TECHNOFORM

New study uncovers the true carbon footprint of imported windows and doors in New Zealand.

Carbon Footprint Summary

While the goal of thermally insulated windows and doors is to reduce operational carbon by minimising energy consumption, a new study commissioned by Technoform reveals that there's a bit more to the equation.

While the R values of windows and doors are measured and reported, what hasn't been well measured previous to this study was the true upfront carbon of imported windows and doors compared to locally made, or in layman's terms the carbon footprint of windows and doors up until the point of building occupation. Technoform's objective with the study was to help New Zealanders understand the environmental impact of imported house lots of windows and doors (either pre manufactured or as components) vs specifying New Zealand manufactured products.

The study compared houselots of windows and doors for two dwelling types (a detached dwelling and a townhouse) specified with frame materials of Thermally Broken Aluminium separated by two rigid polyamide strips and Unplasticised Polyvinyl Chloride ("uPVC") with steel reinforcement.

The supply chains modelled in Technoform's study were;

1. **Manufacture and shipping to New Zealand from China**
2. **Manufacture and shipping to New Zealand from Germany**
3. **New Zealand Manufacture from NZ produced thermally broken aluminium.**

Because International shipping is typically not included in carbon emissions calculations the true impact of importing products that can be sourced locally has slipped under the radar, but the study clearly shows this is something that Kiwis need to re-look at if we truly want to lower the carbon emissions of the construction industry.

Not surprising the results were sobering with the imported product releasing up to 4x as much CO_2-eq per M^2 of construction - a carbon footprint that's extremely hard to claw back from the energy efficiency gained from a quality insulated fenestration system, regardless of how good it is.

Technoform now has the data on hand to support the industry and consumers to make more informed choices, and in a win-win result, those better choices have a positive impact not only on the environment, but for the New Zealand Economy too.

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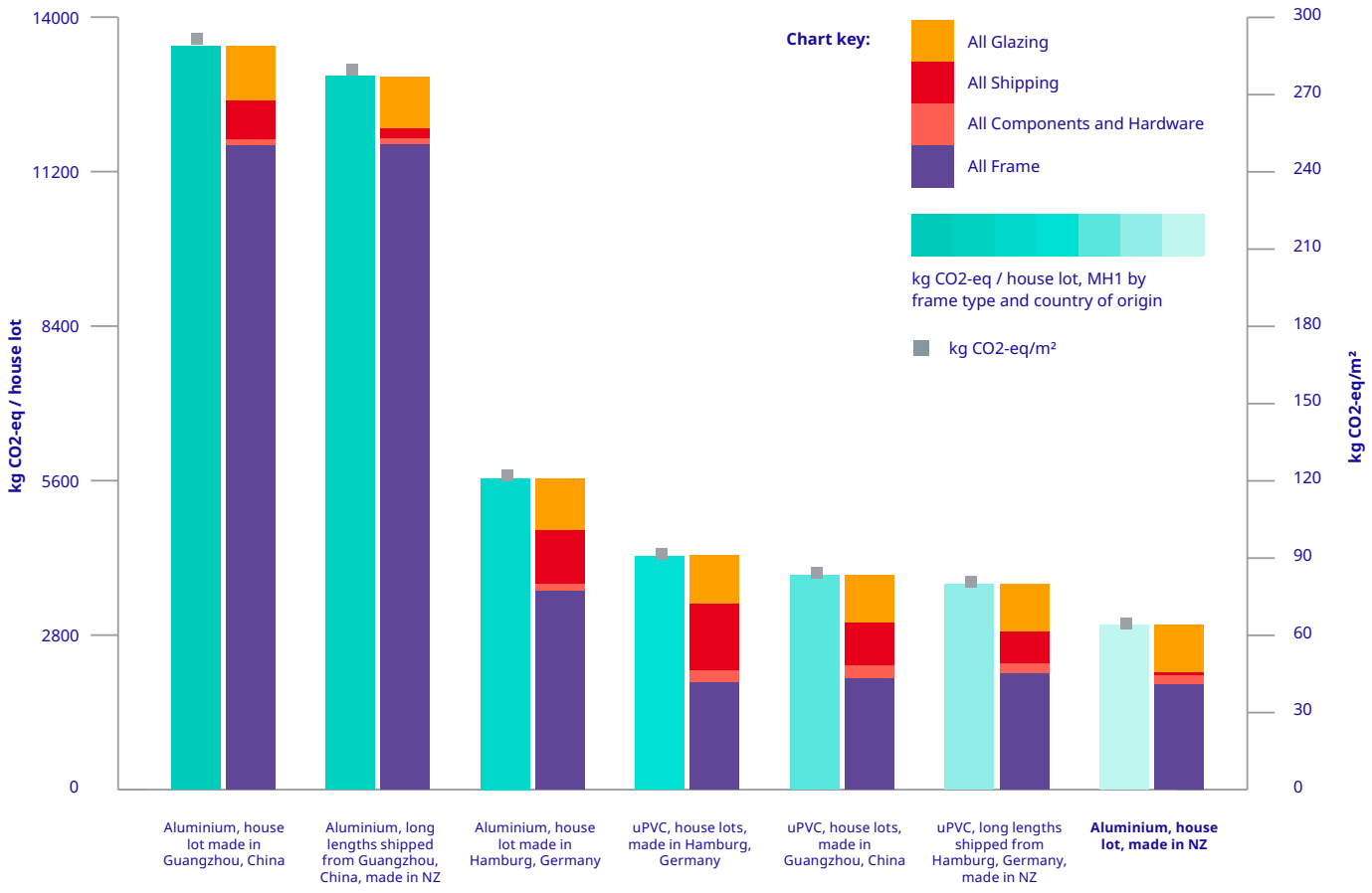
STUDY FINDINGS:

Carbon emission per house lot (single-story detached dwelling)

(kg CO_2-eq per m^2 based on 19 units)



STUDY FINDINGS:

Carbon emission per house lot (townhouse)

(kg CO_2-eq per m^2 based on 16 units)