SUSTAINABILITY COMMITTEE

PAQS REPORT – INDONESIA (IQSI) 2024

01

Sustainability Regulation in Indonesia

In 2023, Indonesia made significant strides in promoting sustainability within its building projects through the introduction of several key regulations. These regulations underscore the country's commitment to sustainable development and its proactive approach to addressing environmental challenges.

Key Regulation

1. **Carbon Capture and Storage (CCS) Projects:**
   Pertamina's CCS Initiative: Pertamina, Indonesia's state-owned oil and gas company, has been actively developing CCS projects to comply with Regulation No. 2 of 2023. These projects aim to capture and store carbon emissions from their operations, significantly reducing their carbon footprint.

2. **Smart Building Projects**
   Nusantara Capital City: The development of Indonesia's new capital city, Nusantara, incorporates smart building standards as outlined in Regulation No. 10 of 2023. This project focuses on sustainable urban planning, energy-efficient buildings, and smart infrastructure to create a green and livable city.
   Green Office Buildings in Jakarta: Several new office buildings in Jakarta have been designed and constructed following the smart building guidelines. These buildings feature advanced energy management systems, water conservation technologies, and sustainable materials.

3. **Energy Conservation Projects**
   Renewable Energy Power Plants: In line with Government Regulation No. 33 of 2023, Indonesia has been expanding its renewable energy capacity. Projects such as the development of solar and wind power plants are part of the country's efforts to increase energy efficiency and reduce reliance on fossil fuels.

   Energy Efficiency Programs: Various industrial and commercial sectors have implemented energy efficiency programs to comply with the new regulations. These programs include upgrading equipment, optimizing energy use, and adopting best practices for energy conservation.

These regulations reflect Indonesia's dedication to fostering a sustainable future through thoughtful and comprehensive regulatory measures, including Regulation No. 21 of 2021 by the Ministry of Public Works and Housing regarding the performance assessment of green buildings, and Circular Letter No. 01/SE/M/2022 regarding technical guidelines for the Performance Assessment of Green Buildings

02

Green Market Building - Stakeholder Assessment

INDONESIA -2023

IFC (International Finance Corporation)

World Bank Group

The Green Building market in Indonesia is on a growth trajectory, driven by increasing awareness and demand among stakeholders. Despite the perceived higher construction costs and lack of incentives, there is a strong business case for Green Buildings, supported by government regulations and public recognition. The market shows significant potential, with stakeholders willing to invest in and occupy Green Buildings for their environmental benefits and cost savings. However, addressing the knowledge gap and enhancing policy enforcement are crucial for further market development

The importance of Green Buildings in Indonesia is expected to grow for all stakeholders

61% of residential occupier respondents **in Indonesia said that they would be willing to pay an additional 2% or more to live in a Green Building, with 48% of respondents willing to pay over 3%, which would cover the typical actual estimated additional cost of Green Building construction of 1-2%.** In addition, building experts in Indonesia consider government regulation as one of the main motivating factors for Green Building construction. All this suggests that the business case for increased Green Building construction in Indonesia is strong.

61% of residential occupier respondents and **60% of surveyed building experts in Indonesia cited the lack of knowledge of the benefits of certified Green Buildings as an obstacle for the development of the market, and 62% of surveyed building experts in Indonesia consider the additional perceived cost of Green Building construction as the main barrier**. However, the findings suggest that this latter cost is substantially overestimated, particularly by stakeholders less familiar with Green Buildings. All this suggests that the information gap regarding the cost of Green Building construction in Indonesia is still very large, and that further knowledge dissemination efforts are needed to reduce it

03

Case Studies

Green Building in Indonesia.

Sequis Tower

Source: Sequis Tower

Location: Jakarta

Features: Sequis Tower is a prime example of a green building in Indonesia. It incorporates energy-efficient systems, sustainable materials, and advanced water management techniques. The 1.5 million-square foot, 39-story tower is located in Jakarta's Sudirman central business district, and is comprised of a variety of programs, including office space and healthcare facilities, as well as streetlevel shopfronts and restaurant.

Value for its sustainability aspects:

1. **Energy Efficiency:** The building performs 36% better than the LEED baseline, thanks to high-efficiency building systems and design strategies that minimize energy consumption.
2. **Sustainable Materials:** The use of locally sourced and recycled materials significantly reduce the embedded energy in the building.
3. **Water Management:** Advanced water management techniques are employed to minimize water usage, although specific percentage values for water savings are not detailed in the available resources.
4. **Certification:** Sequis Tower has received multiple green certifiactions, including the prestigious LEED Platinum certification, which is one of the highest standards for green buildings.

Menara BCA

Location: Jakarta

Features: This building is designed to minimize energy consumption and reduce environmental impact. It includes features such as energy-efficient lighting, water-saving fixtures, and a high-performance building envelope

1. **Energy Consumption**: Designed to minimize energy consumption through energy-efficient lighting and systems
2. **Water Conservation**: Features water-saving fixtures to reduce water usage.
3. **Building Envelope**: High-performance building envelope to enhance energy efficiency and reduce environmental impact.

BCA Sustainability Report 2023 – Live to Empower

BCA's commitment to sustainability is the main message that we conveyed through the year 2023. We have ignited this spirit by engaging with all stakeholders towards fostering resilient business practices in the face of global economic uncertainties, climate change, and all aspects of life. Together with our stakeholders, we advance in sync and empower each other (Live to Empower) to grow sustainably for a better earth and future generations. (Jahja Setiaatmaja, President Director).

Nongsa Digital Park

Location: Jakarta

Source: Nongsa Digital Park | Nongsa Digital Park

Features:: Nongsa Digital Park (NDP) is designed to be a sustainable digital hub, incorporating green infrastructure and practices. It aims to create a balance between technological advancement and environmental sustainability. It's a place where digital innovation meets ecological consciousness, creating a harmonious blend of work, life, and play. Here's what makes NDP special:

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What makes NDP special:

Digital Ecosystem Community

NDP aims to foster a vibrant digital community. Whether you're attending local events, participating in programs, or becoming a full community member, they want you to work, live, and play together. It's like a digital family picnic, but with fewer ants and more code

Startup Support

NDP is operated by the Citramas Group and provides a nurturing environment for digital businesses. Startups and young entrepreneurs find a cozy incubator here—a place to work, innovate, and grow side by side. Imagine brainstorming sessions with a view of palm trees swaying in the breeze

Safe Geographical Location

NDP sits on high ground in Eastern Batam, away from seismic fault lines. It's not just a tech hub; it's a safe haven for data centers. Imagine servers humming contentedly while enjoying sea views.

Batam's Proximity to Singapore

Here's the cherry on top: Batam is just a one-hour boat ride away from Singapore. So, digital talents can hop between these two tech-savvy neighbors with ease. It's like having a digital bridge across the water

Sustainability Philosophy

NDP's design rests on three pillars: ecological, digital, and physical sustainability. Instead of the hustle-bustle of hyper-urban tech hubs, NDP embraces a more balanced lifestyle. Picture solar panels, green spaces, and maybe even a tech-savvy treehouse

In summary, Nongsa Digital Park isn't just about coding—it's about creating a sustainable, collaborative, and inspiring ecosystem. So, whether you're a startup founder, an aspiring programmer, or someone who just wants to work with a view, NDP welcomes you.

Pacific Palace

Location : Jakarta

Features: Pacific Place has implemented various green building technologies to enhance energy efficiency and sustainability. It includes features like efficient HVAC systems, sustainable landscaping, and waste management practices.

Green Office Park

Location: BSD City, Tangerang

Features : This office park is designed with sustainability in mind, featuring green roofs, rainwater harvesting systems, and energy-efficient building designs. It aims to provide a healthy and sustainable working environment

These case studies highlight the successful implementation of green building practices in Indonesia, showcasing the country's commitment to sustainable development and environmental stewardship

04

Green Construction with Carbon Capture and Storage (CCS) Projects

Oil and Gas Company (PT Pertamina Persero)

The 2023 Sustainability Report by PT Pertamina (Persero) outlines the company's commitment to leading Indonesia's energy transition towards sustainability. It highlights key initiatives such as improving eco-friendly fuel production, developing bioenergy, optimizing geothermal capacity, and commercializing hydrogen. The report emphasizes Pertamina's dedication to environmental, social, and governance (ESG) performance, aligning with global standards and supporting the Sustainable Development Goals (SDGs). Through these efforts, Pertamina aims to ensure energy availability, accessibility, affordability, acceptability, and sustainability for Indonesia.

Source: [Sustainability Report (pertamina.com)]

05

Green Construction with Energy Conservation Projects

Source:
PLN Sustainability report 2023

PT PLN (Persero)

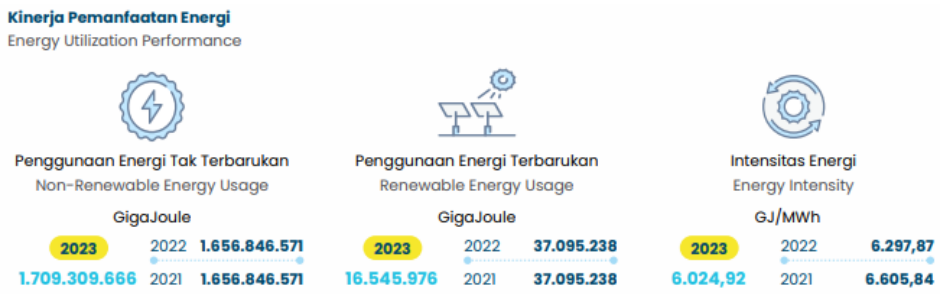
PT PLN (Persero), Indonesia's state-owned electricity company, has been actively working on sustainability initiatives. In the PLN Sustainability report for 2023, PLN emphasizes their commitment to providing adequate and high-quality electricity for the public while also adhering to government mandates in the energy sector. They operate with the principles of a limited liability company (Perseroan Terbatas) and strive to contribute to national development. The report provides essential data and forward-looking statements for stakeholders about PLN's future outlook. It outlines PLN's sustainability strategy, emphasizing the **acceleration of new and renewable energy (NRE) development to support Indonesia's energy transition, with a target of a 75% increase in NRE capacity by 2040**. The environmental performance section highlights significant reductions in NOx, SO2, and particulate emissions through improved emission control, energy utilization, and waste management. Social performance focuses on occupational safety, gender equality, and community engagement, noting improved customer service response times and support for new electricity installations for the poor.

We can conclusion that's key takeaways of the PLN 2023 is:

- ✓ **Sustainability Focus:** PLN is committed to achieving net zero emission (NZE) by 2060 through the development of new and renewable energy (NRE)
- ✓ Financial Performance: in 2023, **PLN recorded a profit of IDR 22.07 trillion, a 53.16% increase from 2023**
- ✓ **Environmentals Efforts:** **Significant reduction in greenhouse gas emissions, achieving a 60.6% increase in reduction from 2022**.
- ✓ Social Initiatives: Emphasis on human resources development, and community.

PLN implemented several notable new and renewable energy (NRE) projects some key highlights:

1. Solar Power Plant with Amazon: PLN signed an agreement with Amazon to develop a 210 MW solar power plant in Indonesia. This project marks a significant step towards integrating large-scale solar power into the national grid.
2. Grid-Scale Solar Farms: PLN progressed with planning applications for grid-scale solar farms, aiming to deliver substantial renewable energy capacity to various regions2.
3. Onshore Wind and Solar Projects: Through partnerships, PLN worked on securing land rights and grid capacity for new onshore wind and solar projects, with a collective installed capacity exceeding 500 MW3.



06

The Role of a Quantity Surveyor in Supporting Sustainable Projects

In Indonesia, quantity surveyors play a crucial role in managing and promoting green sustainability in the construction industry. Here are some key ways they contribute:

1. Life Cycle Costing
   Quantity surveyors assess the total cost of a building over its entire life cycle, including initial construction, operation, maintenance, and disposal. This helps in selecting sustainable materials and technologies that may have higher upfront costs but lower long-term expenses.
2. Value Engineering
   They perform value engineering to optimize the balance between cost, quality, and sustainability. This involves evaluating different design options and materials to ensure the most sustainable and cost-effective solutions are implemented.
3. Green Building Certification
   Quantity surveyors assist in achieving green building certifications by ensuring that construction practices meet the required environmental standards. They assess the environmental impact of materials, energy consumption, and waste management.
4. Carbon Budgeting
   They manage carbon budgets by tracking and estimating carbon emissions throughout all design and construction stages. This helps in reducing the carbon footprint of projects and aligning with global sustainability goals.
5. Regulatory Compliance
   Quantity surveyors ensure that projects comply with local and international sustainability regulations and standards. This includes adhering to guidelines for energy efficiency, water conservation, and waste reduction.
6. Community Engagement
   They engage with local communities to understand their needs and incorporate sustainable practices that benefit both the environment and the community. This can include supporting local economies and ensuring equitable access to resources.

By integrating these practices, quantity surveyors in Indonesia help drive the construction industry towards a more sustainable future.