TASK FORCE ON CLIMATE RELATED FINANCIAL DISCLOSURE (TCFD)

SATUAN TUGAS PENGUNGKAPAN KEUANGAN TERKAIT IKLIM

PT WIJAYA KARYA BETON TBK

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1. Executive Summary of TCFD Framework

WIKA BETON, as a leader in the construction business sector, is committed to contributing to addressing climate change. The Company understands the importance of adapting its operations to global environmental challenges. To achieve this goal, WIKA BETON has evaluated its climate risks by implementing the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) as a key strategy for managing climate change-related risks.

The TCFD framework divides climate change risks into two main categories: physical risks and transition risks. Physical risks include extreme weather events such as droughts or floods, as well as long-term impacts such as increases in global average temperatures. Transition risks, meanwhile, encompass the global transition to a low-carbon economy, regulatory changes, and innovations in energy efficiency. To manage these risks, WIKA BETON regularly encourages the participation of all stakeholders to mitigate the environmental impacts that may arise from its business operations. This collaboration is a key element in implementing its climate change risk management strategy and ensuring the long-term sustainability of the Company's business practices.

2. Governance

PT Wijaya Karya Beton Tbk. is committed to preserving the environment and mitigating climate change by applying sustainable practices throughout its operations, managing natural resources responsibly, and reducing carbon emissions. The Company also seeks to protect biodiversity and support the transition toward clean energy that contributes to long-term environmental sustainability.

The governance structure and roles responsible for managing sustainability at PT Wijaya Karya Beton Tbk., including climate-related issues, are well-defined and clearly organized. The Company has formally appointed members of the Board who are accountable for overseeing sustainability performance. Responsibility and decision-making related to sustainability management fall under the Director of Engineering and Production, who coordinates with the President Director and is supervised by the Board of Commissioners. The Board applies sustainability governance principles that encompass economic, environmental, and social dimensions.

KEBIJAKAN KEBERLANJUTAN
SUSTAINABILITY POLICY
PT WIJAYA KARYA BETON TBK

PT Wijaya Karya Beton Tbk (WIKA Beton) berkomitmen untuk mewujudkan bisnis yang bertanggung jawab terhadap Lingkungan, Sosial, dan Tata Kelola Perusahaan *(Environment, Social, Governance/ESG)* secara berkelanjutan. Memastikan bahwa seluruh strategi dan aktivitas perusahaan mendukung pembangunan berkelanjutan, menciptakan nilai jangka panjang bagi pemangku kepentingan, dan berkontribusi pada pencapaian Tujuan Pembangunan Berkelanjutan *(Sustainable Development Goals/SDGs)*.

PT Wijaya Karya Beton Tbk (WIKA Beton) is committed to fostering a responsible and sustainable business that prioritizes Environment, Social, and Governance (ESG). The company ensures that its strategies and activities support sustainable development, create long-term value for stakeholders, and contribute to achieving the Sustainable Development Goals (SDGs).

WIKA Beton menerapkan prinsip-prinsip ESG terintegrasi dalam setiap aktivitas operasionalnya untuk menjadi entitas sebagai berikut:

WIKA Beton integrates ESG principles into every operational activity to become an entity as follows:

1. **Perusahaan Ramah Lingkungan *(Environmental Champion Company)***

   WIKA Beton turut serta menjaga kelestarian lingkungan hidup dengan mengelola dan mengendalikan emisi Gas Rumah Kaca (GRK), emisi debu, efisiensi energi, pemanfaatan energi terbarukan, keanekaragaman hayati, pencegahan deforestasi, penggunaan air, pemanfaatan limbah, hingga pengembangan beton yang ramah lingkungan sebagai dukungan pada transisi menuju ekonomi rendah karbon dalam setiap aktivitas operasionalnya.

   WIKA Beton actively contributes to environmental sustainability by managing and controlling Green House Gas (GHG) emissions, dust emissions, energy efficiency, the utilization of renewable energy, biodiversity conservation, deforestation prevention, water usage, waste management, and the development of environmentally friendly concrete. These efforts support the transition to a low-carbon economy in all its operational activities.

2. **Perusahaan yang Bertanggung Jawab Sosial *(Social Caring Company)***

   WIKA Beton berkomitmen untuk menerapkan standar tertinggi dalam tanggung jawab sosial. Perusahaan mempromosikan kesejahteraan komunitas dengan melibatkan masyarakat lokal dalam program pengembangan sosial dan ekonomi, seperti pendidikan, pelatihan keterampilan, dan pemberdayaan masyarakat. Selain itu, perusahaan menjunjung tinggi prinsip keadilan, inklusi, dan hak asasi manusia dalam lingkungan kerja, memastikan bahwa setiap individu kesempatan yang setara untuk berkembang.

   WIKA Beton is committed to upholding the highest standards of social responsibility. The company promotes community well-being by engaging local communities in social and economic development programs, such as education, skills training, and community empowerment. Additionally, the company upholds principles of fairness, inclusion, and human rights within the workplace, ensuring that every individual has an equal opportunity to thrive.

3. **Perusahaan dengan Tata Kelola yang Baik *(Excellent Governance Company)***

   WIKA Beton memprioritaskan tata kelola yang transparan, akuntabel, dan etis dalam seluruh aspek bisnis. Menegakkan prinsip *Good Corporate Governance (GCG)*, perusahaan memastikan kepatuhan terhadap semua regulasi yang berlaku. WIKA Beton menegaskan komitmen terhadap praktik anti-korupsi dan anti-penyuapan, serta mendorong transparansi dalam interaksi dengan pemangku kepentingan.

   WIKA Beton prioritizes transparent, accountable, and ethical governance across all aspects of its business. Upholding the principles of Good Corporate Governance (GCG), the company ensures compliance with all applicable regulations. WIKA Beton affirms its commitment to anti-corruption and anti-bribery practices while promoting transparency in interactions with stakeholders.

WIKA Beton bertanggung jawab menjamin implementasi kebijakan ini dengan melakukan upaya perbaikan secara berkelanjutan.

WIKA Beton is responsible for ensuring the implementation of this policy by continuously making improvements.

Jakarta, 19 Juni 2024
Jakarta, June 19, 2024
PT Wijaya Karya Beton Tbk

Kuntjara
Direktur Utama

RISK MONITORING COMMITTEE

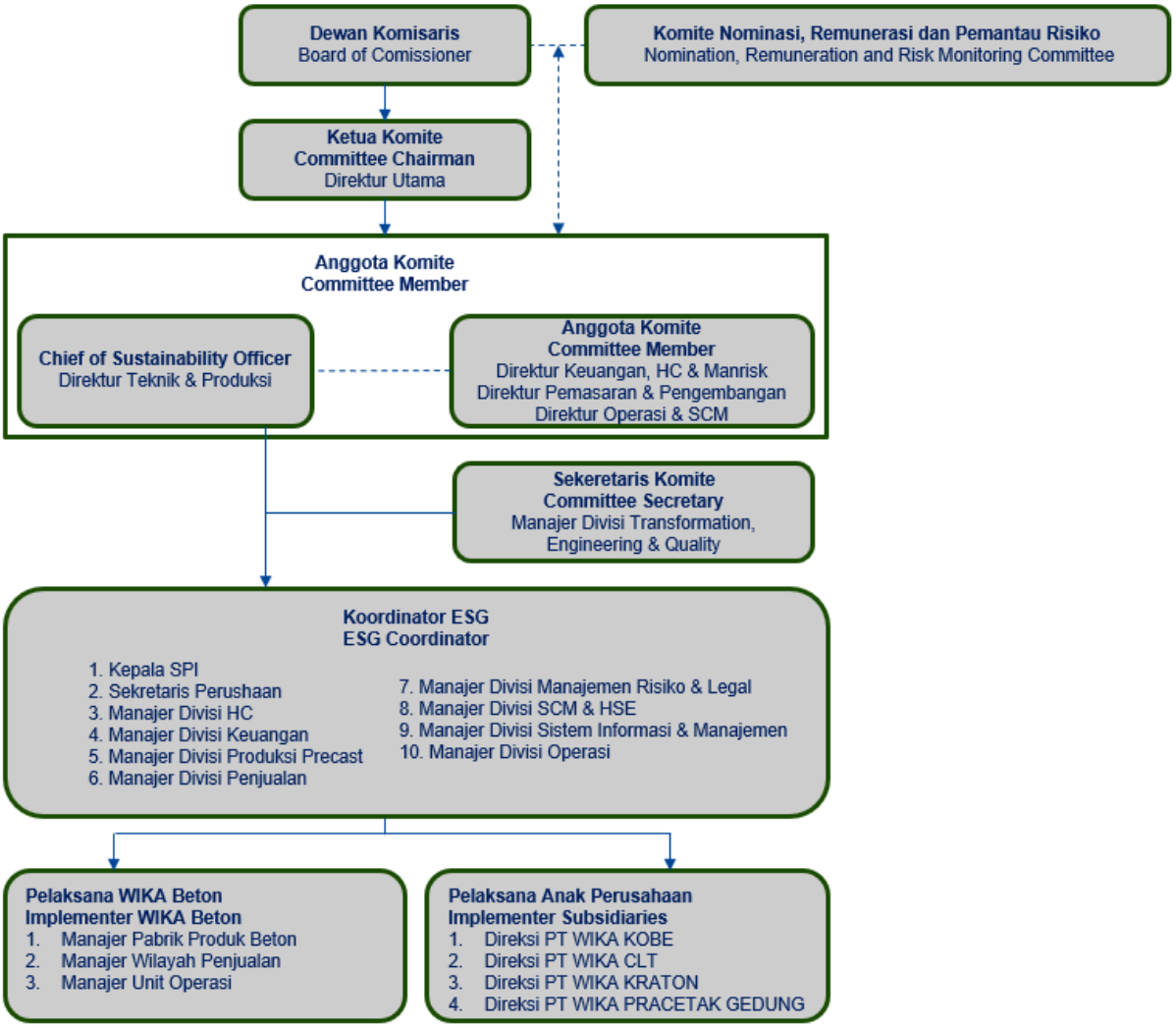


Chart Organization of Sustainability Committee (SK.01.01/WB-0A.0075/2025)

To strengthen sustainability governance and ensure the integration of Environmental, Social, and Governance (ESG) principles across all operational and strategic activities, WIKA Beton has established an ESG Committee as a management-supporting body. This Committee is responsible for guiding, coordinating, and monitoring the implementation of the company's sustainability policies and programs.

The Committee's management focus encompasses key sustainability issues, including climate change, water management, energy efficiency, emissions reduction, biodiversity protection, social aspects, occupational safety, and regulatory compliance. In relation to climate change, the Committee ensures the identification

of risks and opportunities, as well as the development of adaptation and mitigation strategies that are integrated into the company's business plans.

Under the governance framework, the ESG Committee submits progress reports and holds review meetings with the Board of Commissioners twice a year to ensure accountability and effective oversight. Oversight of all ESG activities is fully carried out by the Board of Commissioners through the Nomination, Remuneration, and Risk Monitoring Committee to ensure the company achieves positive and meaningful impacts.

Duties and Responsibilities of the ESG Committee

As stated in the Decree on the ESG Committee Structure SK.01.01/WB-0A.0075/2025, the following points outline the Committee's mandate:

In carrying out its roles and duties as the Environmental, Social, and Governance (ESG) Committee, each organizational function within it holds the following authorities and responsibilities of the ESG Committee:

1. Board of Commissioners

   Conducts inherent oversight through the Nomination, Remuneration, and Risk Monitoring Committee and provides guidance to the Chair and members of the Committee on ESG-related issues, including the management of risks and opportunities associated with climate change.

2. Committee Chairman and Committee Members

   The Chair and Members of the Committee are authorized to make decisions and provide direction on targets, strategies, roadmaps, policies, initiatives, and performance metrics related to the implementation of sustainability aspects, including climate-related issues.

3. *Chief of Sustainability Officer*

   - Develop sustainability strategies and climate-related initiatives: design and implement short-, medium-, and long-term sustainability strategies that align with the company's overall business objectives.

- Build and maintain strong relationships with internal and external stakeholders, including investors, customers, suppliers, and regulators.

4. Committee Secretary

- Carry out the directives of the Chair and Committee Members related to sustainability management, including tasks such as planning, monitoring, evaluating the implementation of sustainability aspects, and preparing internal and external reports.
- Support the Committee in reviewing the company's compliance with applicable sustainability-related laws and regulations.
- Provide regular reports to the Chair and Committee Members regarding progress and issues related to sustainability.

5. ESG Coordinator

Coordinate the implementation and reporting of ESG initiatives to ensure alignment with the company's sustainability targets.

6. WIKA Beton dan Subsidiaries Implementers

- Implement ESG programs and activities in daily operations in accordance with the established standards and guidelines.
- Conduct regular monitoring, evaluation, and improvements through the provision of data and submission of ESG reports.

3. Strategy

3.1. Climate Related Risk and Opportunity

WIKA Beton operates across various regions in Indonesia through its network of precast plants, batching facilities, and supply chain infrastructure that support national construction and infrastructure development. Given the Company's extensive operational footprint and its strong integration within Indonesia's strategic projects, ensuring readiness for evolving climate challenges is essential to maintain operational sustainability and long-term competitiveness. As part of efforts to strengthen WIKA Beton's resilience through climate risk management, the

Company proactively identifies, assesses, and manages climate-related risks and opportunities that may impact the business.
WIKA Beton has identified climate-related risks and opportunities that may affect the Company in the short term (next 5 years), medium term (5–15 years), and long term (more than 15 years). This timeframe aligns with the lifespan of production equipment, curing systems, and physical infrastructure at WIKA Beton's operational sites, and reflects the understanding that climate change may generate significant impacts over the medium and long term. The identified climate-related risks and opportunities are categorized into two groups: physical and transition.

Climate Risk	
Transition	
Current Regulation *Due to tidak dapat mengikuti project yang mensyaratkan sertifikasi ramah lingkungan*	• *Mandatory ESG and Climate Disclosure Requirements*
Emerging Regulation *Peraturan pemerintah yang mengatur standar kerja energi dan emisi*	• *Changes in energy cost due to energy regulation*
Technology Due to technology adoption and innovation that support emissions reductions	• Technological disruption in construction & precast manufacturing requiring rapid adaptation
Legal Due to extreme weather that have potential to cause environmental damage in site area	• *Legal liability arising from environmental damage caused by extreme weather*
Market Due to changes in market prices and demand for high emission commodities, low carbon services and products	• *Changes in price of raw material due to climate change (R)*
Reputational Due to shift in stakeholders perceptions and expectations regarding climate action	• *Reputation impact in accordance with stakeholder expectations fulfillment*
• *Physical*	
Acute Due to extreme weather	• *Extreme rainfall / flooding [R]* • *Storms / strong winds [R]*

	• *Heatwaves [R]* • *Landslides affecting access roads [R]*
Chronic Due to long-term changes in climate patterns	• Temperature rise [R] • Increased rainfall intensity [R] • Water stress (seasonal drought) [R] • Soil subsidence affecting plant areas [R]

Climate Opportunities	
Transition	
Current Regulation *Due to increasing requirements for environmental product certifications.*	• *Low-carbon product certification (EPD)*
Emerging Regulation *Due to new government standards on energy efficiency and emissions.*	• *Renewable Energy Adoption (Solar Rooftop, REC Use)*
Technology Due to adoption of low-carbon technologies and digital innovations.	• *Digital Automation & AI-Based Production Efficiency*
Legal *Due to stronger environmental compliance expectations that reward proactive companies.*	• *Stricter environmental permitting increasing demand for precast suppliers with verified environmental compliance*
Market Due to rising demand for low-carbon and climate-resilient construction materials.	• *Green Building & Sustainable Infrastructure Market Access*
Reputational Due to growing stakeholder preference for ESG-aligned companies.	• *Rising customer and investor preference for suppliers with credible ESG performance and transparent climate disclosures.*

• *Physical*	
Acute Due to increased demand for rapid, climate-resilient infrastructure after extreme weather.	• *Higher demand for rapid-deployment and disaster-recovery precast components*
Chronic Due to long-term climate shifts that encourage adoption of efficient, resilient production technologies.	• Sustained market need for water-management, drainage, and climate-adaptive precast solutions

WIKA Beton's climate risk assessment covers the Company's own operations, upstream activities, and certain downstream elements. The inclusion of these value chain stages reflects where climate-related risks and opportunities may affect operational continuity, supply chain stability, and market positioning.

Own Operations 	The assessment fully covers all operational sites—including precast plants, batching plants, curing yards, stockyards, and internal logistics routes—where climate-related physical risks such as extreme rainfall, flooding, storms, heatwaves, and long-term shifts in temperature directly impact production, asset integrity, and worker safety. Transition-related risks such as regulatory changes, technological requirements, and reputational drivers also predominantly affect WIKA Beton's internal operations. Therefore, own operations are comprehensively included in the climate risk assessment.
Upstream Activities 	Upstream risks are included due to WIKA Beton's critical dependence on suppliers of cement, aggregates, sand, steel, and chemical admixtures. Climate change may influence raw material price volatility, disrupt quarry operations due to flooding or extreme weather, and affect logistics reliability. These upstream disruptions can

	directly influence production continuity and cost structure. Accordingly, upstream activities are included in the climate risk assessment.
Downstream Activities	Although downstream physical impacts on product usage are limited, downstream transition risks and opportunities are relevant and therefore included. This covers changes in client demand for low-carbon construction materials, ESG requirements from project owners, and stakeholder expectations regarding environmental performance. These downstream dynamics influence WIKA Beton's competitiveness and market access. Therefore, downstream considerations are included selectively, particularly in relation to market and reputational transition risks.

To better understand how these risks and opportunities can evolve and affect the Company, WIKA Beton selected several risks and opportunities to be further analyzed in the climate scenario analysis for the 2025 reporting period. This considers the relevance of issues with current policy conditions that have or could potentially impact WIKA Beton's business, as well as the availability of data and readiness of internal processes to accommodate the analysis.

WIKA Beton has identified climate-related risks and opportunities that may affect the Company in the short term (next 5 years), medium term (5–15 years), and long term (more than 15 years). These timeframes were selected based on internationally recognized frameworks (including TCFD guidelines), the expected pace of climate-related changes, and the strategic planning cycles of the Company and the construction materials industry.

Time Frame	Explanation
Short Term (0-5 years)	A 5-year horizon reflects the Company's typical business planning, capital expenditure cycles, and project delivery timelines. Most operational improvements, cost-efficiency

	initiatives, and short-term regulatory changes (e.g., carbon reporting, energy efficiency requirements, low-carbon material requirements, renewable energy adoption, and emissions-reduction regulations). This time frame allows the Company to identify risks and opportunities that can immediately influence production efficiency, resource availability, and operating costs.
Medium Term (5-15 years)	Climate-related risks and opportunities—such as shifts in national climate policy (NDCs), the implementation of stricter building-material standards, and changes in long-term water availability—typically materialize within 5–15 years. This horizon also aligns with the lifecycle of major infrastructure investments and expansion decisions for WIKA Beton's plants. By assessing a medium-term window, the Company can anticipate transition-related impacts as well as chronic physical risks that gradually intensify over time
Long Term (>15 years)	Physical climate impacts—such as rising temperatures, increasing sea-level rise, and chronic water stress—are expected to intensify beyond 15 years. The long-term horizon is also important for anticipating changes in market demand, such as increased need for climate-resilient infrastructure, coastal protection, and low-carbon construction materials. This timeframe accommodates the longer investment cycles of precast production technologies, supply-chain shifts, and

	strategic developments in sustainability and innovation

This timeframe aligns with the lifespan of production equipment, curing systems, and physical infrastructure at WIKA Beton's operational sites, and reflects the understanding that climate change may generate significant impacts over the medium and long term. The identified climate-related risks and opportunities are categorized into two groups: physical and transition.

TRANSITION RISK	
CURRENT REGULATION	
Risk Identified	*Mandatory ESG and Climate Disclosure Requirement*
Affected Value Chain	Own Operation
Time Frame	Medium Term (3-5 Years)
Potentially Affected	Operational: ● Additional reporting workload for HSE, sustainability, and risk units ● Need for structured environmental data collection ● Adjustment of internal processes to meet reporting formats Financial Impact: ● Costs for building ESG reporting systems, acquiring data monitoring tools, and enhancing environmental auditing capabilities. ● Expenditures for external assurance or validation of ESG data. ● Potential loss of revenue if certain high-profile projects require ESG disclosures that WIKA Beton cannot provide.
Financial Risk Exposure	**IDR 4.200 Million**
Initiatives to respond risk	● **Using environmentally friendly and low-emission materials (eco-friendly cement)** **IDR 500 Million**
EMERGING REGULATION	
Risk Identified	*Changes in energy cost due to energy regulation*

Affected Value Chain	Own Operation
Time Frame	Medium Term (3-5 years)
Potentially Affected	Operational: ● Need to adjust production systems to comply with low-emission requirements ● Shift from diesel-based operations to electric systems ● Mandatory environmental data reporting obligations increasing operational pressure Financial: ● Payment of carbon charges or carbon tax on production activities (own-operation impact) ● Reduction in company profit
Financial Risk Exposure	**IDR 3.000 Million**
Initiatives to respond risk	**Adoption of renewable energy and energy efficiency to anticipate future carbon pricing (IDR 300 Million)**
TECHNOLOGICAL	
Risk Identified	Technological disruption in construction & precast manufacturing requiring rapid adaptation
Affected Value Chain	Own Operation
Time Frame	Medium Term
Potentially Affected	Operational: ● Skill gap for workers as an automation increases ● Need for integration of digital curing system, automated moulding machine and AI-QC ● Higher expectations for real time tracking and IOT data Financial: ● Large upfront investment for automation ● Temporary productivity decline during technology transition ● Increased system maintenance cost due higher technological complexity
Financial Risk Exposure	**31.500 Million** (31.5 Billion)

Initiatives to respond risk	**Process optimization and digital monitoring readiness (non-steam curing, SOP updates) - Capex digitalization process = IDR 15.000 Million (15 Billion)**
LEGAL	
Risk Identified	Legal Liability due to Environmental damage during extreme weather events
Affected Value Chain	Own Operation
Time Frame	Short to Medium Term (1-5 Years)
Potentially Affected	Operational: • Sedimentation, runoff and potential contamination from plants/factory areas • Increased government inspections • Disruption of operations due to compliance enforcement Financial: • Legal fees, fines, environmental sanctions • Increased insurance premium • Cost of rehabilitation for affected area • Reputational damage decreased trust from clients and regulators
Financial Risk Exposure	**IDR 6.000 Million**
Initiatives to respond risk	Strengthening environmental compliance and permitting readiness - **IDR 1.500 Million**
MARKET (R/Oma)	
Risk Identified	Raw material cost volatility & shifting customer preference toward green
Affected Value Chain	Own Operation
Time Frame	Short to Medium Term (1-5 years)
Potentially Affected	Operational: • Disruption in aggregate, sand and cement supply chains • Higher QC requirements for green construction materials • Increased demand for documentation of CO2, footprint Financial: • Declining profit margins due to raw material cost increases

	• Reduced demand for conventional precast products as clients shift to low carbon materials • Potential loss of clients that prioritize ESG compliance
Financial Risk Exposure	**44.500 Million**
Initiatives to respond risk	• Development of low-carbon and climate-resilient precast product portfolio - **Capex for Research & Development** = **IDR 1.500 Million** • Supplier diversification and raw material sourcing resilience.
REPUTATION	
Risk Identified	Increased carbon emissions & pollution reducing stakeholder trust and ESG credibility
Affected Value Chain	Downstream
Time Frame	Short Term (1-3 Years)
Potentially Affected	Operational Impact: • Greater scrutiny from regulators and communities • Stricter expectations for environmental reporting. • Potential challenges securing new project approvals. Financial Impact: • Financial losses related to ESG misalignment • Increased cost of capital as investors favor ESG-aligned companies. • Risk of being excluded from green financing and sustainable procurement.
Financial Risk Exposure	**7.000 Million**
Initiatives to respond risk	• Strengthening ESG disclosure, communication, and stakeholder engagement = **1.400 Million**
PHYSICAL RISK	
ACUTE	
Risk Identified	Extreme rainfall, flooding, storms, heatwaves, and landslides causing immediate operational disruption.
Affected Value Chain	Own Operation

Time Frame	Short Term (1-3 years)
Potentially Affected	Operational Impact: • Disruption of production • Reduced productivity due to extreme rainfall • Raw material supply delays • Work interruption due to heat extremes Financial Impact: • Lost productivity • Supply chain delays • Contractual penalty risks • Higher repair and maintenance cost
Financial Risk Exposure	**14.500 Million**
Initiatives to respond risk	• Upgrading drainage systems and flood protection at flood-prone sites - Opex = **IDR 2.100 Million**
CHRONIC	
Risk Identified	Long-term climate shifts: rising temperature, increased rainfall intensity, drought, soil subsidence
Affected Value Chain	Own Operation
Time Frame	Long term (>years)
Potentially Affected	Operational Impact: • Declining curing consistency due to heat exposure (expert). • Increased energy consumption for cooling. • Water scarcity disrupting batching operations. • Gradual soil subsidence risking structural stability of plants (expert). Financial Impact: • Long-term CAPEX for climate adaptation (PDF generalized tone). • Higher OPEX for energy and water. • Maintenance cost escalation due to structural stress.
Financial Risk Exposure	**IDR 7.210 Million**
Initiatives to respond risk	• Water efficiency improvement and operational adjustment - **IDR 2.100 Million**

OPPORTUNITY	
Current Regulation	
Opportunity Identified	Low-carbon product certification (EPD)
Affected Value Chain	Downstream & Operation
Time Frame	Short - Medium Term (1-7 years)
Potentially Affected	• Market entry to government/BUMN projects • Tender eligibility for green-procurement projects • Product competitiveness vs non certified suppliers • Revenue growth from certified product lines
Financial Opportunity Exposure	Financial Opportunity Exposure: Assumptions: • WIKA Beton revenue 2024: IDR 4.896 trillion • Projects requiring EPD certification: 10% of total revenue • Margin premium for certified low-carbon products: 15% Calculation: **72.900 Million**
Initiatives to respond Opportunities	• Life Cycle Assessment (LCA) for precast product. Assumption: LCA for 3 existing priority product categories already disclosed in SR (green concrete variants), IDR 200 million per product including data collection and third-party review. • EPD registration & verification Low-carbon mix optimization & laboratory testing Assumption: trial batching using GGBFS/FABA (already used in WTON operations), compressive strength and durability testing • Internal documentation & tender readiness Assumption: preparation of certified technical datasheets for green procurement projects. **= 500 Million**
Emerging Regulation	
Opportunity Identified	Renewable Energy Adoption
Affected Value Chain	Operation
Time Frame	Short - Medium Term (1-7 years)

Potentially Affected	• Reduction in electricity cost • Reduction in carbon tax liabilities • Improved compliance with future emission regulation
Financial Opportunity Exposure	Solar energy used in 2024: 950.76 GJ Financial Opportunity Exposure (**IDR 250 Million/year):** Assumptions: • 2024 solar energy used: 950.76 GJ • Solar emission reduction: 1.41 million kg CO_2/year (from SR data) • Future carbon price assumption: IDR 30,000 – 75,000 per ton • Electricity tariff: IDR 1,200/kWh • Future generation from 2.027 MWp = ±2.6 GWh/year • Additional planned 879 kWp adds ±1.14 GWh/year savings
Initiatives to respond Opportunities	• Rooftop solar PV installation by Energy Service Company (ESCO) PT Cipta Mugi Pratama Assumption: cumulative installation of ~7.5 MWp across selected plants already identified in SR energy roadmap. • Electrical integration & safety systems • Energy monitoring & optimization system • Annual O&M
Technology	
Opportunity Identified	Digital Automation and Non Steam Curing
Affected Value Chain	Operation
Time Frame	Medium Term
Potentially Affected	• Energy usage and fuel intensity • Production cycle time and output • Defect rates and rework reduction • Labor productivity improvements
Financial Opportunity Exposure	**10.000 Million**

Initiatives to respond Opportunities	• Non-steam curing expansion Assumption: extension of non-steam curing technology already implemented in several plants. • Automated batching & digital QC systems Assumption: upgrading existing batching systems referenced in SR digital initiatives. • IoT sensors & predictive maintenance Assumption: plant-level deployment for energy and defect reduction. • **Capex digitalization process = IDR 15.000 Million (15 Billion)**
Legal	
Opportunity Identified	Increased demand for compliant precast suppliers due to stricter environmental permitting requirements.
Affected Value Chain	Operations and Downstream Market
Time Frame	Short to Medium Term (1–5 years)
Potentially Affected	• Eligibility for environmentally regulated tenders (PUPR, SOEs) • Market share shift from non-compliant producers • Increased scoring in procurement evaluation • Stronger licensing and environmental validation benefits
Financial Opportunity Exposure	Financial Opportunity Exposure: **4.900 Million/year** Assumptions: • Total revenue 2024: IDR 4.896 trillion • Market share lost by non-compliant small producers: 1–2 percent • WIKA Beton captures this displaced market share • Opportunity value = 1–2 percent × revenue
Initiatives to respond Opportunities	• Environmental monitoring enhancement • ISO 14001 & ISO 14064 strengthening • Compliance documentation & permitting readiness

	IDR 1.200 Million
Market	
Opportunity Identified	Access to expanding green-building and climate-resilient infrastructure markets.
Affected Value Chain	Downstream
Time Frame	Medium to Long Term
Potentially Affected	• Sales of low-carbon and adaptation-focused precast products • Entry into green-certified construction projects • Expansion into national adaptation and mitigation programs • Adoption of sustainable engineering specifications
Financial Opportunity Exposure	Financial Opportunity Exposure 150.000 Million x 10% = **15.000 Million** Assumptions: • National sustainable infrastructure market • Net margin assumption: 10% percent • Opportunity value = market size × margin
Initiatives to respond Opportunities	• R&D for drainage, flood control, and water-related precast Assumption: development of products (box culvert, U-ditch, infiltration systems). • Product testing & performance validation • Market engagement with EPC & government programs **IDR 1.500 Million**
REPUTATIONAL	
Opportunity Identified	Higher client and investor preference for suppliers with strong ESG performance and climate transparency.
Affected Value Chain	Downstream
Time Frame	
Potentially Affected	• Improved tender evaluation scores • Access to lower-cost sustainable financing • Increased trust from premium clients • Preferential partner selection

Financial Opportunity Exposure	Financial Opportunity Exposure **20.000 Million** Assumptions: Premium client market estimated at 10 percent of total revenue Win-rate improvement from enhanced ESG profile
Initiatives to respond Opportunities	• Enhanced ESG disclosures (GRI, TCFD) • Stakeholder & investor engagement • Sustainability communication materials **IDR 1300 Million**
Acute	
Opportunity Identified	Higher demand for rapid-deployment and disaster-recovery precast components following extreme weather events.
Affected Value Chain	Downstream
Time Frame	Short Term
Potentially Affected	• Emergency infrastructure projects • Disaster-response modules and rapid construction needs • Government procurement for restoration and reinforcement
Financial Opportunity Exposure	Financial Opportunity Exposure Assumptions: • National drainage and flood-control project value • Market capture potential for WIKA Beton • Net margin assumption: 10 percent • Opportunity = project size × capture rate × margin = 25.000 Million x 10% **= 2.500 Million**
Initiatives to respond Opportunities	• Standardization of modular precast designs • Emergency production readiness • Coordination with BNPB & local governments **IDR 1.500 Million**
Chronic	
Opportunity Identified	Growing long-term demand for water-management, drainage, and climate-adaptive precast solutions.
Affected Value Chain	Downstream
Time Frame	Medium to Long Term

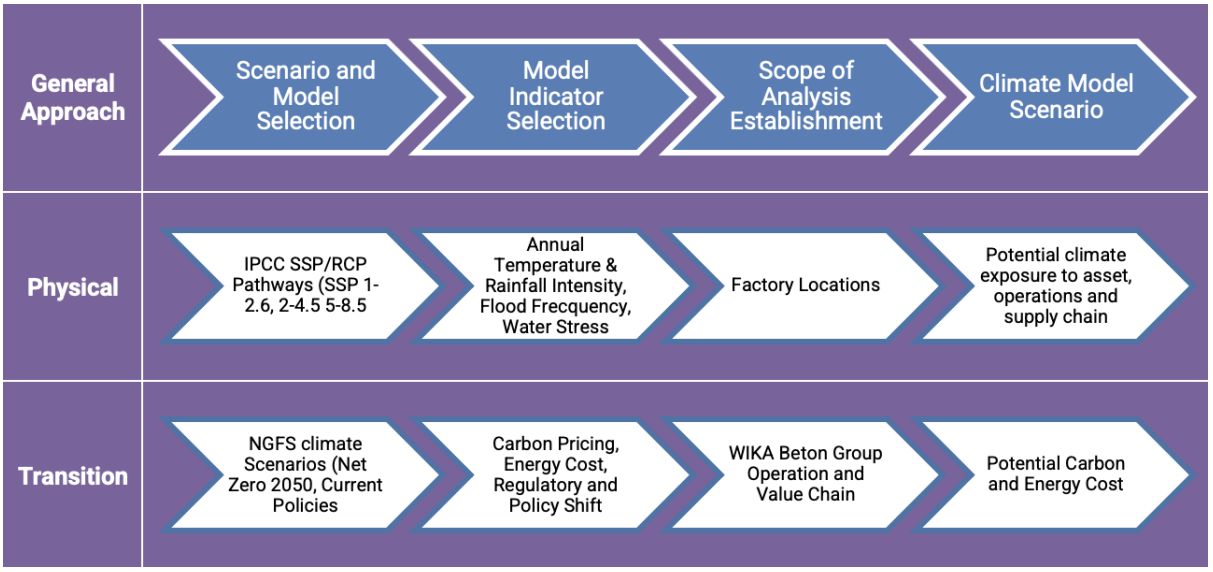
Potentially Affected	• Water infrastructure projects • Urban drainage and flood mitigation systems • Heat- and rainfall-adaptive product demand • Sustainable urban development needs
Financial Opportunity Exposure	Financial Opportunity Exposure Assumptions: • Emergency construction market size: IDR 1.500.000 Million/year • Conservative capture rate: 8 percent • Average margin: 15 percent • Opportunity = market × capture rate × margin **IDR 18.000 Million/year**
Initiatives to respond Opportunities	• R&D for porous & infiltration precast – IDR 1.2 billion • Hydraulic performance testing & certification – IDR 0.8 billion • Stakeholder engagement (water agencies, municipalities) – IDR 0.5 billion **IDR 2.500 Million**

1.1 Climate Scenario Analysis

WIKA Beton conducts climate scenario analysis to understand the potential risks and opportunities that may emerge as a result of climate change and the implementation of global and national climate actions. This analysis covers both physical climate risks—such as extreme rainfall, flooding, heatwaves, and long-term temperature shifts—and transition risks, including regulatory developments, technological changes, market shifts, and stakeholder expectations.

Physical climate scenario analysis provides insights into the projected likelihood and severity of climate events (e.g., increased rainfall intensity, seasonal drought, and rising temperatures) as well as long-term climate trends that may impact WIKA Beton's plant operations, production continuity, logistics routes, and raw material availability.

Meanwhile, transition scenario modeling offers an understanding of how future regulatory frameworks, decarbonization pathways, and market transformation may influence WIKA Beton's cost structure, competitiveness, and strategic positioning within the construction and infrastructure ecosystem.



3.2.1.PHYSICAL RISK ANALYSIS

Physical Risks refer to the direct impacts of climate change, both acute (extreme weather events) and chronic (long-term climate shifts). The construction and precast concrete sector is highly vulnerable, where operational disruptions can occur at factories, project sites, and along the supply chain

Scenario	1.5°C Aggressive Action	2–3°C Existing Policies	>4°C Limited Action
Climate Model	**IPCC SSP1-2.6** (Low Physical Risk)	**IPCC SSP2-4.5** (Moderate Physical Risk)	**IPCC SSP5-8.5** (Extreme Physical Risk)
Scenario Time Horizon	2030 – Near Term	2050 – Mid Term	2080 – Long Term
Geographical Exposure	All operating regions with limited intensification of hazards	Increased exposure in **West Java, North Sumatra, Lampung, East Java, and South Sulawesi**	High-risk exposure in **flood-prone and water-stressed regions**, including low-lying logistics corridors

Qualitative Impact	Physical risks remain manageable. Extreme weather events increase slightly but are localized and recoverable.	Physical risks intensify. Flood frequency and rainfall variability disrupt logistics, material storage, and project schedules.	Extremely high physical risk. Repetitive severe events threaten operational continuity and asset integrity in high-risk locations.
Key Risk (Acute)	Localized flooding occasionally affects open yard areas and access roads.	Frequent flooding disrupts transportation routes, material storage, and delivery schedules.	Severe flooding and major storms causing structural damage and prolonged operational shutdowns at exposed facilities.
Key Risk (Chronic)	Minor temperature increase with limited impact on curing quality or productivity.	Seasonal water stress and higher temperatures begin to pressure water recycling systems and outdoor productivity.	Widespread water scarcity and extreme heat significantly reducing production capacity and workforce productivity.
Financial Implication	**Low cost**: routine maintenance, minor drainage improvement, manageable insurance costs.	**Moderate cost**: increased logistics cost, higher buffer stock, water sourcing cost, and rising insurance premiums.	**High cost & capital loss**: asset damage, prolonged downtime, potential plant relocation, and significant revenue loss.

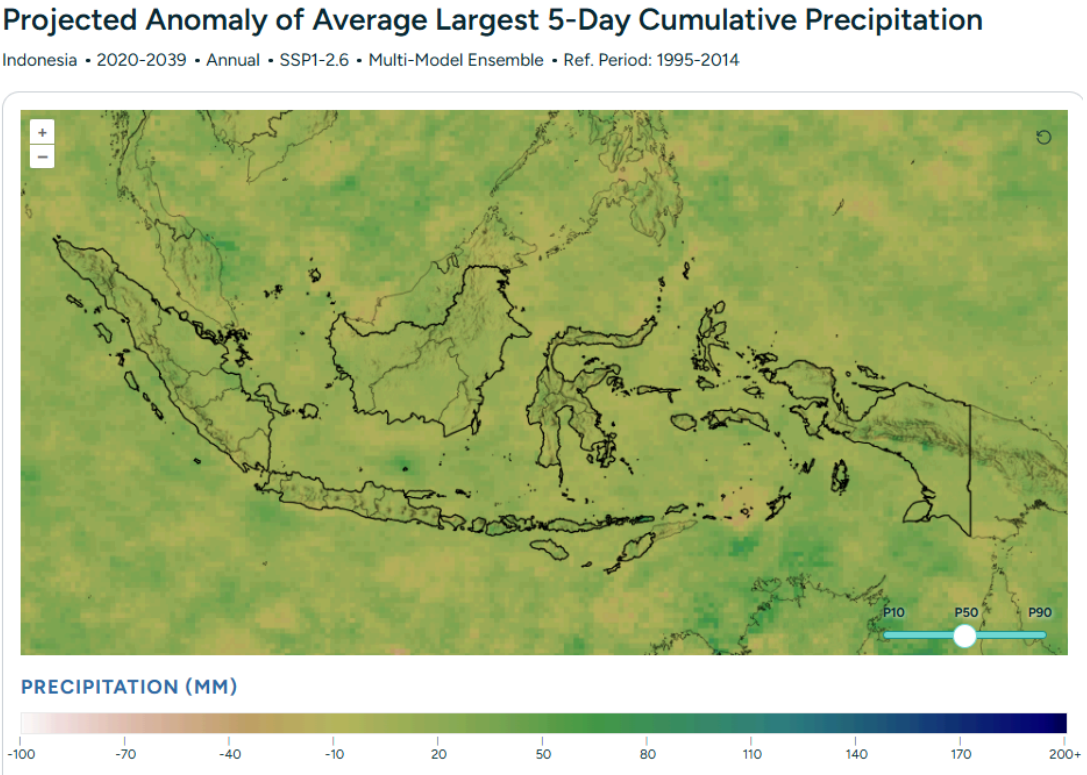
Strategic Adaptation Focus	Preventive drainage maintenance and basic water efficiency measures.	Structural hardening, water recycling expansion, elevated material storage, and logistics contingency planning.	Asset-level resilience investment, relocation/divestment assessment, closed-loop water systems, and heat-resilient production design.

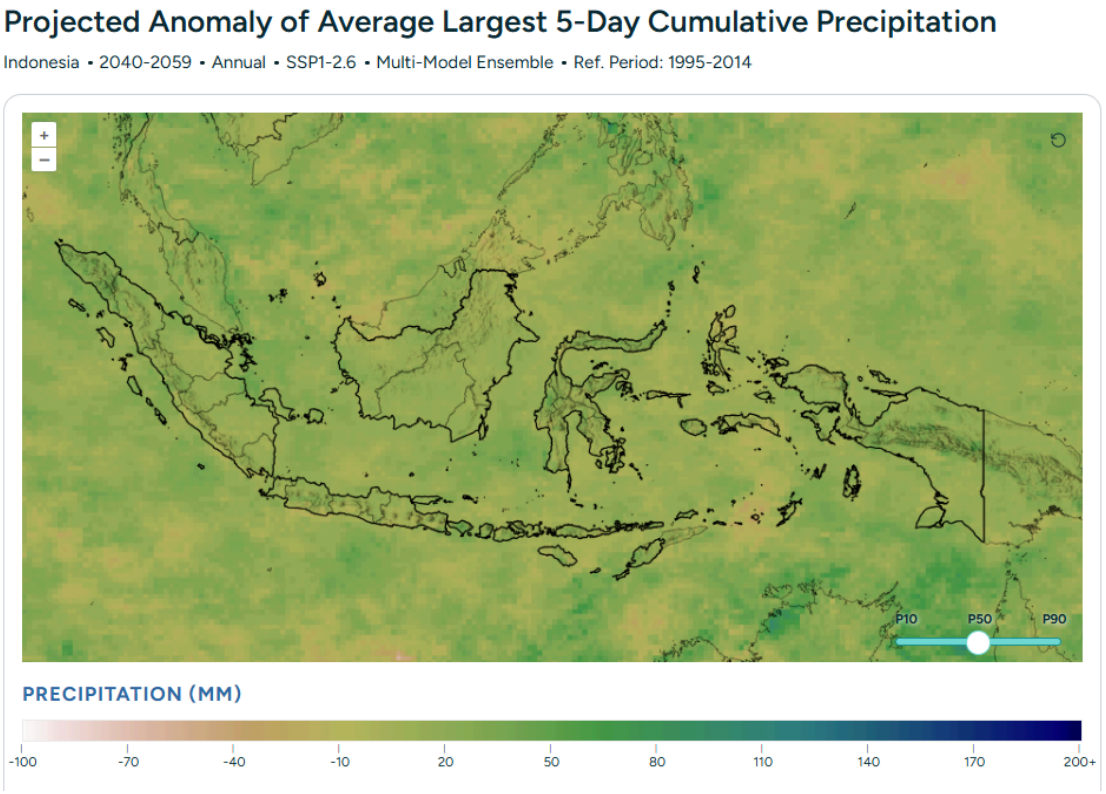
Physical Scenario Analysis

Qualitative Assessment : Flood

Indonesia : Projection of Days with Heavy Rain

https://climateknowledgeportal.worldbank.org





Heavy rainfall in Indonesia may increase and decrease in some regions in the 2030s, but is projected to increase across most regions toward the 2050s.

Impacts on Business	Example of risks
• Damage to precast inventory, molds, reinforcement stock, and heavy equipment • Disruption to logistics, quarry supply, and customer delivery schedules • Increased maintenance cost for drainage systems and yard hardening • Potential delay in project execution affecting revenue recognition	The March 2025 Jabodetabek floods represent a relevant case of climate-related physical risk. Extreme rainfall led to river overflows and widespread flooding across Jakarta and surrounding urban and industrial areas, affecting more than 120,600 people and resulting in estimated economic losses of approximately IDR 5 trillion (USD 300 million) annually, while disrupting critical urban infrastructure, logistics networks, and business operations.

Physical Scenario Analysis
Qualitative Assessment : Water-stressed
Indonesia : Projected Water Stress under Climate Change Scenarios
https://www.wri.org

Timeframe : 2030

Timeframe : 2050

Water stress intensifies and expands spatially, with more regions shifting to high and extremely high stress levels as conditions worsen from 2030 to 2050, particularly across Java and eastern Indonesia.

Impacts on Business	Example of risks

• **Production disruptions and reduced operational efficiency** due to limited water availability for concrete batching, curing, and plant operations. • **Increased operating costs**, including higher water procurement, treatment, and infrastructure investments in water-stressed regions. • **Potential constraints on production capacity** arising from water use restrictions and regulatory limitations during prolonged dry periods.	**Water stress in Jakarta represents a relevant case of climate-related physical risk.** Long-term groundwater over-extraction since the **early 2000s**, compounded by **sea level rise and land subsidence**, has led to **saltwater intrusion and recurrent tidal flooding**, reducing freshwater availability and **increasing water sourcing costs, operational constraints, and infrastructure investment needs** for water-intensive construction and precast concrete activities, while placing additional pressure on **plant operations, water treatment systems, and supply continuity**.

Risk Score Color Key
🟥 High Risk 🟧 Moderate Risk 🟨 Lower Risk ⬜ Limited Risk

BASELINE (Current Conditions – 2024)

No	Operational Area	Flood Risk	Water Stress Risk
1	West Java (Subang, Karawang, Bogor, Majalengka)	🟧	🟧
2	East Java (Pasuruan)	🟧	🟧
3	Sumatra (Lampung, South Lampung, North Sumatra)	🟧	🟨
4	Kalimantan	🟨	🟨
5	South Sulawesi	🟨	🟨

RCP 2.6 – Moderate Mitigation Scenario

No	Operational Area	Flood 2030	Flood 2050	Water Stress 2030	Water Stress 2050
1	West Java (Subang, Karawang, Bogor, Majalengka)	🟧	🟧	🟧	🟧
2	East Java (Pasuruan)	🟧	🟧	🟧	🟧
3	Sumatra (Lampung, South Lampung, North Sumatra)	🟧	🟧	🟧	🟨
4	Kalimantan	🟨	🟨	🟨	🟨
5	South Sulawesi	🟨	🟨	🟨	🟨

RCP 8.5 – High Physical Risk Scenario

No	Operational Area	Flood 2030	Flood 2050	Water Stress 2030	Water Stress 2050
1	West Java (Subang, Karawang, Bogor, Majalengka)	🟧	🟥	🟥	🟥
2	East Java (Pasuruan)	🟧	🟧	🟧	🟥
3	Sumatra (Lampung, South Lampung, North Sumatra)	🟧	🟧	🟧	🟨
4	Kalimantan	🟨	🟨	🟨	🟨
5	South Sulawesi	🟨	🟨	🟨	🟨

Scenario-based assessment indicates that WIKA Beton faces increasing exposure to climate-related physical risks from both flooding and water stress across its operational footprint. Flood risks are most pronounced in Java and key logistics corridors, while water stress presents a growing constraint in Java Indonesia, under both RCP 2.6 and RCP 8.5 scenarios. These risks may affect production continuity, water-intensive manufacturing processes, logistics reliability, and operational costs, underscoring the need for integrated flood resilience and water management strategies.

.*3.2.2. TRANSITION RISK ANALYSIS*

Transition Risks arise from global efforts toward a low-carbon economy. As a precast concrete producer relying on cement (the largest source of CO2 emissions in this sector), WIKA Beton faces significant regulatory and market pressure.

Scenario	1.5°C Aggressive Climate Action	2–3°C Existing Policies & Targets	Delayed / Limited Transition
NGFS Scenario	**NGFS Net Zero 2050**	**NGFS Current Policies**	**NGFS Delayed Transition**
Scenario Time Horizon	2030 – Near Term	2030–2050 – Near to Mid Term	2050 – Long Term
Qualitative Impact	High transition pressure in the short term due to stringent policies, followed by a more predictable and orderly transition pathway.	Moderate and gradual transition pressure, with limited short-term incentives for decarbonization.	Abrupt and disorderly transition as delayed policies are suddenly introduced to meet climate targets.
Key Risk (Policy & Regulation)	Introduction of stringent carbon pricing, mandatory ESG and climate disclosures, and green procurement requirements.	Incremental regulatory tightening aligned with current national commitments (NDCs).	Sudden introduction of strict regulations and carbon pricing after prolonged policy inaction.
Key Risk (Energy & Cost)	Rising energy costs driven by carbon pricing and fuel transition, partially offset by renewable energy adoption.	Gradual increase in energy and fuel costs with limited carbon cost internalization.	Sharp increase in energy and carbon costs due to late policy shocks and supply constraints.

Key Risk (Technology)	Accelerated risk of obsolescence for carbon-intensive processes, requiring early capital investment.	Slower technology transition, delaying efficiency improvements.	Forced rapid technology replacement under time pressure, increasing capex risk.
Key Risk (Market)	Customers increasingly demand low-carbon products, creating risk for non-certified suppliers.	Market demand shifts gradually toward low-carbon materials.	Sudden loss of market access for suppliers unable to meet new sustainability requirements.
Key Risk (Reputational)	Heightened scrutiny from investors and SOEs regarding ESG and climate performance.	Moderate stakeholder pressure with limited reputational consequences.	Significant reputational damage due to perceived lag in climate readiness.
Financial Implication	**Moderate to High Cost (Short Term):** Increased compliance, reporting, and transition investment costs; **Lower Long-Term Risk** due to orderly transition.	**Moderate Cost:** Gradual increase in operating and energy costs; risk accumulation over time.	**High Cost & Asset Risk:** Sudden compliance costs, potential stranded assets, and loss of revenue from market exclusion.

Strategic Response Focus	Early investment in renewable energy, low-carbon products, and digital efficiency to manage transition smoothly.	Phased transition planning, selective low-carbon investment, and regulatory monitoring.	Contingency planning, accelerated decarbonization, and asset revaluation to manage disorderly transition risks.

Transition Scenario Analysis
Qualitative Assessment
Indonesia: Transition Pathway under NGFS Scenarios
Reference: NGFS Climate Scenarios, Indonesia NDC, Energy Transition Roadmap

WIKA Beton conducted a qualitative transition climate scenario analysis to assess how changes in climate-related policies, regulations, technologies, markets, and stakeholder expectations may affect its operations, strategy, and financial performance over time. The assessment focuses on material transition risks and opportunities relevant to WIKA Beton as an energy- and material-intensive precast concrete manufacturer, with significant exposure to government infrastructure projects, energy costs, and low-carbon procurement requirements.

WIKA Beton assessed transition risks under three NGFS-aligned scenarios, covering both orderly and disorderly transition pathways, as well as scenarios below and above 2°C.

Scenario	Description	Temperature Alignment	Transition Characteristics
NGFS Current Policies	Reflects continuation of existing policies and commitments with gradual regulatory tightening.	~2–3°C	Baseline scenario representing current operating conditions.
NGFS Net Zero 2050	Early and coordinated policy action to achieve net zero emissions by 2050.	≤1.5°C	Orderly transition with predictable regulatory and market changes.

NGFS Delayed Transition	Limited near-term action followed by abrupt and stringent policy intervention.	>3°C	Disorderly transition with sudden cost and compliance shocks.

These scenarios provide a plausible range of future transition pathways and allow WIKA Beton to evaluate business resilience under varying levels of regulatory stringency and transition speed.

The transition to a low-carbon economy in Indonesia is driven by a combination of **policy, legal, technology, market, and reputational factors**, including:

- Indonesia's Nationally Determined Contribution (NDC) and long-term net-zero ambition
- Emerging carbon pricing mechanisms and energy efficiency regulations
- Expansion of renewable energy and electrification
- Increasing green procurement and ESG disclosure requirements for SOEs and suppliers
- Rising expectations from investors, lenders, and project owners regarding climate performance

As a supplier to large-scale infrastructure projects, WIKA Beton is directly exposed to these transition drivers through **energy costs, material selection, tender eligibility, and market competitiveness**.

Transition to a low-carbon economy may result in significant changes in regulatory frameworks, energy systems, technology adoption, market preferences, and stakeholder expectations. The magnitude and timing of these changes may vary depending on the pace and orderliness of the transition pathway.

To identify the most relevant transition drivers for WIKA Beton, an initial screening of transition risks and opportunities was conducted based on the Company's existing risk register, operational characteristics, and value chain exposure. The screening focused on drivers that are expected to have **material business impacts** over the medium to long term.

From the screening process, **key transition drivers** were selected for further scenario analysis, as summarized below.

Driver	TCFD Category	Driver Description	Rationale for Selection

Carbon Pricing & Energy Regulation	Policy & Legal	Increasing energy regulation and potential implementation of carbon pricing mechanisms affecting energy-intensive precast concrete production.	WIKA Beton's production processes are energy-intensive, making operating costs sensitive to changes in electricity prices and carbon charges.
ESG & Climate Disclosure Requirements	Policy & Legal	Mandatory ESG and climate-related disclosures required for participation in government and SOE projects.	Non-compliance may restrict access to strategic infrastructure projects and increase compliance costs.
Technology Transition in Manufacturing	Technology	Adoption of automation, digital curing systems, and AI-based quality control.	Required to maintain efficiency, product quality, and competitiveness under low-carbon transition pathways.
Market Shift Toward Green Construction	Market	Shifting customer preference toward low-carbon and climate-resilient construction materials.	Directly affects demand for conventional versus low-carbon precast products.
Reputational & ESG Credibility	Reputational	Increased scrutiny from regulators, investors, and customers regarding ESG performance.	Acts as a risk multiplier influencing financing access, project eligibility, and stakeholder trust.

Qualitative Assessment: Heatmap

The qualitative heatmap illustrates how transition risks and opportunities associated with selected drivers may evolve across 2030 and 2050 time horizons under different transition scenarios. The assessment focuses on relative changes in risk intensity, rather than absolute risk values.

NGFS Current Policies (Baseline)

Driver	2030	2050
Carbon Pricing & Energy Regulation	🟨 Moderate	🟧 Moderate-High
ESG & Climate Disclosure	🟨 Moderate	🟧 Moderate-High
Technology Transition	🟨 Moderate	🟧 Moderate-High
Market Shift to Green Products	🟨 Moderate	🟧 Moderate-High

Reputational & ESG Credibility	🟨 Moderate	🟧 Moderate-High

NGFS Net Zero 2050 (Orderly Transition)

Driver	2030	2050
Carbon Pricing & Energy Regulation	🟧 Moderate-High	🟧 Moderate-High
ESG & Climate Disclosure	🟧 Moderate-High	🟧 Moderate-High
Technology Transition	🟧 Moderate-High	🟨 Moderate
Market Shift to Green Products	🟧 Moderate-High	🟨 Moderate
Reputational & ESG Credibility	🟨 Moderate	🟨 Moderate

Interpretation:
Early policy clarity increases short-term transition pressure but enables structured adaptation, limiting long-term disruption and supporting opportunity realization.

NGFS Delayed Transition (High Transition Risk)

Driver	2030	2050
Carbon Pricing & Energy Regulation	🟧 Moderate-High	🟥 High
ESG & Climate Disclosure	🟧 Moderate-High	🟥 High
Technology Transition	🟧 Moderate-High	🟥 High
Market Shift to Green Products	🟧 Moderate-High	🟥 High
Reputational & ESG Credibility	🟧 Moderate-High	🟥 High

Interpretation:
Delayed transition results in **abrupt escalation of risks**, with limited adaptation time leading to compounded operational, financial, and reputational impacts by 2050.

The transition scenario analysis demonstrates that WIKA Beton's baseline exposure under current policies is manageable; however, risks increase materially under delayed transition pathways. The most significant driver of transition risk is not policy stringency alone, but the speed and predictability of policy implementation. Early and orderly transition pathways reduce the likelihood of cost shocks and operational disruption while enabling strategic adaptation.

CLIMATE RESILIENCE STRATEGIES: ADAPTATION AND MITIGATION

The findings from the climate scenario analysis underscore the need for a **dual-pronged strategy** to strengthen business resilience against both **Transition Risks under the 1.5°C scenario** and **Physical Risks under the >4°C scenario**. WIKA Beton addresses these risks through an integrated approach that combines **mitigation and adaptation initiatives** across its operations, assets, and value chain.

A. Mitigation Strategy (Responding to the 1.5 C$ Transition Scenario)

Objective:

To achieve WIKA Beton's internal **Net Zero Emissions target for Scope 1 and Scope 2 by 2030**, while capturing revenue growth from the expanding **green construction market**, thereby reducing exposure to **carbon pricing, regulatory tightening, and transition-related compliance risks**.

Area of Initiative	Description	Link to Financial Resilience
1. Product Decarbonization and Innovation	Aggressively shift the core product recipe to significantly reduce the clinker factor. This includes maximizing the use of Supplementary Cementitious Materials (SCMs) and accelerating the commercialization of Geopolymer Concrete (offering up to 80% CO2 emission reduction).	Revenue Generation: Allows WIKA Beton to charge a Premium Price for certified EPD Products (currently contributing significant Green Revenue), protecting margins from carbon costs.
2. Clean Energy Transition	Increase energy efficiency and transition production facilities to Renewable Energy Sources (RET). This includes expanding the installation of Solar PV systems across factory rooftops, starting with the successful implementation (e.g., 561 kWp total capacity) in key plants.	OPEX Reduction: Lowers operational expenditure by reducing reliance on high-carbon, potentially taxed electricity sources (Scope 2).
3. Governance and Investment Integration	Integrate a high Internal Carbon Price (ICP) into all feasibility studies for new capital expenditure (CAPEX). This ensures that all long-term	Capital Allocation: Prevents the creation of future Stranded Assets by ensuring that all new

	investments are resilient to future strict carbon pricing regulations.	technology is aligned with the Net Zero 2030 pathway.

B. Adaptation Strategy (Responding to the >4°C Physical Scenario)

Goal: To protect critical physical assets, employees, and supply chain continuity from severe and frequent extreme weather events, ensuring operational uptime despite climate chaos.

Under a >4°C global warming scenario, WIKA Beton anticipates significant increases in physical climate risks—such as extreme heat, prolonged drought, high-intensity rainfall, river and coastal flooding, rising sea levels, and disruptions to material supply chains. To strengthen long-term resilience, the Company adopts a structured Adaptation Strategy that covers asset-level, operational, supply-chain, and community-level adaptation measures.

To enhance long-term operational resilience under escalating physical climate risks—such as extreme heat, prolonged drought, high-intensity rainfall, flooding, and chronic water stress—WIKA Beton has developed a set of structured adaptation initiatives implemented across its operational footprint. These measures apply to all major production facilities, including the precast plants in Subang, Karawang, Boyolali, Majalengka, Pasuruan, and Lampung, as well as batching plants, and logistics routes that support nationwide project delivery.

By integrating climate risk considerations into asset protection, water management, supply-chain continuity, and product innovation, WIKA Beton aims to safeguard critical infrastructure, ensure uninterrupted operations, and strengthen its role as a provider of climate-resilient construction solutions. The table below outlines key adaptation initiatives, their operational focus, and the linkages to WIKA Beton's overall resilience under a high-warming (>4°C) climate scenario.

Area of Initiative	Description	Link to Operational Resilience
1. Critical Asset Hardening and Protection	Conduct detailed vulnerability mapping (e.g., using historical flood data and future SSP 5-8.5 projections) for all factories and *crushing plants*. Implement physical hardening measures, such as raising	Asset Protection: Minimizes downtime and financial losses from asset damage (*write-offs*), reducing reliance on

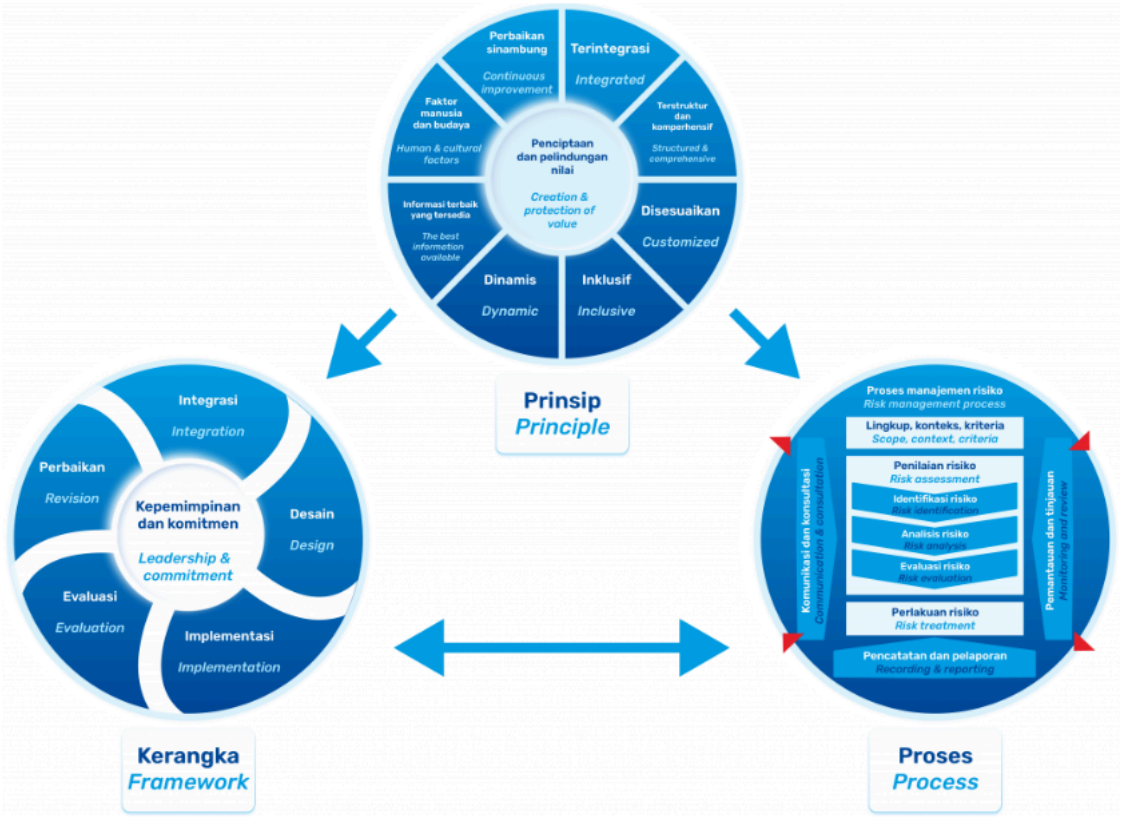
	equipment platforms and critical infrastructure foundations in high-risk flood zones.	unpredictable insurance coverage.
2. Circular Water Management	Implement and maintain a comprehensive Closed-Loop Water Recycling System across all production facilities. This is crucial for securing the water supply required for concrete mixing and curing during periods of acute Water Stress (droughts).	Production Continuity: Ensures the cement hydration process is not halted by local water scarcity, safeguarding uninterrupted production.
3. Supply Chain Redundancy	Diversify raw material suppliers (especially aggregates and SCMs) geographically. Maintain minimum inventory buffer stocks at multiple locations to mitigate the risk of simultaneous supply disruption due to single, localized extreme weather events (e.g., road closures from flooding).	Logistics Assurance: Reduces the risk of project delays and associated financial penalties caused by logistical blockages.
4. Product Adaptation Solutions	Promote and scale products such as Porous Concrete to clients. While a mitigation product for the company, it acts as an adaptation solution for cities, aiding in stormwater management and flood risk reduction.	Market Positioning: Positions WIKA Beton as a strategic partner in climate resilience, strengthening client relationships and long-term market relevance.

4. Risk Management

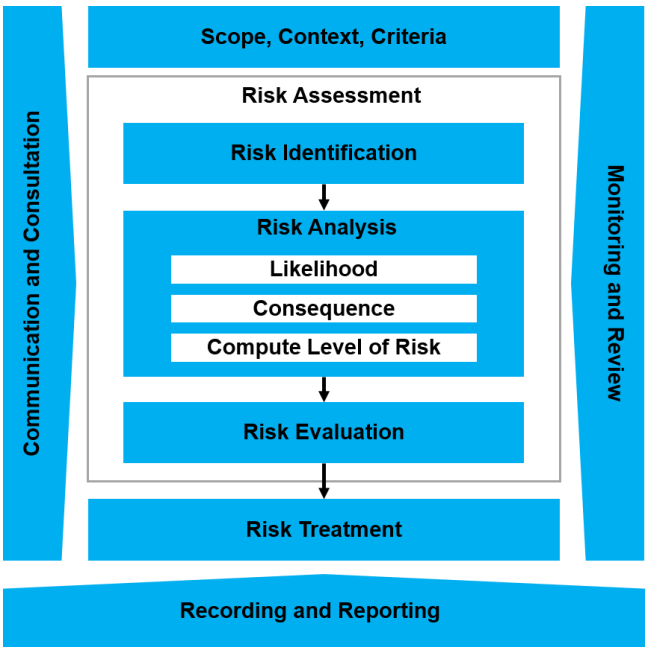
The Company consistently applies sustainability principles and risk management in every business process. The Company requires a risk management system capable of managing all forms of uncertainty so that the Company can continue to grow, develop, and provide value to all stakeholders, not only now but also for future generations. As a manifestation of the Company's commitment to implementing effective and integrated Good Corporate Governance (Entrepreneurial Risk Management) in accordance with Minister of State-Owned Enterprises Regulation Number PER-2/MBU/03/2023 dated March 3, 2023, concerning Guidelines for Governance and Significant Corporate Activities of State-Owned Enterprises, the Company has implemented a risk management system and established a work unit directly responsible to the Director of Finance, Human Capital, and Risk

Management, namely the Risk Management and Legal Division. This Risk Management implementation is also implemented across all work units and WIKA Beton personnel.

The risk management framework and system implemented in the Company adhere to ISO 31000:2018.



Risk Management Process are :



WIKA Beton has analyzed various internal and external risk factors that may occur in its business operations, both in the short-term and long-term. The objective of the risk management framework and guidelines that WIKA Beton has established is to systematically manage risks associated with climate change throughout the organization.

This includes the importance of emerging risk factors that may cause a significant impact on the company and/or industry during the next 3-5 years from the Early Warning System, to determine energy management strategies and climate change. Guided by the TCFD with a climate change action plan, WIKA Beton is investing in cutting-edge technology to increase production efficiency and use renewable energy.

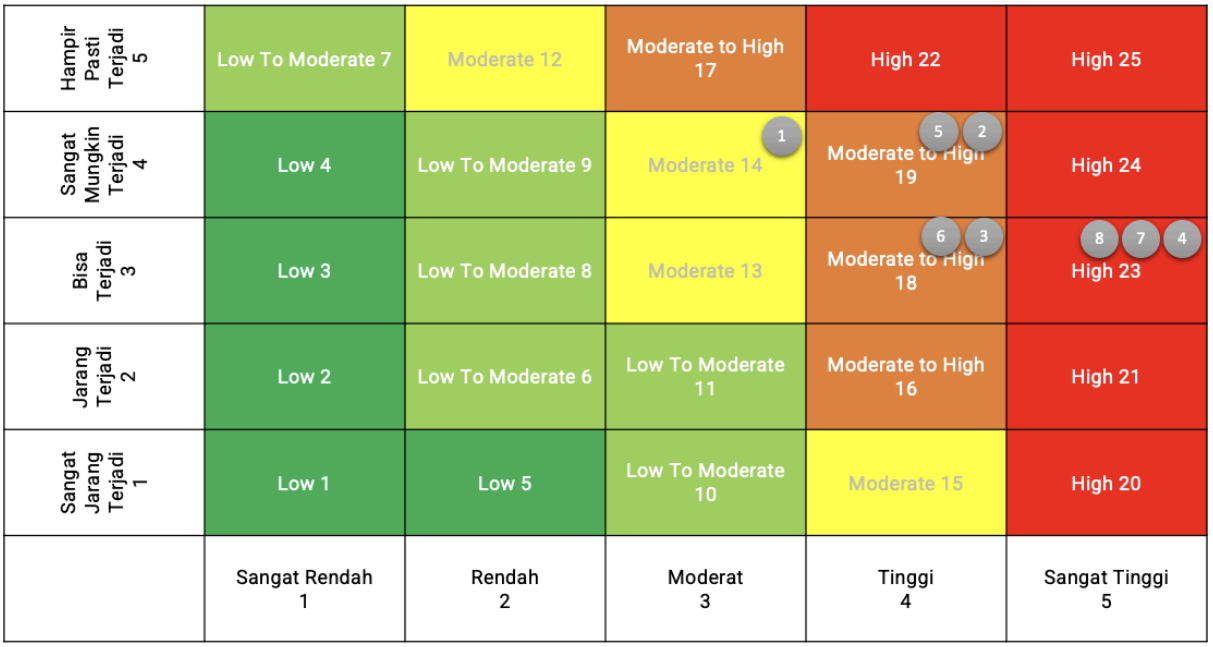
This management scheme is also integrated into WIKA Beton's policies, rules, and standards related to governance, risk management, internal control, and compliance, to incorporate climate-related risk management into WIKA Beton's internal management so as to protect and create sustainable value for the organization. Such initiatives are extended to WIKA Beton's subsidiaries and suppliers through conducting executive workshops and communicating with employees to build a risk management culture.

RISK MATRIX OF CLIMATE RISK

No	Category	Risk Identification	Likelihood	Impact	Risk Exposure	Risk Level

Transition						
1	Current Regulation	Mandatory ESG and Climate Disclosure	4 Likely	3 Moderate	4.200 Million	Moderate (14)
2	Emerging Regulation	Changes in energy cost due to energy regulation	4 Likely	4 High	3.000 Million	Moderate to High (19)
3	Technology	Technological disruption in construction & precast manufacturing requiring rapid adaptation	3 Possible	4 High	31.500 Million	Moderate to High (18)
4	Legal	Legal Liability due to Environmental damage during extreme weather events	3 Possible	5 Very High	6.000 Million	High (23)
5	Market	Raw material cost volatility & shifting customer preference toward green materials	4 Likely	3 Moderate	44.500 Million	Moderate to High (19)
6	Reputational	Increased carbon emissions & pollution reducing stakeholder trust and ESG credibility	3 Possible	4 High	7.000 Million	Moderate to High (18)
Physical						
7	Acute	Extreme rainfall,	3	5	14.500	High

		flooding, storms, heatwaves, and landslides causing immediate operational disruption	Possible	Very High	Million	(23)
8	Chronic	Long-term climate shifts: rising temperature, increased rainfall intensity, drought, soil subsidence	3 Possible	5 High	7.210 Million	High (23)



WIKA Beton continuously promotes a risk management culture throughout the organization to ensure stable and sustainable growth. WIKA Beton develops a risk culture guideline and enforces it throughout the organization. Following the risk identification and assessment process, all identified risks are mapped into a risk heatmap based on their likelihood and impact. The heatmap is used as a key management tool to determine appropriate risk treatment measures, prioritization, and escalation levels in line with the Company's risk appetite.

Risk Level	Risk Treatment Option	Explanation	Application to Identified Risk	Management Action
Low	Accept / Monitor	Risks are within the Company's risk appetite and do not materially affect operations, financial performance, or strategic objectives. No immediate mitigation is required.	• Localized, infrequent flooding with no impact on production continuity • Minor transition risks related to routine ESG or reporting adjustments	• Accept risk as part of normal operations • Monitor through periodic risk reviews • Escalate only if indicators show increasing trends
Low to Moderate	Reduce / Mitigate or Accept / Monitor	Risks may affect efficiency or costs if unmanaged. Selective, cost-effective mitigation may be applied, or the risk may be accepted if existing controls are adequate.	• Seasonal weather disruptions causing manageable logistics delays • Gradual increases in energy costs under current climate policies	• Implement targeted operational adjustments • Enhance monitoring of external developments • Periodic reassessment to prevent escalation
Moderate	Reduce / Mitigate	Risks have the potential to materially impact operations, project delivery, or costs and therefore require active management intervention.	• Increased flooding frequency affecting access roads and material storage • Energy efficiency pressure on production	• Implement structured mitigation measures • Allocate dedicated resources and budget • Assign clear risk ownership

			processes	and KPIs
Moderate to High	Reduce / Mitigate or Transfer / Sharing	Risks exceed normal tolerance and may result in significant financial or operational impact. Mitigation should be combined with risk transfer or sharing where appropriate.	• High flood exposure at critical production or logistics locations • Energy price volatility and potential carbon cost escalation	• Strengthen engineering and operational controls • Transfer risk via insurance or contractual arrangements • Regular review of residual risk levels
High	Reduce / Mitigate or Avoid	Risks pose a serious threat to business continuity, asset integrity, or financial sustainability and exceed the Company's risk appetite. Immediate action is required.	• Recurrent severe flooding leading to prolonged plant shutdowns • Transition risks causing loss of market access or stranded assets	• Prioritize intensive mitigation actions • Avoid risk by relocating, exiting, or restructuring affected assets or activities • Escalate decisions to senior management and the Board

This risk treatment framework is supported by WIKA Beton's risk management culture, which is embedded across the organization through clear governance structures, leadership commitment, defined risk management processes, effective risk communication, and continuous capacity building. Risk information derived from the heatmap is used to support informed decision-making, resource allocation, and strategic planning, including climate-related and sustainability risks.

Through this structured and proactive approach, WIKA Beton ensures that risks are managed consistently and transparently, supporting operational resilience, regulatory compliance, and long-term sustainable value creation.

5. Matrix and Target

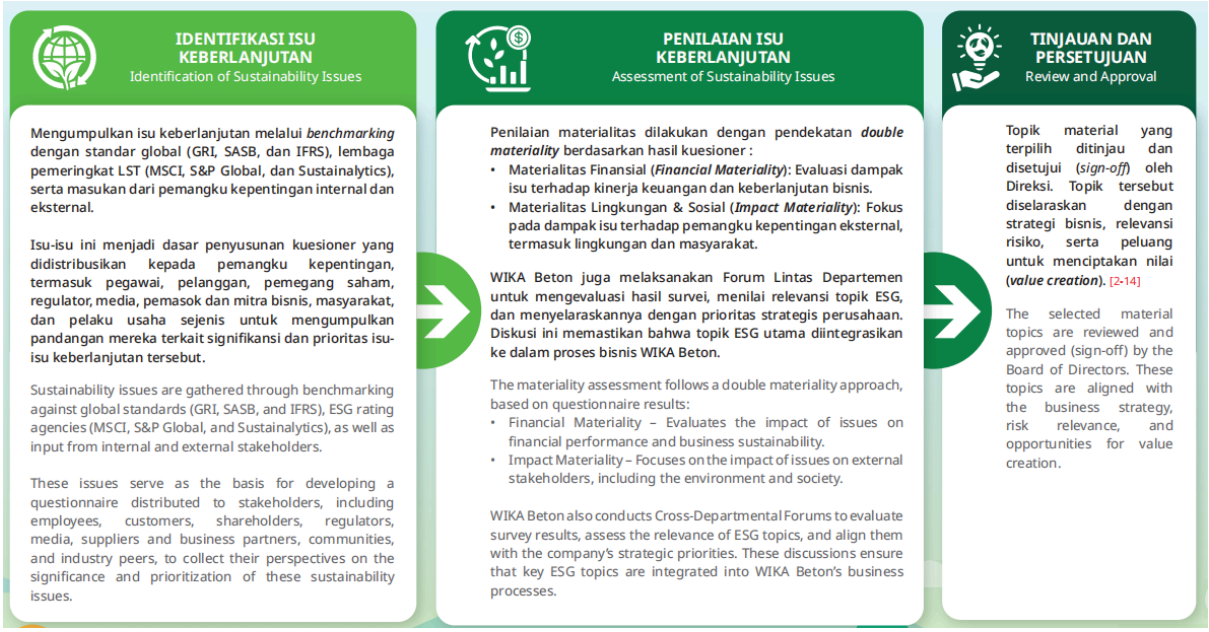
5.1 Materiality Assessment Process

As part of the Company's commitment to creating sustainable long-term value, PT Wijaya Karya Beton Tbk (WIKA Beton) has conducted an ESG materiality assessment to identify and prioritize sustainability factors that may affect the Company's ability to deliver resilient and sustainable financial performance.

The assessment focuses on identifying environmental, social, and governance (ESG) issues that demonstrate a significant linkage between external impacts on the environment and society and internal implications for business strategy, operational resilience, risk exposure, and enterprise value. Through this approach, WIKA Beton ensures that sustainability-related risks and opportunities are evaluated in a manner that is relevant and aligned with investors' information needs for decision-making.

In determining material ESG topics, WIKA Beton considers industry-specific risks, regulatory developments, market dynamics, and the expectations of key stakeholders, including investors and lenders. The outcomes of the materiality assessment serve as a basis for setting strategic priorities, informing capital allocation considerations, strengthening risk management processes, and monitoring the Company's performance.

The results of this process are reflected in the Company's sustainability disclosures, providing investors with clearer insight into how material ESG factors are managed and how they may influence long-term value creation, financial resilience, and WIKA Beton's competitive position.



The process of determining material topics is designed by **adopting the double materiality approach.** This approach enables the Company to identify relevant sustainability issues while evaluating two key dimensions:

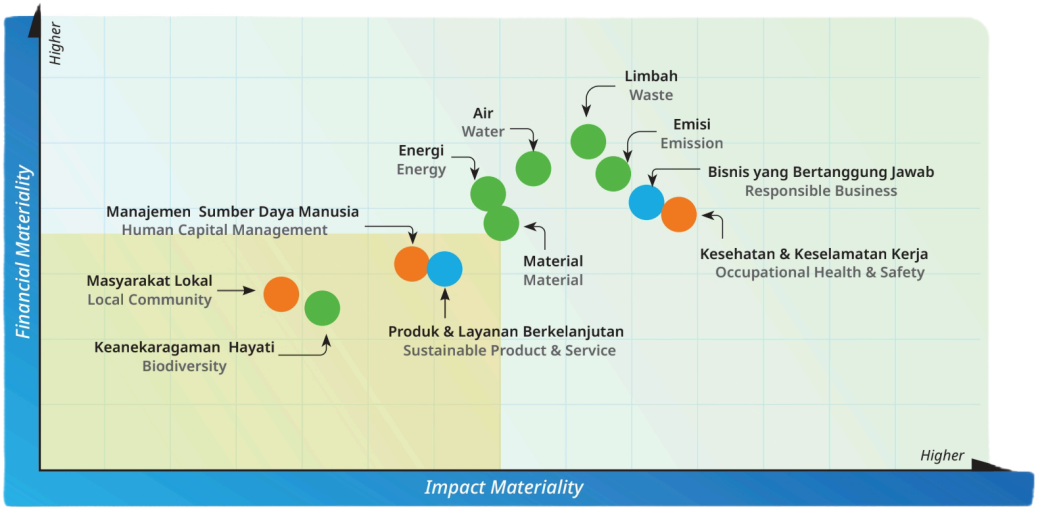
1. The Company's impact on society and the environment, reflecting social and environmental responsibility.

2. Risks to corporate value, encompassing financial aspects and long-term sustainability.

In determining materiality, WIKA Beton considers an integrated risk management aspect (ERM process) to ensure that sustainability related risks and opportunities are identified, assessed, and managed to achieve the company's objectives.

This materiality assessment has undergone independent assurance by CBC Global Indonesia to ensure that the methodology used has been thoroughly verified. As a result, this analysis provides greater confidence to stakeholders, affirming that the identification of material topics has been conducted accurately and responsibly.

WIKA Beton has identified three material topics that significantly impact the company's ability to create long-term value: waste, emissions, and responsible business practices. As a commitment to managing these issues, WIKA Beton implements various strategic initiatives aligned with the company's sustainability objectives.



WIKA Beton has implemented a Waste Management Program to reduce production waste, improve material recycling, and optimize resource use. This strategy includes reusing leftover concrete, adopting environmentally friendly technologies, and ensuring compliance with environmental regulations to enhance operational efficiency and support sustainability principles.

The target of reducing dust emissions is to minimize 100% of dust emissions from all factories and operational units (batching plants) by 2030. Progress of Target Achievement that WIKA Beton in 2024 already achieved is to minimize 100% of dust emissions at all factories and operational units (batching plants) through the installation of dust collectors at all facilities.

The concrete industry has a high carbon footprint due to energy consumption and CO2 emissions from cement production. Stricter emission regulations and market demand for environmentally friendly products are driving WIKA Beton to adapt to decarbonization policies and energy efficiency. Increased production costs due to emission regulations and fossil fuel prices can impact profitability. However, the adoption of low-carbon technologies and renewable energy can enhance competitiveness, attract ESG investors, and strengthen the company's image as a leader in the green construction industry.

WIKA Beton optimizes low carbon products or WTON Sustainable Products, which include Infiltration Wells, Porous Concrete, Geopolymer Concrete, WIKA Beton Houses (RWB), Modular Sabodam, Tetrapod, Reefcube and PC Spun Piles. Progress of target achievement Scope 1 -11.05%, Scope 2 +5.29%, Scope 3 +117.16%

compared to the year 2023. During the 2024 period, Scope 1 emissions (from direct sources such as fossil fuel consumption) were successfully reduced from 6,536.66 tons of CO_2eq to 5,814.97 tons of CO_2eq, marking a decrease of more than 11% compared to the previous year. This achievement demonstrates the effective implementation of energy efficiency strategies and the optimization of plant operations.

Meanwhile, Scope 2 emissions (from electricity consumption) recorded an increase of 5.29%. Nevertheless, overall emissions intensity for Scope 1 and Scope 2 relative to total production declined by nearly 50%, from 0.0133 tons to 0.0068 tons of CO_2eq per ton of product. This reflects increasingly efficient environmental performance, alongside a 94% increase in production volume.

The sharp increase in Scope 3 emissions from 2,026.13 tons to 4,400.08 tons of CO_2eq should be viewed in a positive context. The year 2024 marked an important milestone, as for the first time WIKA Beton expanded the scope of its supply chain emissions (Scope 3) calculations by including additional material transportation such as aggregates (split), in addition to fuel and cement that had been accounted for in the previous year. This step reflects the Company's commitment to greater accountability and more comprehensive ESG data transparency.

The focus is on building trust among stakeholders. Non-compliance with regulations can damage the company's reputation and trigger potential legal risks. By upholding ethics, transparency, and integrity, WIKA Beton strengthens its position as a sustainable and trustworthy company. The main challenge in corporate governance is ensuring transparency, accountability, and compliance with business regulations and work ethics. WIKA Beton must manage risks related to corruption, conflicts of interest, and adherence to increasingly strict ESG standards. The implementation of weak governance can decrease investor trust, hinder access to funding, and increase legal risks. On the other hand, responsible business practices can enhance reputation, competitiveness, and the long-term sustainability of the company. WIKA Beton strengthens corporate governance by implementing anti-corruption policies, transparent reporting, and a strict business code of ethics. The company also enhances its compliance system and employee training to ensure business practices align with international standards and local regulations. Exceeded the target by achieving an ACGS score of 92.37.

5.2 Emissions Scope 1,2, and 3

As a form of monitoring and evaluation, WIKA Beton conducts regular monthly monitoring of emission levels across all operational areas of the Company. Throughout this reporting year, the Company has conducted comprehensive measurements of Scope 1 GHG emissions, which originate from direct emission sources such as the use of diesel, solar, biodiesel, natural gas, and marine fuel oil (MFO). This emission calculation follows the IPCC Guidelines for National GHG Inventory (2006, updated) and ISO 14064-1:2018. Other references applied for specific calculations, such as fuel calorific values (NCV, net calorific value), emission factors (EF), and global warming potential (GWP), refer to the UK Defra Emission Factor (EF 2022), KLHK-DGCCC (Directorate General of Climate Change Control, DJPPI), ESDM (Directorate General of Electricity DJK, Interconnected Power System Emission Factors), and the GHG Protocol. Below is the Scope 1 emission data produced by the Company.

Direct Greenhouse Gas Emissions (Scope 1) Unit : Ton CO_2 eq

Emission Source	2022	2023	2024	Target 2024
Stationary Combustion	1.039,86	595,85	380,96	Scope 1 Direct Greenhouse Gas Emissions 6.500,00 Ton CO_2 eq
Mobile Combustion	6.249,69	5.940,81	5.434,01	
Total Scope 1 Emissions	7.289,55	6.536,66	5.814,97	

In this report, 2023 data has been restated to address differences in operational location scope and methodologies used.

Biogenic Gas Emissions (Scope 1) Unit : Ton CO_2 eq

Emission Source	2023	2024	Target 2024
Biogenic Emissions	2.177,41	2.492,13	Scope 1 Biogenic Gas Emissions 2.500,00 Ton CO_2 eq
Total Scope 1 Biogenic Emissions	2.177,41	2.492,13	

The Company also conducts monitoring and evaluation through regular monthly monitoring of Scope 2 GHG emissions across all operational areas. Scope 2 emissions originate from indirect emissions, specifically PLN electricity usage. In its calculations, the Company has used methods that refer to the IPCC Guidelines for

National GHG Inventory (2006, updated) and ISO 14064-1:2018. Other references applied for specific calculations, such as emission factors (EF), refer to the ESDM (Directorate General of Electricity DJK, Interconnected Power System Emission Factors). Below is the Scope 2 emission data produced by the Company.

Indirect Greenhouse Gas Emissions (Scope 2) Unit : Ton CO_2 eq

Emission Source	2022	2023	2024	Target 2024
PLN Electricity	1.853,72	12.849,19	13.566,18	Scope 2 Indirect Greenhouse Gas Emissions 14.000,00 Ton CO_2 eq
Total Scope 2 Emissions	1.853,72	12.849,19	13.566,18	

In this report, 2023 data has been restated to address differences in operational location scope and methodologies used.

Scope 1 and 2 Emissions Unit : Ton CO_2 eq

Emission Source	2022	2023	2024	Target 2024
Total Scope 1 Emissions	7.289,55	6.536,66	5.814,97	Scope 1&2 Emissions 23.000,00 Ton CO_2 eq
Total Scope 2 Emissions	1.853,72	12.849,19	13.566,18	
Total Emissions (Scope 1&2)	9.143,27	19.385,85	19.381,15	

As part of the emissions inventory, WIKA Beton has been calculating Scope 3 GHG emissions since 2023. Three main categories influence the Company's supply chain: upstream transportation and distribution, business travel, and procurement of goods or services. The calculation of Scope 3 emissions follows the IPCC Guidelines for National GHG Inventory (2006, updated), ISO 14064-1:2018, and the GHG Protocol. Below is the Scope 3 emission data for each category produced by the Company.

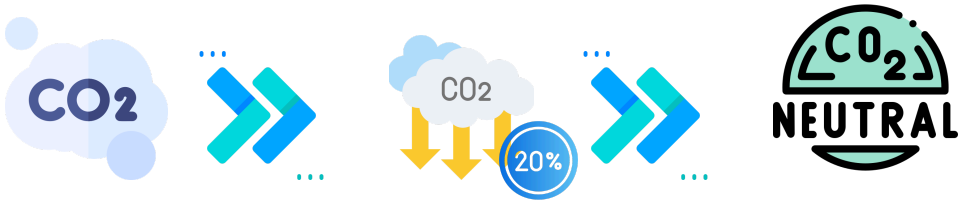
Indirect Greenhouse Gas Emissions (Scope 3) Unit : Ton CO_2 eq

Emission Source	2022	2023	2024	Target 2024
Category 3.1 Upstream Transportation and Distribution	-	1777.73	4.102,78	Scope 3 Indirect Greenhouse Gas Emissions 5.000,00 Ton CO_2 eq
Category 3.5 Business Travel	-	248.40	297,30	
Total Emissions (Scope 3)	-	2.026,13	4.400,08	

In this report, 2023 data has been restated to address the added relevance of Scope 3 emissions. The Company's commitment to managing Scope 3 emissions is reflected in its Occupational Health and Safety and Environmental Policy. It includes collaborating with or guiding all business partners and suppliers to improve Occupational Health and Safety and Environmental performance across all operational activities.

5.3 Target Net Zero Emissions

WIKA Beton aspires to be a leading sustainable construction materials company that integrates innovation, operational excellence, and environmentally responsible technology to support national infrastructure development. Through continuous improvement, transparency, and collaboration with stakeholders, we are committed to advancing ESG performance by setting clear climate-related metrics and long-term sustainability targets as follows.



As part of WIKA Beton's commitment to supporting the transition toward a low-carbon economy and enhancing operational efficiency and sustainability, the

company has established a clear emissions baseline, reduction targets, and a long-term Net Zero vision aligned with national climate policies.

1. Base Year 2024 – Establishing the Emissions Baseline (Scope 1 & 2)

The year 2024 has been designated as the base year for calculating WIKA Beton's Scope 1 and Scope 2 greenhouse gas (GHG) emissions across all plants and operational areas. This baseline reflects emissions from fuel consumption in production processes, electricity usage, and other supporting activities. Setting this base year enhances transparency and provides a solid foundation for developing the company's long-term decarbonization roadmap. In the baseline year of 2024, the Company recorded total greenhouse gas emissions of 19.381,15 tCO_2e (Scope 1 & 2). This baseline serves as the reference point for tracking emission reduction performance and evaluating the effectiveness of the Company's climate mitigation strategies in subsequent years.

2. 2030 Target – 20% Emissions Reduction

WIKA Beton aims to achieve a 20% reduction in greenhouse gas emissions by 2030, covering Scope 1 and Scope 2, compared to the 2024 baseline. This target will be pursued through a series of decarbonization initiatives, including:

- **Optimizing the use of PCC cement, fly ash, and other substitution materials** to reduce embodied carbon in precast products.
- **Improving energy efficiency** across all manufacturing facilities through the adoption of energy-efficient technologies.
- **Enhancing production and logistics digitalization**, including TMS, QR-based QC systems, and automated scanning to minimize waste and reduce unnecessary energy use.
- **Optimizing internal and distribution transport**, supported by route efficiency and continuous monitoring of fuel consumption.
- **Applying Life Cycle Assessment (LCA) and Environmental Product Declarations (EPD)** across major product lines to ensure transparency in measuring product carbon footprints.
- Transitioning its operational mobility toward cleaner energy by introducing **electric motorcycles and electric operational vehicles**, supported by the use of **B40 biodiesel** for logistics and site activities.

This target is consistent with emission-reduction pathways in the construction materials sector.

3. 2060 Target – Net Zero Emissions – 95% Emissions Reduction

WIKA Beton targets a 95% absolute reduction in greenhouse gas emissions across Scope 1 and Scope 2 by 2060, compared to the 2024 baseline. The remaining residual emissions, primarily from hard-to-abate sources, will be neutralized through credible carbon removal and offset mechanisms, in line with internationally recognized Net Zero principles.

This long-term target encompasses both operational activities and the entire value chain. Key strategies include:

- **Strengthening sustainability performance within the supply chain**, supported by ESG-based supplier selection and monitoring.
- Advancing energy transition by gradually reducing dependence on fossil fuels and introducing **hydrogen-ready technologies within production facilities,** including the long-term conversion of thermal and operational energy systems to low-carbon hydrogen.
- **Expanding the use of low-carbon and eco-efficient materials and technologies**, including low-carbon precast designs, implementation of geopolymer on precast products and innovative product development.
- **Improving energy efficiency** across all manufacturing facilities through equipment upgrades.
- WIKA Beton will explore the implementation of Carbon Capture, Utilization, and Storage (CCUS) through carbon mineralization in concrete.
- **Collaborating with government bodies, customers, and suppliers** to reduce emissions associated with transportation, material usage, and logistics activities.

To neutralize the remaining 5% of residual emissions, Developing the **WTON Forest** initiative as a nature-based solution to enhance carbon sequestration, restore ecosystems, and strengthen the company's contribution to climate mitigation. This approach involves the injection of captured carbon dioxide into fresh concrete or controlled curing processes, where the CO_2 is permanently mineralized and stored as stable calcium carbonate within the concrete matrix. This method provides durable and verifiable carbon removal while supporting product

performance and innovation in low-carbon precast technologies. This long-term Net Zero aspiration positions WIKA Beton as a responsible producer committed to sustainable infrastructure development.