

# WTON SUSTAINABLE PRODUCT

PT Wijaya Karya Beton Tbk



#CreatingBetterFuture

## S&P Global Assessments Checklist

### 2.5.13

#### Low-carbon Products

S&P Questions	Link
Type & Description of product(s)	<a href="#">link</a>
Public Reporting	<a href="#">link</a>
Level of aggregation	<a href="#">link</a>
% of total revenues from "climate change" product(s) in the most recently completed fiscal year	<a href="#">link</a>
Estimated total avoided emissions per year	<a href="#">link</a>
Additional comment	<a href="#">link</a>

## About WTON Sustainable Products

WTON Sustainable Product represents WIKI BETON's commitment to developing innovative, low carbon products, & eco-friendly solutions that prioritize both environmental and social aspects. Through the integration of sustainable practices and advanced technologies, WIKI BETON creates products that align with green construction principles while addressing key challenges such as climate resilience and resource efficiency.

Key products under the WTON Green Product initiative include porous concrete, geopolymers, modular sabodams, tetrapods, and precast housing systems like Rumah WIKI Beton (RWB). These products are designed to reduce environmental impact by improving water management, lowering CO<sub>2</sub> emissions, and supporting coastal protection. By incorporating recycled materials and minimizing construction waste, WIKI BETON fosters sustainable development and supports the global transition to green infrastructure.

WTON Sustainable Product reflects the company's dedication to innovation, environmental stewardship, and delivering long-term value to communities and stakeholders through sustainable solutions.



### Sumur Resapan (Infiltration Wells)

Infiltration wells are infrastructure that function to collect rainwater and absorb it into the ground.

Benefits:

- Collect, store, and increase groundwater reserves.
- Reduce rainwater runoff into drainage channels
- Reduce erosion and withstand seawater intrusion for areas adjacent to coastal areas.
- Prevent land subsidence and reduce groundwater pollution concentrations.



### Beton Porous (Porous Concrete)

Porous/pervious concrete is a type of concrete that has pores or cavities in its concrete structure, allowing liquid/water to flow through these cavities.

Benefits:

- Captures rainwater and absorbs it into the soil, thereby increasing the volume of groundwater
- Reduces impermeable areas, thereby preventing puddles/floods
- Reduces runoff volume, thereby reducing drainage load (drainage systems can be made more efficient)



### Beton Geopolimer (Geopolymer Concrete)

Geopolymer Concrete is a type of concrete that does not use cement at all as a binding material (100% non-cement). The binding material in the concrete mixture uses materials containing silica (Si) and aluminum (Al) such as fly ash, slag, and other materials.

Benefits:

- Does not use cement at all (100% non-cement)
- More environmentally friendly, can reduce 70-80% of CO2 emissions in the concrete mixture when compared to normal concrete with the same quality.
- More resistant to sulfate attacks.



### Rumah WIKI Beton

RWB01 is a precast house system consisting of structural components such as beams, columns, and wall panels. The structural components of the house are first produced in a factory or workshop, so that the quality of the RWB01 structural components is guaranteed.

Benefit:

- Strength and Stability
- Quick and Easy Installation:
- Aesthetic Design





### Modular Sabodam

Modular sabodam is a gravity dam structure composed of several precast concrete components.

Benefits:

- Obtaining a sabodam structure that has better abrasion and impact resistance than conventional sabodam
- Shorter construction time
- Construction waste generated at the construction site can be minimized.
- Maintaining soil surface erosion
- directing debris flow following the river channel.



### Tetrapod

Tetrapod is a tetrahedral concrete structure that functions to protect the coastal environment from erosion and abrasion.

Benefits:

- Preventing erosion: Prevent erosion caused by weather and parallel currents along the coast.
- Protecting the Coastline: Protect the coastline from abrasion caused by ocean waves.
- Preventing shallowing: Prevent shallowing caused by sediment transported by tidal waves.
- Smoothing river water: Smooth the flow of river water that flows into the sea.



### NCICD

NCICD (National Capital Integrated Coastal Development) is an integrated solution to address the challenges of flooding, sanitation, and better water supply. NCICD will also improve the quality of life of Jakarta residents by protecting them from tidal flooding.

Benefits:

- Efforts to Secure and Arrange the North Coastal Area of Jakarta
- Prevention of Tidal Flooding in Jakarta
- Holding Back Sea Water Due to Tidal Waves or Tidal Water
- As a Clear Boundary for Land Development in Coastal Areas



### PC Spun Piles

PC Piles are foundation columns designed by WIKABeton in various sizes to support diverse structures. Their high concrete compactness, achieved through centrifugal force, ensures durability and resistance to environmental conditions. PC Spun Piles are ideal for high-rise buildings, industrial facilities, marine structures, and bridges.



## Public Information

Availability: **YES**

- Official Website: <https://www.wika-beton.co.id/en/download-brosur/>
- ESG Dashboard: \*under development
- Sustainability Report 2023
- YouTube: <https://www.youtube.com/@PTWIKABeton>
- Instagram: <https://www.instagram.com/wikabeton/>
- LinkedIn: <https://www.linkedin.com/company/wijaya-karya-beton-pt/>

## Level of Aggregation

Company Wide

WIKABeton adopts a **Company-Wide level of aggregation** in reporting its low-carbon products, reflecting the company's comprehensive commitment to sustainability. This approach is justified as the majority of WIKABeton's product portfolio already incorporates low-carbon solutions, including innovative precast concrete products that prioritize reduced emissions and environmental impact. By reporting at a company-wide level, WIKABeton emphasizes its overarching sustainability strategy, showcasing its leadership in integrating low-carbon principles across its operations and product lines. This aligns with the company's vision to contribute to a more sustainable and low-carbon economy on a holistic scale.

## Revenue

Products	Assets	Revenue (Billion Rp)
Rumah WIKABeton (RWB)	PPB Bogor	7
Sabodam Modular	PPB Pasuruan	6,6
Pemecah Ombak / Tetrapod	PPB Pasuruan	46,5
National Capital Integrated Coastal Development (NCICD)	PPB Bogor	450
Sumur Resapan Segmental	PPB Subang	8
<b>Total (A)</b>		<b>518,1</b>
<b>2023 Corporate Revenue (B)</b>		<b>4.203,17</b>
<b>Sustainable Product Revenue &amp; Corporate Revenue Ratio (A/B)</b>		<b>12,3%</b>

# Environmental Impact

The emission reduction analysis is specific to **PC Spun Piles**, as this product has undergone comprehensive **Life Cycle Assessment (LCA)**, is certified through an **Environmental Product Declaration (EPD)**, and has received a **Platinum Greenship Certificate** from the Green Building Council Indonesia (GBCI). These calculations reflect verified data, while other products will be assessed once they complete similar certification processes.



## Estimated Total Avoided Emissions Per Year

The Environmental Product Declaration (EPD) of WIKI Beton’s PC Spun Piles highlights significant reductions in greenhouse gas (GHG) emissions due to the shift toward low-carbon product strategies. Specific measures such as utilizing renewable energy (e.g., photovoltaic power plants), recycling fly ash, and implementing efficient material use have contributed to a notable improvement in environmental performance.

## Comparison of Emissions: Before vs. After Adjustment

### 1. Emissions Before Adjustments:

- High reliance on fossil-based energy sources.
- Inefficient material usage and waste management practices.
- Limited use of renewable energy or recycled materials.

### 2. Emissions After Adjustments:

- Integration of solar energy from photovoltaic systems in Bogor and Majalengka, reducing CO<sub>2</sub> emissions by approximately 532,812 kg/year and cutting electricity consumption by 15%.
- Incorporation of fly ash and other recycled materials into concrete mixes, minimizing raw material extraction and reducing embodied carbon.
- Improved energy efficiency across production processes.

### 3. Key Environmental Metrics in 2023:

- |                                  |  |
|----------------------------------|--|
| • Total Production (2023)        | : 50,000 tons of PC Spun Piles.  |
| • GWP Before Adjustment          | : 200 kg CO <sub>2</sub> -eq per ton.                                      |
| • GWP After Adjustment           | : 150 kg CO <sub>2</sub> -eq per ton.                                      |
| • Avoided Emissions per Ton      | : 50 kg CO <sub>2</sub> -eq per ton.                                       |
| • Total Avoided Emissions (2023) | : <b>2,500 tons CO<sub>2</sub>eq</b> (from improved production processes). |

## Impact of Transition to Low-Carbon Products

- **Reduction in Carbon Footprint:** The cradle-to-gate Global Warming Potential (GWP-fossil) for 1 meter of PC Spun Piles is approximately **150 kg CO<sub>2</sub>eq**, a significant reduction compared to prior processes.
- **Energy Transition:** Solar energy adoption significantly lowers dependency on conventional grid electricity, contributing to a low-carbon economy.
- **Material Efficiency:** Use of fly ash and recycled inputs reduces material-related emissions while supporting circular economy principles.





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