

Reframing certification: OnCore PalmCore, sustainability and global compliance

From Europe's deforestation rules to Asia's indoor air quality standards, IOI Palm Wood's OnCore PalmCore is designed to meet rising global regulatory demands.



Unused oil palm trunks are transformed into high-performance, sustainable panels at IOI Palm Wood

In today's shifting regulatory landscape, sustainability has moved from a voluntary marketing claim to a non-negotiable requirement for global market access. As enquiries surge from Japan, China, Europe and the US, a clear theme has emerged among architects and developers: success is no longer defined solely by material performance, but by verifiable proof, traceability and regulatory readiness.

OnCore PalmCore addresses this challenge by utilising oil palm trunk (OPT), an agricultural biomass that offers a low-risk-by-design alternative to conventional timber. By choosing a material derived from existing agricultural cycles rather than tropical forest-based systems, partners can better navigate the complexities of tightening deforestation laws and secure a

smoother pathway to international markets.

SUSTAINABILITY BY MATERIAL CHOICE

OnCore PalmCore products are engineered from OPT, an agricultural biomass generated when plantations replant oil palms at the end of their fruit-bearing lifecycle. Unlike conventional timber, this material does not originate from forests, nor

does it rely on long-rotation harvesting cycles.

This distinction matters — now more than ever. As international regulations tighten around deforestation, emissions and material transparency, materials sourced from existing agricultural systems offer a credible alternative to forest-based timber products. This sustainability foundation underpins OnCore's ability to meet stringent global standards.

INDOOR AIR QUALITY: ELIMINATING FORMALDEHYDE AT THE SOURCE

One of OnCore's most direct and measurable contributions to sustainable construction is the elimination of urea-formaldehyde from its production process.

All OnCore products are manufactured using 100% no-added formaldehyde (NAF) resins. Unlike low-formaldehyde products, which still emit trace levels, NAF materials represent the highest tier of indoor air quality assurance. As a result, OnCore products meet the CDPH Standard Method V1.2, the benchmark emissions protocol referenced under LEED V4.1 for low-emitting materials.

For architects and interior designers, this provides a clear material choice that supports healthier indoor environments without adding testing or compliance burdens.

BUILT FOR GLOBAL REGULATORY BENCHMARKS

As regulations tighten worldwide, OnCore is engineered to meet international benchmarks from the outset. While US and EU standards are often the starting point for material compliance, the company's strategy anticipates the demanding requirements of Asian markets as well.

In North America, OnCore qualifies as an exempt lumber core under TSCA Title VI and CARB Phase Two regulations. Manufactured using 100% NAF resins, the



product exceeds the intent of US Environmental Protection Agency rules without requiring the administrative complexity associated with composite wood certifications. It also supports LEED criteria for low-emitting materials and toxic material reduction.

In Japan, the use of NAF resins inherently aligns OnCore with the

F-Four Star rating, the world's most stringent formaldehyde emission standard. As a lumber-core and cross-laminated solid wood product, it also meets Japanese Agricultural Standards (JAS) for bio-based material safety while delivering structural stability.

In China, OnCore's 100% NAF construction achieves the ENF (no-

LEGEND

- 1 Oil palm trunks being unloaded for further processing
- 2 Three-Layer Panel made from oil palm trunk



Oil palm trees felled at the end of their lifecycle provide abundant trunks as an alternative raw material for the furniture, building and construction industries

formaldehyde) grade under GB/T 39600-2021, the highest indoor air quality tier in the national standard. By upcycling OPT into engineered wood, the product also supports China's Dual Carbon objectives and qualifies for China Green Product certification.

In Europe, the EU Deforestation Regulation (EUDR) requires timber-based products to demonstrate deforestation-free origin and full traceability. For conventional timber, this presents significant logistical challenges. For OnCore, compliance is inherent. OPT is an agricultural by-product sourced from legally operated plantations, with no land-use change or forest conversion involved, positioning the material as low-risk by design for EU importers.

WHY INTERNATIONAL BUYERS CHOOSE ONCORE

Several strategic advantages drive OnCore's growing appeal among international buyers. Because OPT is an agricultural residue rather than a logged timber resource, supply chains are less exposed to

logging bans or the reputational risks associated with tropical hardwoods.

The use of 100% NAF resin also enables a single product specification to meet regulatory and certification requirements across the US, Japan and China, eliminating the need for multiple production lines.

In addition, the circular upcycling of OPT allows buyers to demonstrate strong environmental, social and governance (ESG) credentials. By diverting biomass from decomposition and locking carbon into long-life furniture and interior products, OnCore supports credible carbon storage claims.

THE STARTING POINT, NOT THE DESTINATION

As sustainability expectations evolve from voluntary targets to enforceable regulations, materials must do more than perform. They must prove their origin, safety and environmental impact.

OnCore PalmCore is positioned not just as a material, but as a regulatory

fast-track for global markets. Circular, deforestation-free by design and aligned with standards in the US, Europe, Japan and China, it reflects a broader shift in how materials are assessed.

In an era defined by transparency and accountability, certification is no longer the destination – it is simply the starting point. **P**

All images courtesy of IOI Palm Wood.



Inspiring the next "material revolution" by creating sustainable and high-performance materials from oil palm waste, **Peter Fitch**, together with IOI, have set up IOI Palm Wood to commercialise this untapped potential.