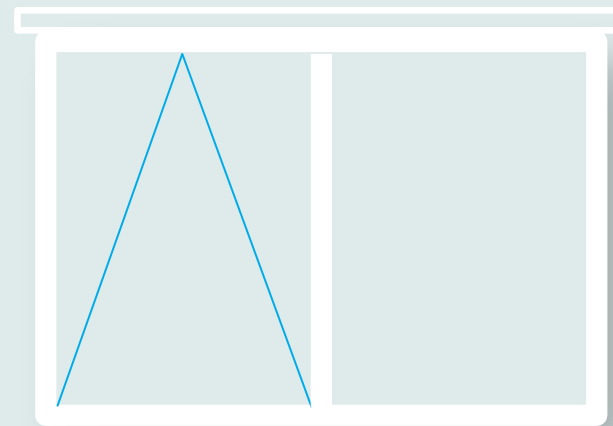
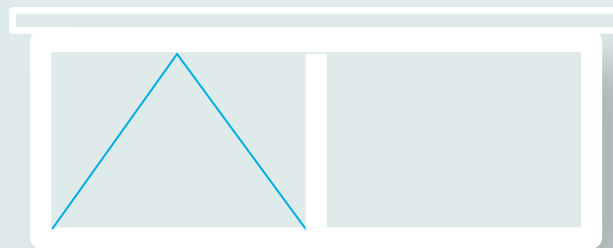
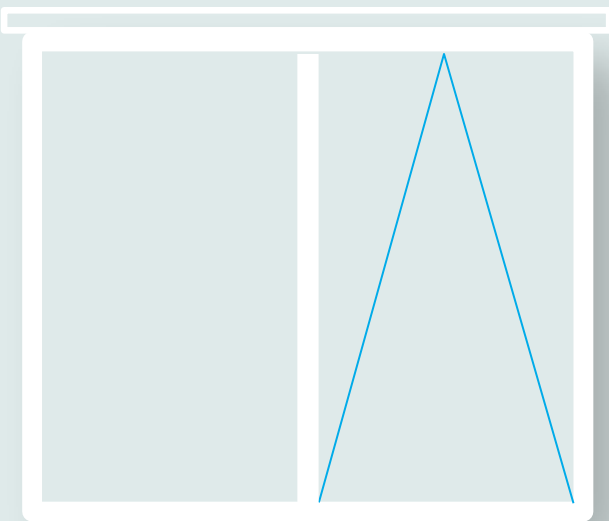
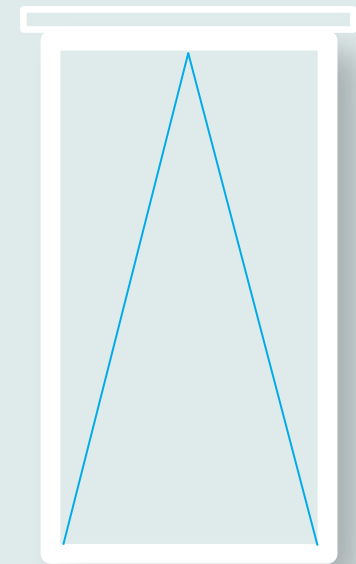
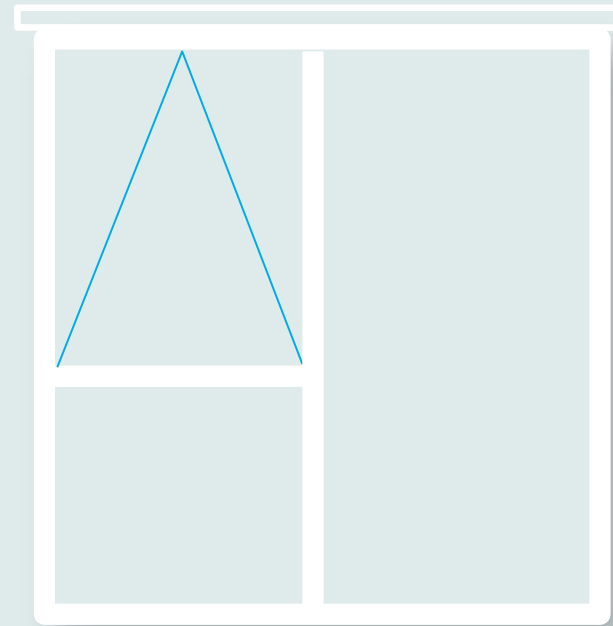
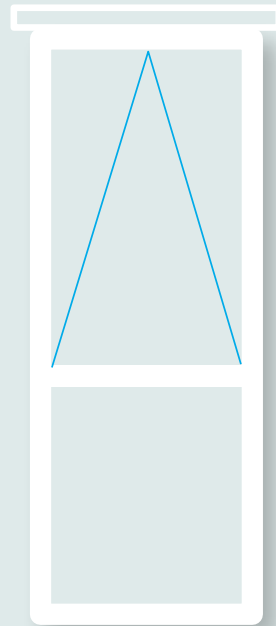
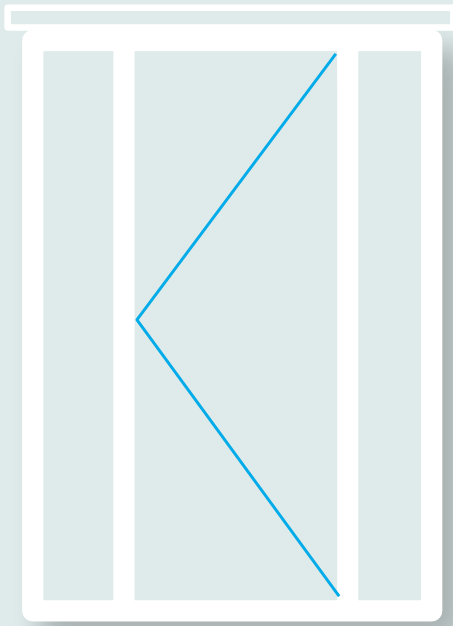


Guangzhou, Guangdong, China – Auckland, New Zealand

(9427.18 km)

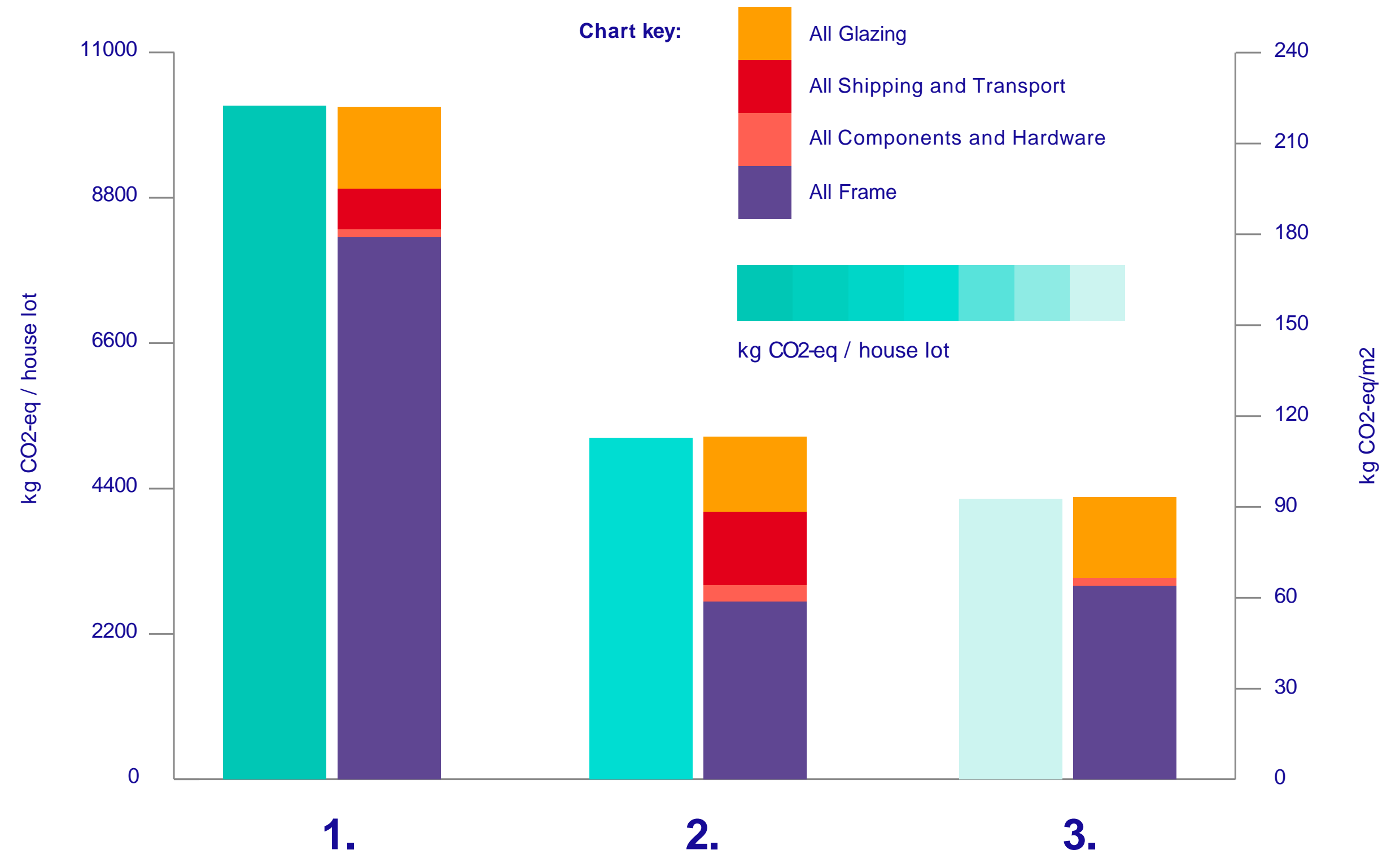
Transit Time: 16 days 7 hours

TECHNOFORM commissioned an independent study to understand the carbon impact of importing vs local manufacture for house lots of windows and doors.



Carbon analysis of a house lot of joinery sold in New Zealand;

- 1. Manufactured in China**
Aluminium, house lot, made in Guangzhou, China and shipped to New Zealand
- 2. Manufactured in Germany**
uPVC, house lot, made in Hamburg, Germany and shipped to New Zealand
- 3. Manufactured in New Zealand**
Aluminium house lot, made in New Zealand



HOW CAN THE NEW ZEALAND BUILDING INDUSTRY DO BETTER?

Don't just measure the carbon impacts of the **Operational Carbon**, measure the carbon impacts of the **entire product lifecycle**.

MANUFACTURERS / DISTRIBUTORS

Develop **NZ specific EPD's** which include the entire product lifecycle including **all elements of shipping and transport.**

SPECIFIERS

Insist suppliers provide **NZ specific EPD's**
for both locally produced and
imported products.

LEGISLATORS

If we're going to measure carbon,
let's do it with transparency
and accuracy.

Thank you...please
download the report
using this QR code

