



IKATAN QUANTITY SURVEYOR INDONESIA



SUSTAINABILITY COMMITTEE

PAQS REPORT – INDONESIA (IQSI) 2025



1. Definition

Sustainable construction in Indonesia refers to a set of planning, design, construction, and operational practices that aim to:

- 1) **Minimize environmental impact**, including reduction of emissions, pollution, and waste
- 2) **Optimize resource efficiency**, such as energy, water, and materials throughout the building's life cycle
- 3) **Enhance social and economic value for stakeholders**, including health, safety, and job creation
- 4) **Improve building performance and durability**, ensuring long-term value and reduced maintenance

These practices align with Indonesia's broader goals for sustainable development, climate resilience, and urban livability.

2. Regulatory Framework

- 1) Law No. 28 of 2002 – Building Law
 - Covers building reliability, including safety, health, sustainability, and user comfort.
 - Government Regulation No. 16 of 2021 – Implementing Regulation of Building Law
 - Emphasizes sustainable and energy-efficient building designs
 - Requires adherence to environmental standards and certifications.
 - 2) Green Building Regulations
 - DKI Jakarta Governor Regulation No. 38/2012:
 - Mandatory green building criteria for certain public and private buildings,
 - Focus areas: energy efficiency, water conservation, indoor air quality, site sustainability.
 - Other cities with similar regulations: Bandung, Surabaya, Semarang, and Denpasar.
 - 3) National Standard (SNI)
 - SNI 03-6196-2000: Energy conservation in buildings.
 - SNI 03-6569-2001: Daylighting and ventilation.
 - SNI 03-6389-2011: Energy performance of buildings.
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3. Green Building Certification

- 1) **Greenship (By GBCI)**
 - Indonesia's own green building rating system by Green Building Council Indonesia.
 - Categories:
 - New Building (NB)
 - Existing Building (EB)
 - Interior Space (IS)
 - Homes, Neighborhood, etc.
 - Assessed across 6 aspects:
 - Appropriate Site Development
 - Energy Efficiency and Conservation
 - Water Conservation
 - Material Resource and Cycle
 - Indoor Health and Comfort
 - Building and Environmental Management
- 2) **International Certifications in Use**
 - LEED (US)
 - EDGE (IFC/World Bank)
 - BREEAM (UK)



4. Sustainable
Infrastructure
Projects in
Indonesia



**BSD Green Office Park
(Tangerang)**

*Uses natural ventilation, solar
panels, water recycling*



**Universitas Indonesia Hospital
(Depok)**

*Energy-efficient MEP, green
landscape*



**Soekarno-Hatta Terminal 3
(Tangerang)**

*Features daylighting, waste
management system*



BNI Tower (Jakarta)

*First Green Building Platinum
under GREENSHIP*



SDN Ragunan 08 (Jakarta)

*One Example Of A School In
Jakarta That Applies The
Concept Of Net-Zero Energy
Buildings Or Buildings With
Clean Energy*

5. Key Sustainability Strategies in Construction

Area	Strategy
Design	Passive design, natural lighting/ventilation, compact footprint
Materials	Use of recycled/locally sourced materials, low-VOC paints, bamboo, fly ash
Energy	Solar panels, efficient HVAC, LED lighting
Water	Rainwater harvesting, greywater recycling, low-flow fixtures
Construction Method	Modular/precast construction, low-carbon concrete
Waste	Construction waste management, material reuse

6. Challenges in Sustainable Construction

- 1) High initial investment costs
 - 2) Limited awareness among contractors/developers
 - 3) Lack of incentives/subsidies
 - 4) Skill gap in green design and construction techniques
 - 5) Fragmented regulations across provinces
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7. Government and Industry Support

- 1) **GBC Indonesia**: Advocacy, certification, training
 - 2) **Bappenas**: Integration of SDGs into infrastructure planning
 - 3) **Ministry of Public Works and Housing (PUPR)**: Promotes sustainable infrastructure in RPJMN
 - 4) **PT SMI & SDG Indonesia One**: Financing green infrastructure
 - 5) **LPJK (Construction Services Development Board)**: Encouraging sustainable practices in construction licensing
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8. Sustainable Construction Trends in Indonesia

- 1) Net-zero energy buildings (NZEB)
 - 2) Smart green cities and smart buildings
 - 3) Integration of digital tools (BIM) for lifecycle management
 - 4) Prefabrication and industrialized construction
 - 5) Circular economy practices (reuse, recycle, reduce)
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9. Outlook and Opportunities

- 1) Indonesia's commitment to **net-zero by 2060** encourages green building growth
 - 2) Government programs like **100 Smart Cities**, **SDGs localization**, and **National Urban Policy** drive sustainable urban construction.
 - 3) Green construction is increasingly aligned with **ESG investment criteria** and **carbon credit markets**.
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10. Incentives Available For Green (Sustainable) Buildings In Indonesia

Level	Incentives
National	Tax holidays, allowances, import duty/VAT relief, carbon trading, green bonds/sukuk, SEZ benefits (Based on : <i>The Omnibus Law on Job Creation 2020, Government Regulation 78/2019, Minister of Finnacle regulations</i>)
Jakarta (Local)	PBB discounts 30% – 60% (based on : <i>GBCI certification tier and Governor Regulation No. 60 of 2022</i>)
Developer Support	Non-fiscal support: faster permits, design assistance, publicity, FAR bonuses

11. The Role of a Quantity Surveyor in Supporting Sustainable Projects

A **Quantity Surveyor (QS)** plays a pivotal role in ensuring that construction projects are delivered not only on time and within budget but also with minimal environmental impact. In the era of **sustainable development**, the responsibilities of a QS have expanded beyond cost control to actively supporting **sustainability goals** across all project phases.

1) **Cost Planning with Sustainability in Mind**

- Evaluating **life cycle costs (LCC)**, not just initial costs.
- Promoting materials and solutions that offer long-term savings in **energy, water, and maintenance**
- Advising on **green materials** and technologies that may have higher upfront costs but yield long-term environmental and financial benefits

2) **Sustainable Procurement**

- Recommending suppliers and contractors who follow **environmentally responsible practices**
- Ensuring that materials used are **certified sustainable** (e.g., FSC-certified timber, low-carbon concrete)
- Supporting the adoption of **local materials** to reduce transportation emissions

3) **Waste Management and Resource Efficiency**

- Working with design and construction teams to **minimize construction waste** through efficient planning
- Monitoring **material use** to reduce excess and avoid over-ordering.
- Encouraging the use of **prefabricated components** to reduce site waste

4) **Risk Management for Environmental Impact**

- Identifying and managing **financial risks** associated with non-compliance with environmental regulations.
- Ensuring **permits and sustainability certifications** (e.g., LEED, BREEAM, Greenship) are factored into the project scope and budget.

5) **Collaboration and Education**

- Acting as a **liaison** between the client, architect, engineers, and sustainability consultants to align environmental goals
- Educating clients about **long-term value** of sustainable options
- Supporting innovation through **cost-benefit analyses** of emerging green technologies

6) **Post-Construction Evaluation**

- Assisting in the **monitoring of building performance** to ensure sustainability targets are met
- Conducting **post-occupancy evaluations** and feedback analysis to inform future sustainable projects

12. Conclusion

- 1) Sustainability in construction is becoming increasingly essential in Indonesia, driven by growing environmental concerns, regulatory frameworks, and the need for resilient infrastructure. While the country faces challenges such as limited awareness, cost perceptions, and inconsistent policy enforcement, there is significant progress through government initiatives, green building certification systems (like Greenship), and industry adaptation.
 - 2) Embracing sustainable construction practices—such as energy-efficient design, use of local and eco-friendly materials, water conservation, and waste reduction—not only helps reduce the environmental footprint but also supports economic and social development goals. Collaboration among government, private sector, professionals, and communities is critical to accelerating this transformation.
 - 3) Ultimately, sustainable construction in Indonesia is not just a trend—it is a **strategic necessity** for achieving long-term national development, climate resilience, and improved quality of life for future generations.
 - 4) A modern Quantity Surveyor is more than a cost expert—they are a **key enabler of sustainable construction**. Through early involvement, strategic planning, and holistic cost analysis, QS professionals help balance financial feasibility with environmental responsibility, contributing to the success of green building initiatives.
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