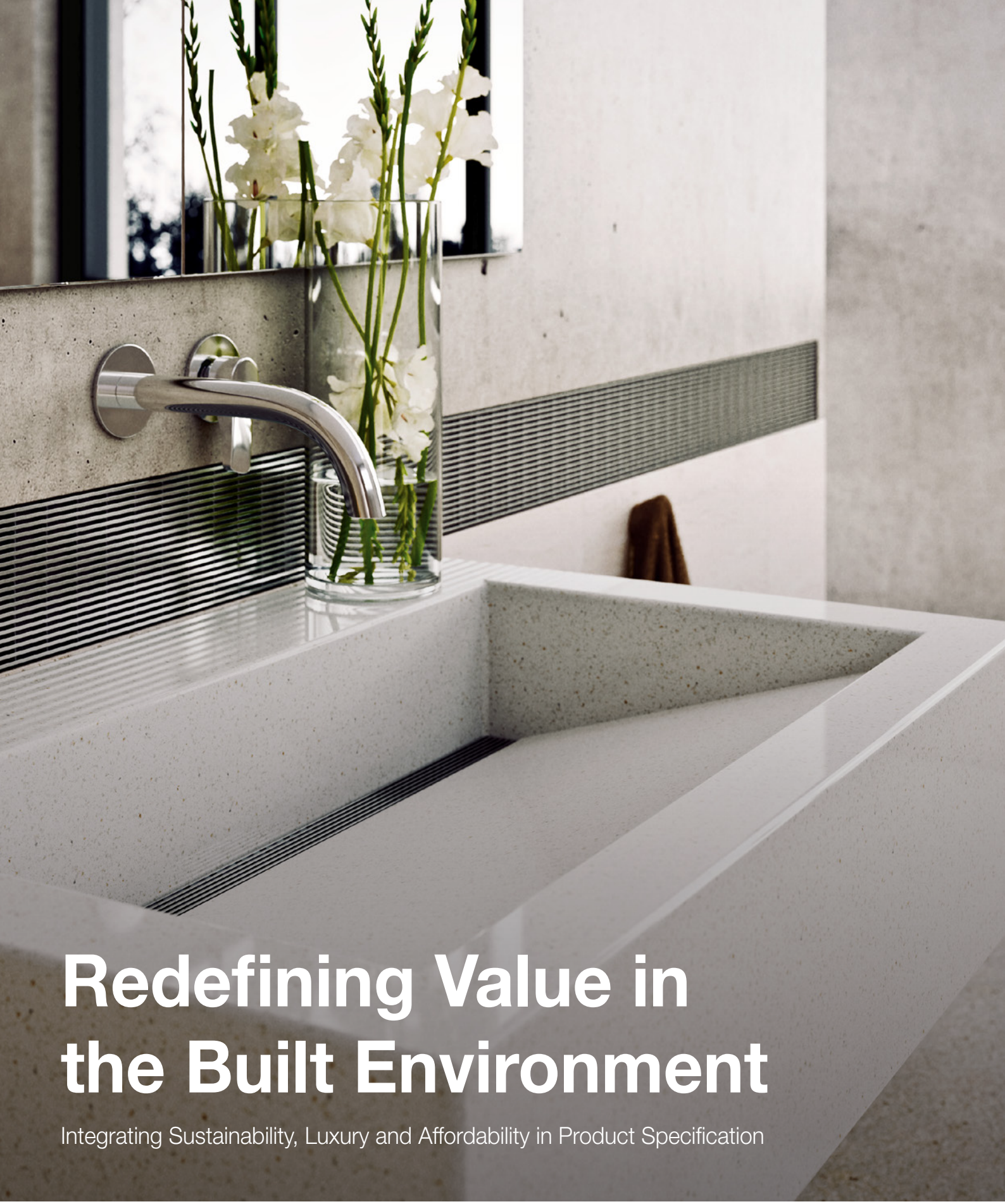


Redefining Value in the Built Environment

Integrating Sustainability, Luxury and Affordability in Product Specification

Stormtech

INTRODUCTION

Regulatory and sustainable building frameworks such as the National Construction Code, Green Star and council-mandated Environmentally Sustainable Design policies have heightened expectations around material performance, energy use and whole-of-life impact in the built environment. Yet, in the pursuit of compliance, there remains a persistent industry belief that luxury, affordability and sustainability are fundamentally at odds.

In this paper, we discuss a framework for specification that enables architects to align high-end aesthetics with environmental and economic performance. Drawing from current design trends and lifecycle assessment methodologies, we propose an approach that encourages architects to evaluate materials and systems as an overlapping set of objectives:

- **Sustainability:** Minimising environmental impact through low embodied carbon, responsible sourcing and end-of-life considerations.
- **Affordability:** Achieving cost-effectiveness over the building lifecycle by prioritising durability, efficiency and maintainability.
- **Luxury:** Delivering refined design outcomes through material quality, user comfort, health and sensory experience.

Below, we demonstrate how these concepts can be aligned through strategic material selection, finish specification and system integration.

"A more relevant lens to view 'affordability' in today's context is total cost of ownership."

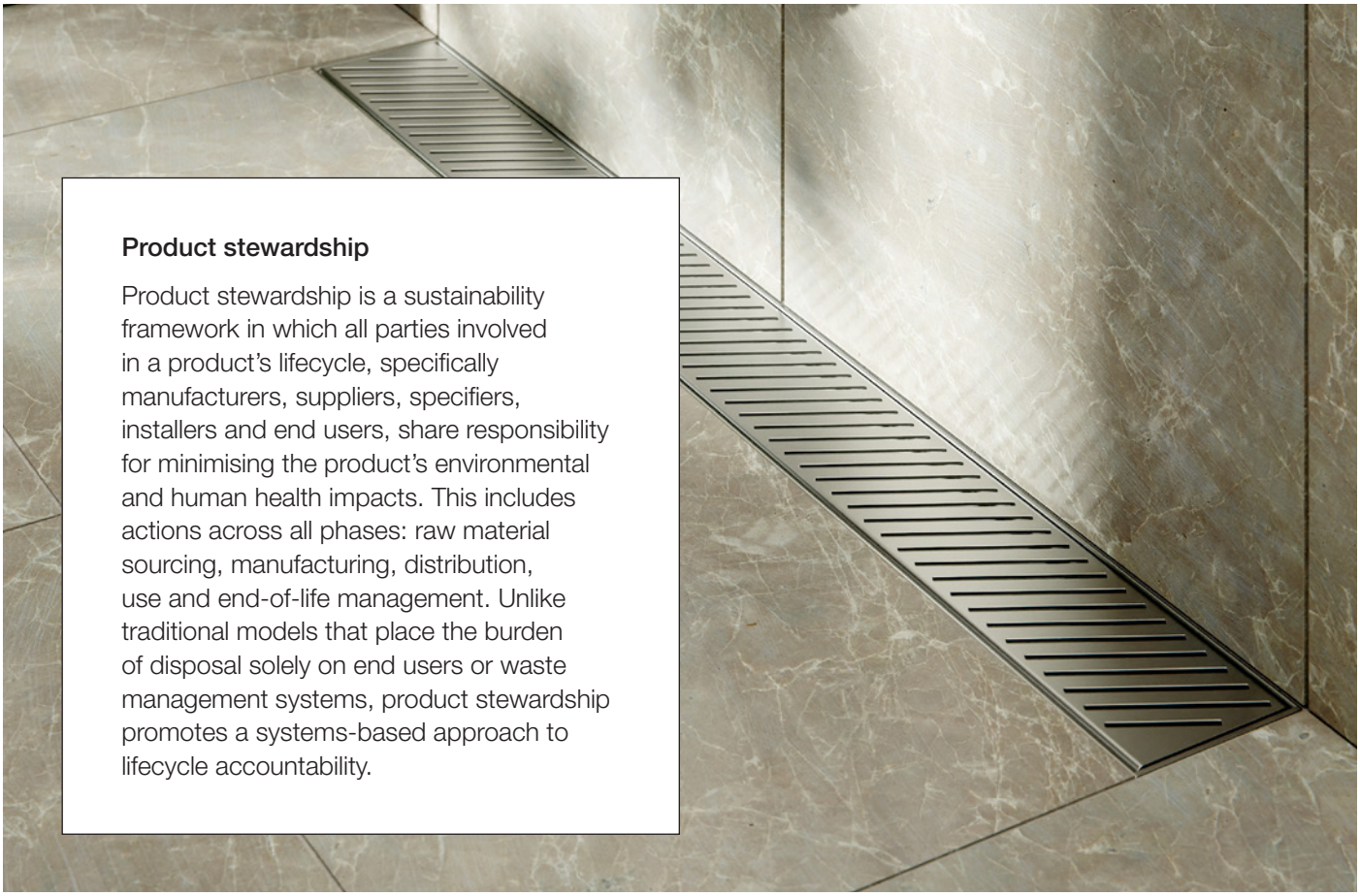
SUSTAINABILITY: ALIGNING ENVIRONMENTAL PERFORMANCE WITH QUALITY

There is a growing convergence between sustainability and luxury in architectural product specification. Increasingly, high-end design is defined not only by aesthetics and material quality but also by environmental performance, transparency and lifecycle accountability. This shift is being driven by evolving market expectations; research suggests that end users are willing to pay a premium for products with verified sustainability credentials.[1] The perception that sustainable materials must compromise design quality is being challenged by a new generation of products that combine technical performance with low environmental impact, ethical sourcing and durability.

Embodied carbon is central to this conversation. Architects seeking to reduce embodied impacts must look beyond anecdotal claims and rely on measurable, third-party verified data. Tools such as Life Cycle Assessment (LCA), Environmental Product Declarations (EPDs) and certification schemes like Global GreenTag LCARate and Vinyl Council of Australia's Best Environmental Practice (BEP) offer a reliable basis for comparison. These frameworks provide insights into not only a product's carbon footprint but also its resource efficiency, recyclability and compliance with stewardship programs (see **Product stewardship** below).

Understanding how to read and compare EPDs is increasingly essential in technical specification. While all EPDs report on environmental performance over defined lifecycle stages, not all EPDs are equal in scope or data quality. Architects should prioritise third-party verified declarations that use product-specific data and comply with ISO 14025. Independent certification schemes can help navigate potential greenwashing by distinguishing between self-declared marketing claims and genuinely validated performance metrics.

Emerging material trends continue to support this alignment of sustainability and high performance. Consumers are increasingly willing to purchase products with recycled or eco-friendly content.[2] Low-impact composites incorporating recycled content, long-life metals like stainless steel and certified PVC products all exemplify materials that meet both environmental and functional requirements. Products designed for disassembly, recyclability or circular use further reduce lifecycle impacts. Local sourcing, where possible, reduces transport emissions and enhances supply chain transparency.



Product stewardship

Product stewardship is a sustainability framework in which all parties involved in a product's lifecycle, specifically manufacturers, suppliers, specifiers, installers and end users, share responsibility for minimising the product's environmental and human health impacts. This includes actions across all phases: raw material sourcing, manufacturing, distribution, use and end-of-life management. Unlike traditional models that place the burden of disposal solely on end users or waste management systems, product stewardship promotes a systems-based approach to lifecycle accountability.

AFFORDABILITY: MOVING BEYOND THE INITIAL COST

A more relevant lens to view ‘affordability’ in today’s context is total cost of ownership. This approach, often referred to as whole-of-life costing, considers not only initial material and labour costs, but also long-term operational savings, maintenance requirements, installation efficiencies and replacement.

Products typically associated with high-end specifications may carry a higher procurement cost but often result in lower lifecycle costs. For example, stainless steel linear drainage systems, while more expensive than plastic equivalents upfront, offer superior corrosion resistance, mechanical strength and hygiene performance, making them particularly cost-effective in commercial wet areas where frequent cleaning and high foot traffic are expected.

In this context, affordability is not at odds with luxury but aligned with it, particularly where quality reduces operational and capital expenditure over time. In addition, design decisions that favour durable, low-impact materials can contribute to Green Star or other sustainability certification pathways, improving a building’s marketability and long-term asset value.

Quantifying lifecycle value involves comparing initial costs with downstream savings. A high-durability facade system, for instance, may reduce repainting or recoating cycles from every 7–10 years to 25+ years. Tools such as cost-benefit analysis, lifecycle cost modelling and specification-based value engineering can support these decisions by factoring in energy savings, reduced downtime and lower maintenance inputs over the life of the asset. Architects can incorporate material service life and maintenance projections into LCAs submitted as part of Green Star documentation, supporting credits related to material impact, resource efficiency and responsible sourcing.

Installation efficiency also plays a critical role. Prefabricated or made-to-length systems, such as project-specific linear drainage channels or modular partition systems, minimise on-site cutting, reduce installation errors and accelerate project timelines. For example, off-site manufactured wet area drainage systems that arrive ready to assemble reduce labour hours while reducing the risk of mistakes that could lead to waterproofing failures. When labour shortages or tight construction windows are at play, these efficiencies become more valuable than nominal material savings.

REFRAMING LUXURY: AESTHETICS AND MATERIAL INTEGRITY

Today's high-end specification is driven by products that combine aesthetic refinement with technical performance. Surfaces and components must not only look premium but also perform reliably across years of use, withstanding environmental exposure, cleaning cycles and mechanical wear.

Products that offer refined finishes alongside mechanical robustness are increasingly favoured in high-end projects. For example, Stormtech's architectural-grade stainless steel linear drainage system with anodised aluminium grates, finished in a brass gold tone, delivers both performance and enduring visual appeal in high-moisture environments, supporting both function and finish in luxury bathrooms and hospitality fitouts. The anodised aluminium used in this system is Capral's Super LocAl, a certified low embodied carbon material, aligning with sustainable design goals. Electroplating, commonly used for tapware, grates, and hardware, enables these refined finishes while enhancing surface hardness and resistance to corrosion and abrasion. This allows designers to specify visually striking metallic tones without compromising on durability.

Minimalist detailing is another key attribute of modern luxury, particularly in interiors. Sleek, low-profile hardware, recessed linear drains and flush-mounted access panels enable a clean architectural expression, allowing wall and floor finishes to remain uninterrupted. These elements signal design intent and quality without relying on visual complexity. High-performance coatings further enhance this aesthetic while supporting ease of maintenance and hygiene.

Ethical sourcing and material traceability now underpin what is often referred to as "responsible luxury". Certifications such as FSC or Vinyl Council BEP demonstrate a material's environmental credentials, while advanced surface technologies, such as UV-cured polyurethane finishes or low-VOC composite coatings, contribute to indoor air quality and reduced lifecycle impact.

> “The perception that sustainable materials must compromise design quality is being challenged by a new generation of products that combine technical performance with refined finishes, ethical sourcing and durability.”

HOW STORMTECH REDEFINES VALUE FOR ARCHITECTURAL DRAINAGE

Stormtech’s Slimline drainage range provides a clear example of how architectural products can meet sustainability, luxury and affordability objectives simultaneously. Engineered for high-performance drainage in wet areas, the range is available in marine-grade 316 stainless steel and BEP-certified uPVC, both chosen for durability, corrosion resistance and low environmental impact.

The products are supported by comprehensive third-party documentation, including Global GreenTag Level A Gold certification, EPDs and LCARate assessments. This independently verified data enables specifiers to address Green Star credits such as Life Cycle Impacts, Responsible Products and Indoor Pollutants, while also supporting WELL Building Standard objectives related to low-emission materials and occupant health.

The Slimline system is designed with modularity and minimalism in mind. Made-to-length and preconfigured to suit project layouts, the system reduces installation time, site waste and coordination between trades. Its low-profile design allows for flush integration with floor finishes, enabling a clean, uninterrupted surface, particularly important in high-end bathrooms, courtyards and balcony thresholds. The system’s adaptability and ease of use reduces the risk of waterproofing failure, improves construction timelines and supports long-term maintenance and cost control. This makes the system particularly well suited to large-scale residential and commercial projects where repeatability, visual consistency and durability are key.

Stormtech also demonstrates leadership in product stewardship and lifecycle responsibility. The company has been a signatory to the Vinyl Council of Australia’s voluntary Product Stewardship Program for over a decade, demonstrating a long-standing commitment to responsible material management. The program outlines clear expectations around sustainable PVC manufacturing, low-emission performance during use, and effective end-of-life recovery. Stormtech supports this with a national take-back and recycling scheme for both PVC and stainless steel drainage components, helping divert materials from landfill and promoting circular use. For specifiers, this provides confidence that product impacts are being proactively addressed well beyond installation.

For architects and specifiers, the Slimline range shows how drainage products can play a significant role in achieving sustainability targets, supporting aesthetic goals and enhancing overall project quality.

REFERENCES

[1] PWC. “Consumers willing to pay 9.7% sustainability premium, even as cost-of-living and inflationary concerns weigh: PwC 2024 Voice of the Consumer Survey.” PWC. https://www.pwc.com/gx/en/news-room/press-releases/2024/pwc-2024-voice-of-consumer-survey.html (accessed 3 June 2025).

[2] Ibid.

All information provided correct as of June 2025

Stormtech