



PT SAPTA BORNEO UTAMA

Integrated Sugar, Ethanol, Biomass & Plantation Project

Jl Sultan Alauddin Rt.01 No.11
Kelurahan Mekarsari, Balikpapan
East Kalimantan 76122, Indonesia

EXECUTIVE SUMMARY



PROJECT OVERVIEW

PT Sapta Borneo Utama (the "Company") proposes to develop an integrated sugar, ethanol, biomass & plantation project in Majalengka Regency, West Java, Indonesia.

The project integrates a 10,000 TCD sugar mill, ethanol plant, cogeneration power plant (30 MW) and large-scale plantation development to create a fully integrated, efficient and sustainable agro-industrial complex.



INVESTMENT HIGHLIGHTS

- Strong market fundamentals with growing domestic sugar demand
- Integrated business model with multiple revenue streams
- Abundant feedstock from owned and partner plantations
- Renewable energy self-sufficiency through biomass cogeneration
- ESG aligned project supporting food security and green energy transition
- Experienced management and strategic partners
- Bankable financial profile with robust cash flow and debt service coverage

PROJECT SNAPSHOT

	Sugar Mill Capacity	10,000 TCD
	Sugar Production	315,810 MT/year
	Ethanol Production	126 Million L/year
	Power Generation	30 MW
	Nucleus Plantation	500 Ha
	Plasma Expansion	10,000 – 20,000 Ha
	Project Location	Majalengka, West Java, Indonesia

KEY FINANCIAL METRICS (USD)

TOTAL PROJECT COST
1.0
BILLION

TOTAL REVENUE
198.4
MILLION / YEAR

EBITDA
109.1
MILLION / YEAR

CFADS
91.7
MILLION / YEAR

DSCR
1.30x

LLCR
1.45x

PLCR
1.60x



PROJECT RATIONALE

Indonesia remains a net sugar importer despite strong and growing domestic demand. This project will help reduce import dependency, strengthen national food security, create rural employment, and support the national bioenergy program through renewable cogeneration and ethanol production.

The project leverages West Java's favorable agro-climatic conditions, infrastructure access and proximity to major markets.



ENVIRONMENTAL & SOCIAL IMPACT

- Sustainable land management and responsible plantation practices
- Utilization of biomass for renewable energy and waste-to-resource
- Water conservation and efficient resource management
- Community development and local employment generation
- Alignment with international ESG standards and Indonesia's sustainability goals



FINANCIAL VIABILITY

The project demonstrates strong financial viability with stable cash flows supported by a diversified revenue base (sugar, ethanol, power and by-products). The project achieves robust debt service metrics with comfortable coverage ratios throughout the loan tenor.

The financial model has been stress-tested under multiple sensitivity scenarios including commodity price, yield, OPEX and interest rate variations.



CONCLUSION

The Integrated Sugar, Ethanol, Biomass & Plantation Project is technically feasible, financially sound, environmentally sustainable and socially responsible.

We recommend the project to lenders and investors as a bankable investment opportunity with compelling risk-adjusted returns and strong long-term impact.

DISCLAIMER

This Feasibility Study has been prepared by PT Agro Strategi Consulting for PT Sapta Borneo Utama based on information available as of June 2026. The study is subject to further updates, due diligence and approvals.



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2. PROJECT BACKGROUND

PT Sapta Borneo Utama (the “Company”) is developing an integrated sugar, ethanol, biomass & plantation project in Majalengka Regency, West Java, Indonesia. The project is designed to establish a modern, efficient and environmentally responsible agro-industrial complex that integrates upstream plantation development with downstream sugar milling, bioethanol production and renewable energy generation.

Indonesia remains a net importer of sugar despite consistent domestic demand growth. Imports in 2023 exceeded 3.2 million MT, creating a substantial gap and an opportunity for new domestic capacity. At the same time, national policy prioritizes food security, rural development, value addition and renewable energy, which align with this project’s objectives.

The project will utilize abundant agricultural resources, favorable agro-climatic conditions and available land in Majalengka Regency, a long-established sugarcane growing region with supporting infrastructure, skilled labor and logistics access. Through integration and cogeneration, the project will reaximize efficiency, minimize waste and create multiple revenue streams.

The development is structured to contribute to national socio-economic growth, enhance energy security through biomass power, create sustainable employment, and deliver attractive risk-adjusted returns for lenders and investors.

PROJECT OBJECTIVES



Establish a modern 10,000 TCD sugar mill to produce high-quality sugar for the domestic market.



Produce fuel-grade ethanol to support Indonesia’s energy transition and import substitution.



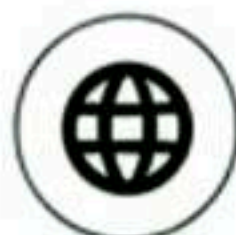
Generate renewable electricity (30 MW) from biomass for self-sufficiency and grid export.



Develop sustainable cane plantations with strong environmental and social governance practices.



Create economic value, employment and community development in the surrounding region.



Support national food security and reduce dependence on imported sugar.

STRATEGIC CONTEXT

- National Sugar Deficit:** Indonesia’s domestic sugar production meets less than 60% of total demand.
- Government Support:** The Government promotes sugar self-sufficiency, bioenergy development and downstream agro-industry.
- Abundant Biomass:** Sugarcane bagasse provides a reliable and low-cost fuel source for renewable power generation.
- Market Growth:** Rising population, urbanization and food & beverage industry growth continue to drive sugar demand.
- Export Opportunities:** Ethanol as a clean fuel and potential export product with growing global demand.

PROJECT LOCATION



Location : Jatitujuh District, Majalengka Regency, West Java, Indonesia



Total Project Area : ± 12,000 Ha (including nucleus estate, plasma area and industrial site)



Access : ± 3 km to provincial road
± 35 km to Cirebon Port
± 120 km to Kertajati International Airport



Surrounding Infrastructure : Power grid availability
Water resources available
Skilled and semi-skilled labor pool

PROJECT TIMELINE (INDICATIVE)

Phase	Description	Period
1. Feasibility & Planning	Feasibility study, land acquisition, permitting, front-end engineering	Q2 2024 – Q4 2025
2. Financial Close	Financial structuring, due diligence, financial close	Q4 2025 – Q1 2026
3. Engineering & Procurement	Detailed engineering, procurement of equipment and materials	Q2 2026 – Q4 2026
4. Construction	Site development, plant construction, installation and testing	Q1 2027 – Q4 2028
5. Commissioning	Commissioning, trial run and performance test	Q1 2029
6. Commercial Operation	Full commercial operation	Q2 2029



REGIONAL DEVELOPMENT CONTRIBUTION

The project will catalyze economic growth in Majalengka Regency and surrounding areas through job creation, local supplier development, infrastructure improvement, community empowerment programs and increased regional tax revenue.



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3. SPONSOR PROFILE

PT Sapta Borneo Utama ("the Company") is an Indonesian limited liability company established to develop and operate integrated agro-industrial projects with a focus on sugar, bioethanol, biomass energy and plantation development. The Company is committed to creating long-term value through responsible resource utilization, operational excellence and sustainable growth.

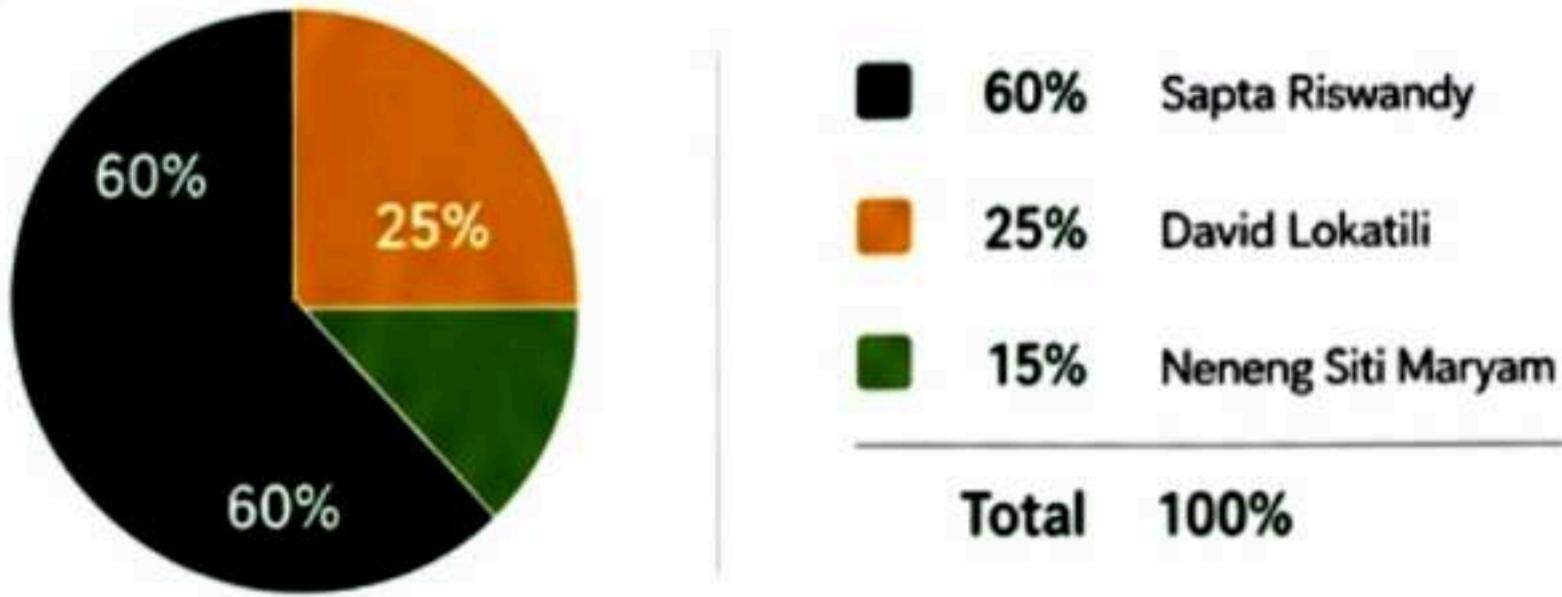


COMPANY OVERVIEW

Company Name	: PT Sapta Borneo Utama
Legal Status	: Limited Liability Company (Perseroan Terbatas)
Date of Establishment	: 2024
Domicile	: Balikpapan, East Kalimantan, Indonesia
Business Line	: Agro-industry, Plantation, Renewable Energy, Bioethanol Production
Main Project	: Integrated Sugar, Ethanol, Biomass & Plantation Project – Majalengka, West Java
Contact Address	: Jl Sultan Alauddin Rt.01 No.11 Kelurahan Mekarsari, Balikpapan East Kalimantan 76122, Indonesia
Phone	: +62 542 820 9900
Email	: info@saptaborneo.com
Website	: www.saptaborneo.com



SHAREHOLDING STRUCTURE



BOARD OF DIRECTORS & COMMISSIONERS

Name	Position
Sapta Riswandy	Director
David Lokatili	Commissioner
Neneng Siti Maryam	Commissioner



LEGAL COMPLIANCE

The Company is fully incorporated under the laws of the Republic of Indonesia and is committed to:

- Compliance with applicable laws and regulations
- Good corporate governance
- Health, safety and environmental standards
- Responsible land management
- Fair business practices and community engagement

COMPANY DESCRIPTION



PT Sapta Borneo Utama is a growth-oriented Indonesian company focused on the development of integrated agro-industrial projects. The Company combines upstream plantation development with modern processing facilities and renewable energy to produce high-quality sugar, ethanol and clean electricity.

The Company is backed by experienced promoters and professionals with proven track records in plantation management, sugar milling, engineering, project development and corporate finance.



VISION

To be a leading integrated agro-industrial company that creates sustainable value for stakeholders and contributes to food and energy security in Indonesia.



MISSION

- Develop integrated and efficient agro-industrial operations.
- Produce high-quality products that meet national and international standards.
- Promote sustainable agriculture and responsible environmental stewardship.
- Generate economic value and improve the well-being of communities.



CORE VALUES

- Integrity** We uphold honesty, transparency and ethical conduct.
- Excellence** We pursue the highest standards in everything we do.
- Sustainability** We are committed to responsible growth and environmental care.
- Safety** We prioritize the health and safety of our people and operations.
- Collaboration** We value teamwork, respect and strong partnerships.



TRACK RECORD & CAPABILITIES

The management team and key partners have extensive experience in:

- Sugar industry and plantation development
- Agro-industrial project development and engineering
- Renewable energy and biomass power generation
- Supply chain management and logistics
- Project finance, structuring and investor relations

This experience underpins the Company's ability to successfully execute and operate large-scale, integrated projects.



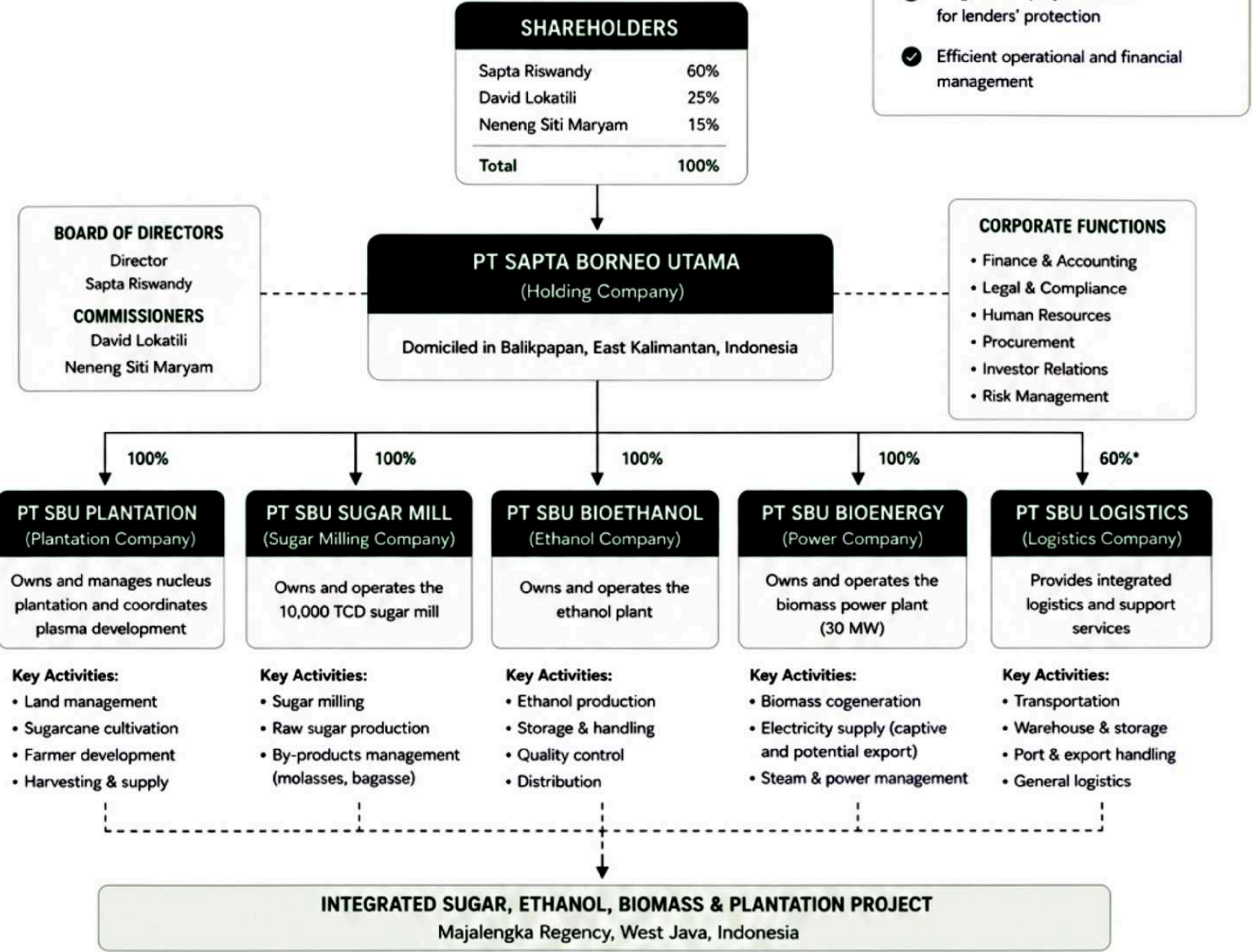
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4. CORPORATE STRUCTURE

The corporate structure of PT Sapta Borneo Utama is designed to support the development and operation of the Integrated Sugar, Ethanol, Biomass & Plantation Project.



KEY STRUCTURE HIGHLIGHTS

- ✓ Clear ownership and governance
- ✓ Project implementation through dedicated subsidiaries
- ✓ Ring-fenced project assets for lenders' protection
- ✓ Efficient operational and financial management

STRUCTURE RATIONALE



Risk Segregation

Project assets and liabilities are ring-fenced within project subsidiaries for lenders' security and risk mitigation.



Operational Efficiency

Specialized subsidiaries ensure focus, accountability and efficiency in each business line.



Financial Discipline

Individual financial reporting and control at subsidiary level to support transparency and lender monitoring.



Scalability

Structure allows future expansion, joint ventures or strategic partnerships in specific business units.



Governance & Control

Clear governance framework ensures compliance, good corporate governance and decision-making effectiveness.

SUBSIDIARY OVERVIEW

Subsidiary	Ownership	Purpose	Location
PT SBU Plantation	100%	Plantation development and management	Majalengka, West Java
PT SBU Sugar Mill	100%	Sugar milling and raw sugar production	Majalengka, West Java
PT SBU Bioethanol	100%	Ethanol production	Majalengka, West Java
PT SBU Bioenergy	100%	Biomass power generation (30 MW)	Majalengka, West Java
PT SBU Logistics	60%*	Logistics and support services	Majalengka, West Java

* PT SBU Logistics is structured as a joint venture to leverage logistics expertise and network.



5. PROJECT LOCATION – MAJALENGKA, WEST JAVA

The project will be developed in Jatitujuh District, Majalengka Regency, West Java Province, Indonesia. The location offers strategic advantages in terms of land availability, infrastructure access, agro-climatic suitability, and proximity to major markets and export facilities.

LOCATION OVERVIEW

	Location	: Jatitujuh District, Majalengka Regency, West Java, Indonesia
	GPS Coordinates	: 6°48' – 6°58' S 108°12' – 108°22' E
	Total Project Area	: ± 12,000 Ha (including nucleus estate, plasma area and industrial site)
	Elevation	: ± 60 – 150 m above sea level
	Average Temperature	: 24 – 31 °C
	Average Rainfall	: 1,800 – 2,500 mm/year (suitable for sugarcane)

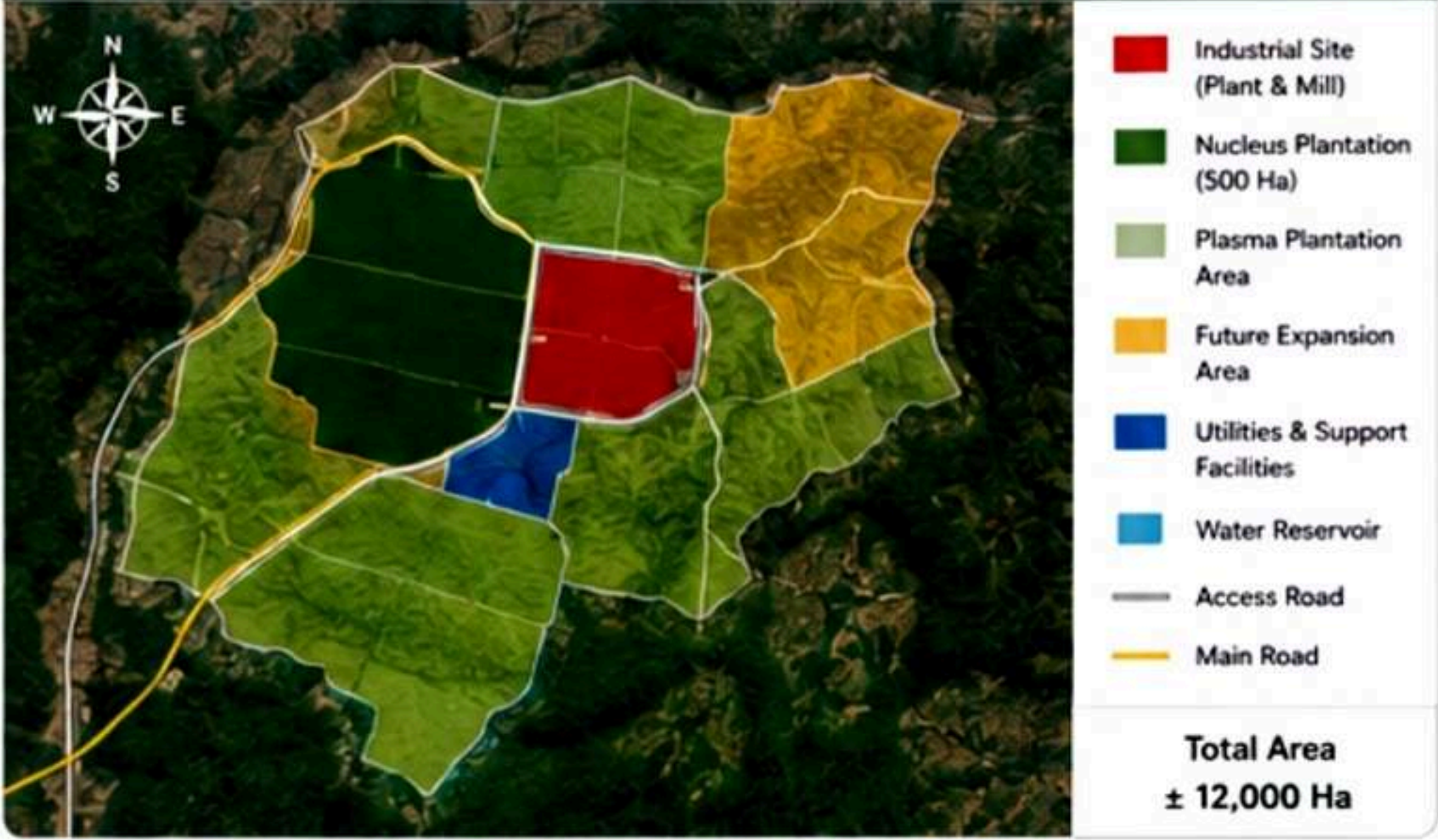
MAP: MAJALENGKA REGENCY, WEST JAVA



ACCESSIBILITY

Destination	Distance (approx.)	Travel Time (approx.)	Route
Provincial Road	± 3 km	10 – 15 min	Local Road
Majalengka City	± 20 km	30 – 40 min	Provincial Road
Cirebon Port	± 85 km	1.5 – 2 hrs	Tol Cipali
Kertajati International Airport	± 35 km	45 – 60 min	Tol Cipali
Bandung City	± 100 km	1.5 – 2 hrs	Tol Cipali
Tanjung Priok Port (Jakarta)	± 200 km	3 – 4 hrs	Tol Cipali

PROJECT SITE LAYOUT (CONCEPTUAL)



SITE ADVANTAGES

- ✓ Large and contiguous land bank for estate and industrial development.
- ✓ Favorable agro-climatic conditions ideal for sugarcane cultivation.
- ✓ Good soil quality with gentle topography and adequate water availability.
- ✓ Strategic access to toll road (Cipali), ports and airport.
- ✓ Availability of local labor and strong community support.
- ✓ Proximity to electricity grid and other essential infrastructure.

LAND OWNERSHIP & STATUS

- Land for the project is secured through a combination of owned land (nucleus estate) and long-term land agreements for plasma development. All land will comply with Indonesian land regulations and environmental requirements.

SITE PHOTOS



STRATEGIC FIT

The location in Majalengka Regency provides the ideal combination of agricultural potential, infrastructure connectivity, and market access, ensuring the long-term sustainability and competitiveness of the project.

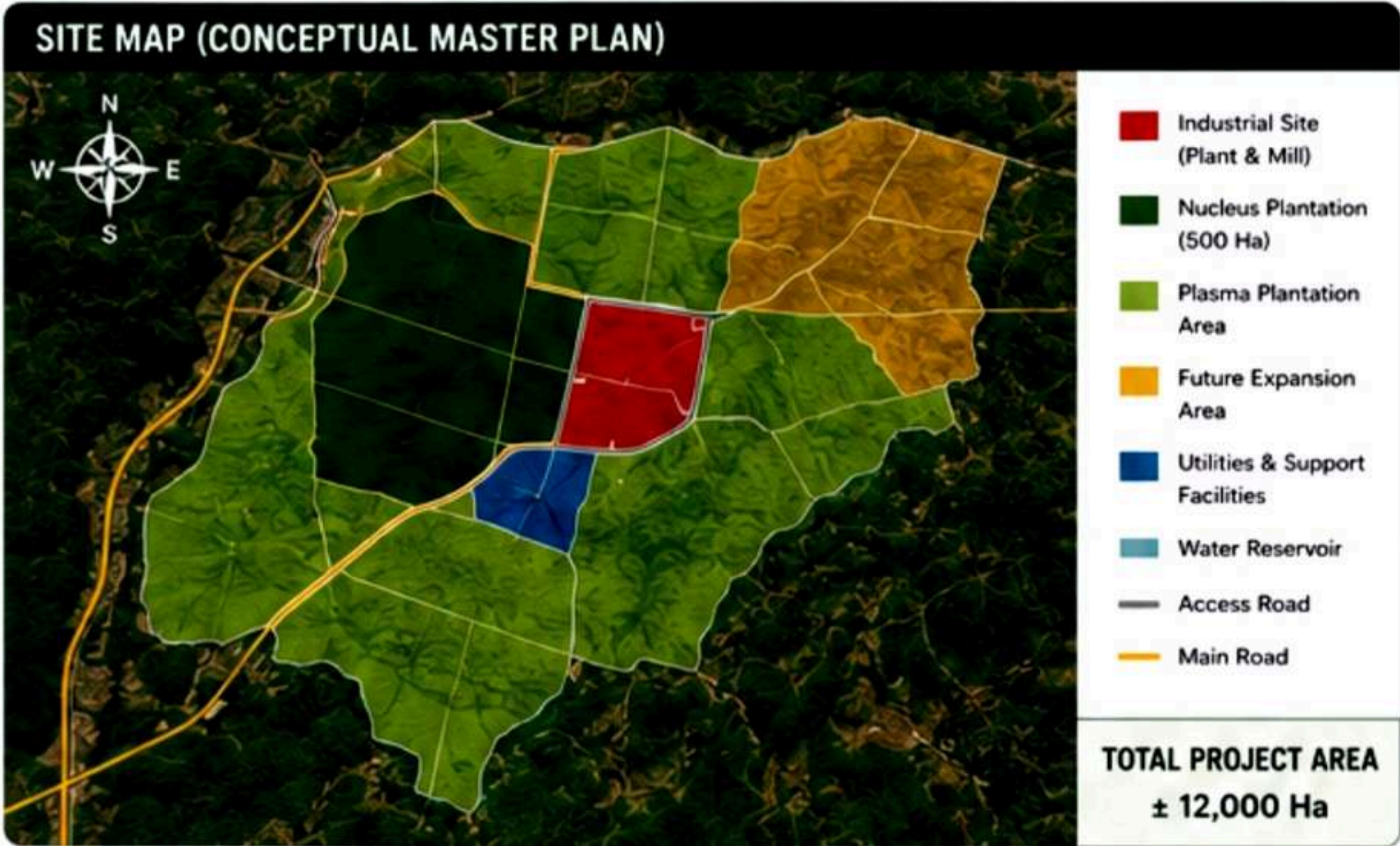
“ Strong location.
Sustainable growth.
Strategic advantage. ”



6. LAND & SITE ASSESSMENT

The project site is strategically located in Jatitujuh District, Majalengka Regency, West Java. The land is suitable for industrial facilities and sugarcane cultivation, with good topography, soil fertility, water availability and access to infrastructure.








LAND SUMMARY		
	Location	Jatitujuh District, Majalengka Regency, West Java, Indonesia
	Total Project Area	± 12,000 Ha (including nucleus estate, plasma area and industrial site)
	Industrial Site Area	± 150 – 200 Ha
	Nucleus Plantation	500 Ha
	Plasma Area	10,000 – 20,000 Ha (to be developed in phases)
	Land Status	Owned land and long-term land agreements for plasma development
	Land Use Designation	Agriculture, Plantation, and Industrial



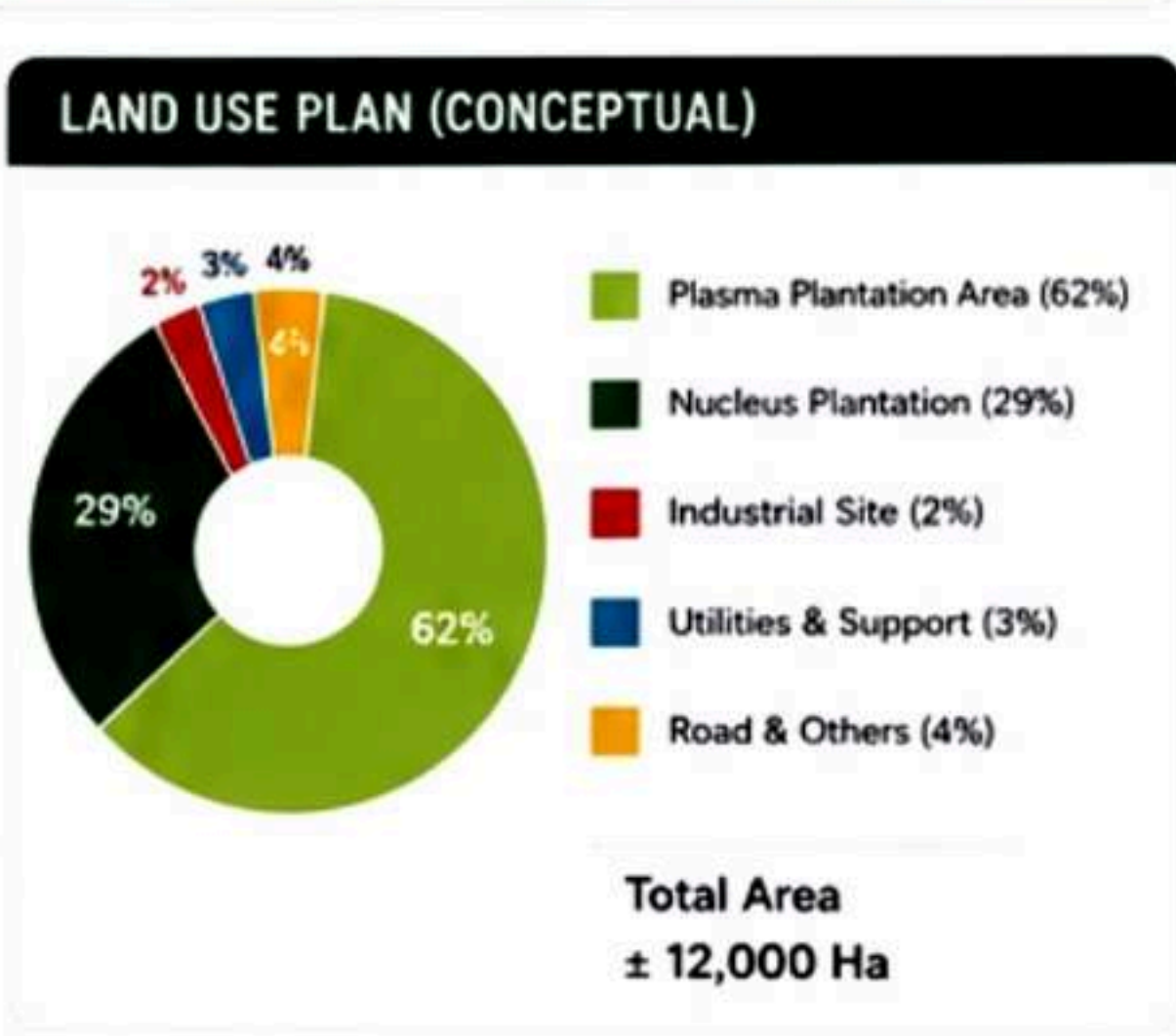
TOPOGRAPHY & SOIL		
	Topography	Gently undulating to rolling (0 – 15% slope)
	Elevation	± 60 – 150 m above sea level
	Soil Type	Latosol and Andosol (suitable for sugarcane)
	Soil Characteristics	Deep soil, well-drained, good texture and organic matter content
	Soil Fertility	Moderate to high; suitable for high-yield sugarcane

CLIMATE DATA		
	Average Temperature	24 – 31 °C
	Average Rainfall	1,800 – 2,500 mm/year
	Rainy Season	November – March
	Dry Season	April – October
	Sunshine Duration	4.5 – 6.0 hours/day
	Relative Humidity	70 – 85%
	The agro-climatic conditions are ideal for sugarcane cultivation with high productivity potential.	

WATER AVAILABILITY		
	Surface Water	Available from nearby rivers and irrigation canals
	Ground Water	Available; good yield and quality
	Water Reservoir Plan	Provision of reservoir and storage for dry season irrigation
	Water Quality	Suitable for industrial use after treatment and for irrigation
	Adequate water resources are available to support industrial operations and sugarcane cultivation.	

INFRASTRUCTURE ACCESS		
Facility	Distance (Approx.)	Connectivity / Access
 Provincial Road	± 3 km	Paved road, good condition
 Toll Road (Cipali)	± 35 km	Easy access to national toll network
 Railway Station	± 20 km	Cirebon / Jatibarang Station (freight access)
 Cirebon Port	± 85 km	Export and import access
 Kertajati Int'l Airport	± 35 km	Domestic & international cargo access
 Electricity (Grid)	On site/nearby	Connected to 150 kV grid
 Fiber Optic Network	Available	Telecommunication coverage available

SITE SUITABILITY ASSESSMENT	
✓	Large contiguous land bank for industrial and plantation development
✓	Strategic location with excellent infrastructure access
✓	Suitable topography and fertile soil for sugarcane cultivation
✓	Sufficient water resources for industry and irrigation
✓	Proximity to markets and export ports
✓	Supportive local government and community environment
✓	Minimal environmental and social risks
Overall Site Suitability EXCELLENT	



LAND OWNERSHIP & STATUS	
	<ul style="list-style-type: none">Land for the industrial site is owned by the Company.Nucleus plantation land is under long-term ownership.Plasma areas will be developed through partnerships with local communities under long-term land agreements.All land will comply with Indonesian regulations and environmental requirements.

KEY TAKEAWAY	
	The project site in Majalengka Regency offers an optimal combination of land availability, agro-climatic suitability, infrastructure access and resource potential, providing a strong foundation for the successful development and long-term sustainability of the Integrated Sugar, Ethanol, Biomass & Plantation Project.



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7. SUGAR INDUSTRY ANALYSIS

Indonesia's sugar industry plays a vital role in the nation's food security and agro-industrial development. Despite the large domestic market, Indonesia remains a net sugar importer due to limited domestic production. This presents a significant opportunity for new, efficient and integrated sugar projects.

GLOBAL SUGAR INDUSTRY OVERVIEW

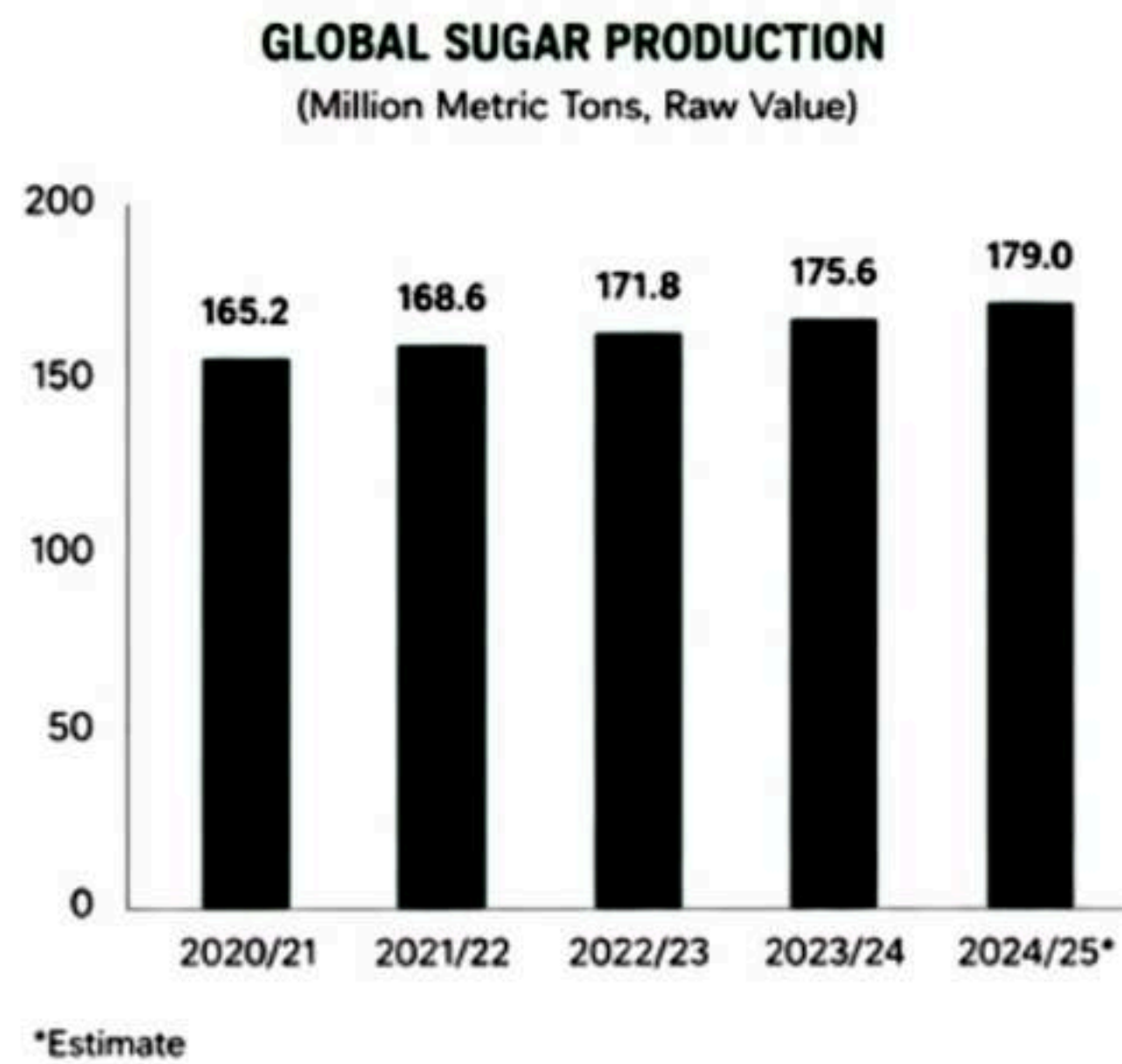
Global sugar production in MY 2024/25* is ~179 million metric tons (raw value).

Major producers: Brazil, India, EU, Thailand, China and Pakistan.

Global sugar demand continues to grow in line with population growth, income levels and food & beverage industry expansion.

Sugar is an essential commodity with stable long-term demand.

*Source: ISO – April 2025



MAJOR SUGAR PRODUCING COUNTRIES

(MY 2024/25*)

Country	Production (Million MT Raw Value)	Share
Brazil	42.0	23.5%
India	31.0	17.3%
EU	17.0	9.5%
Thailand	10.5	5.9%
China	10.0	5.6%
Pakistan	7.0	3.9%
Others	61.5	34.3%
World Total	179.0	100%

*Source: ISO – April 2025

INDONESIA SUGAR INDUSTRY OVERVIEW

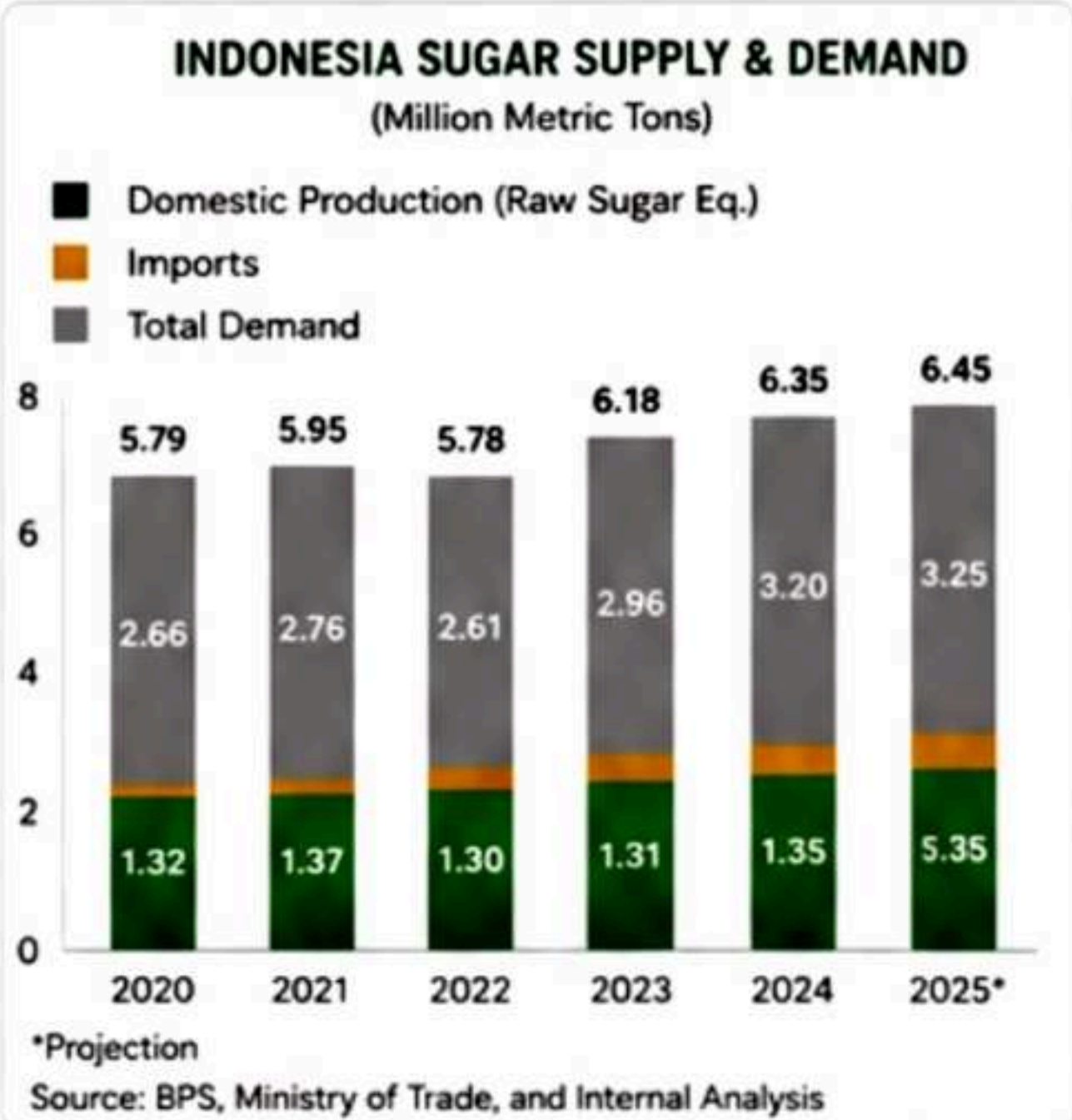
Indonesia is the world's 4th largest sugar consumer with annual demand of ~6.0 – 6.5 million MT.

Domestic production in MY 2024/25 is ~2.3 million MT GKP (raw sugar equivalent ~1.3–1.4 million MT).

Imports in 2024 reached ~3.2 million MT, equivalent to more than 60% of total demand.

Average productivity in Indonesia (~65–70 ton cane/ha) is still below potential (~100–120 ton cane/ha).

Indonesia has the potential to achieve self-sufficiency through productivity improvement and expansion of plantation and milling capacity.

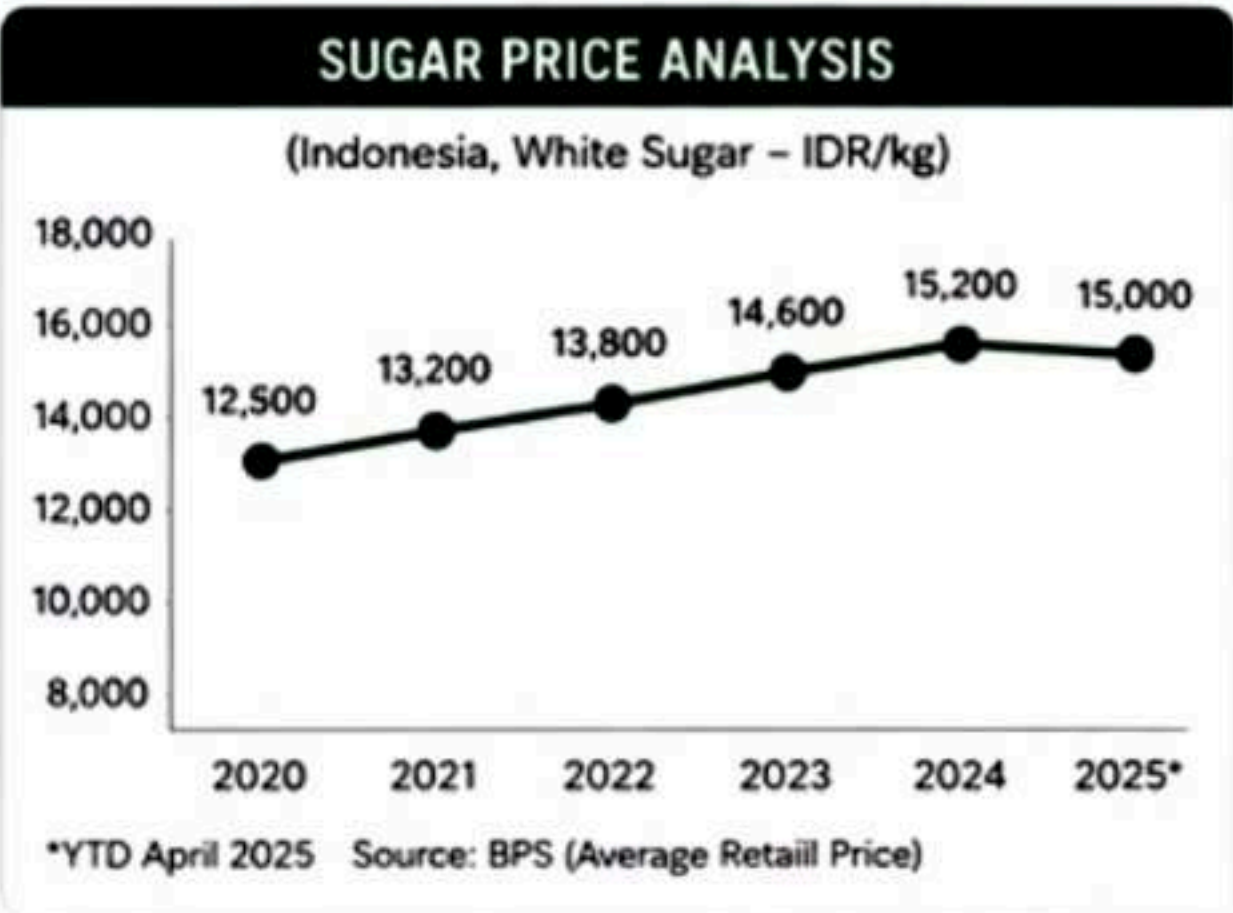


INDONESIA SUGAR BALANCE

(MY 2024/25*)

Description	Volume (Million MT)
Total Demand	6.35
Domestic Production	1.35
Imports	3.20
Ending Stock	0.10
Demand – Supply Gap	3.10

*Data up to April 2025
Source: BPS, Ministry of Trade, Internal Analysis



INDUSTRY TRENDS

Rising domestic demand for sugar is driven by population growth and food & beverage industry.

Government policy prioritizes sugar self-sufficiency and reduction of imports.

Investment in modern, integrated sugar mills is encouraged.

Downstream utilization (ethanol, power from biomass) improves project sustainability and profitability.

ESG focus drives adoption of efficient and low-carbon sugar production.

KEY CHALLENGES

Low yield and productivity

Fragmented and aging mills

High production cost

Land conversion and environmental concerns

Climate variability affecting cane production

Dependence on imports

OPPORTUNITIES FOR PT SAPTA BORNEO UTAMA PROJECT

Build modern 10,000 TCD mill with high efficiency and low cost of production

Develop large-scale plantation with better productivity and sustainability

Integrate ethanol production to capture value added

Generate renewable power from biomass for self-sufficiency and export

Contribute to national self-sufficiency and reduce sugar imports

Create jobs, support local economy and rural community development

The sugar industry in Indonesia offers strong long-term fundamentals with attractive opportunities. The Project is well positioned to capture market demand and deliver sustainable growth and returns.



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FEASIBILITY STUDY

V1.5 | JUNE 2026



8. INDONESIA SUGAR MARKET OUTLOOK

Indonesia is the world's 4th largest sugar consumer but remains a net importer. Strong population growth, rising incomes and the expansion of the food & beverage industry continue to drive robust sugar demand.

KEY MARKET HIGHLIGHTS

Largest Sugar Consumer in Asia
(excluding China & India)

Population 277 Million
(2025)

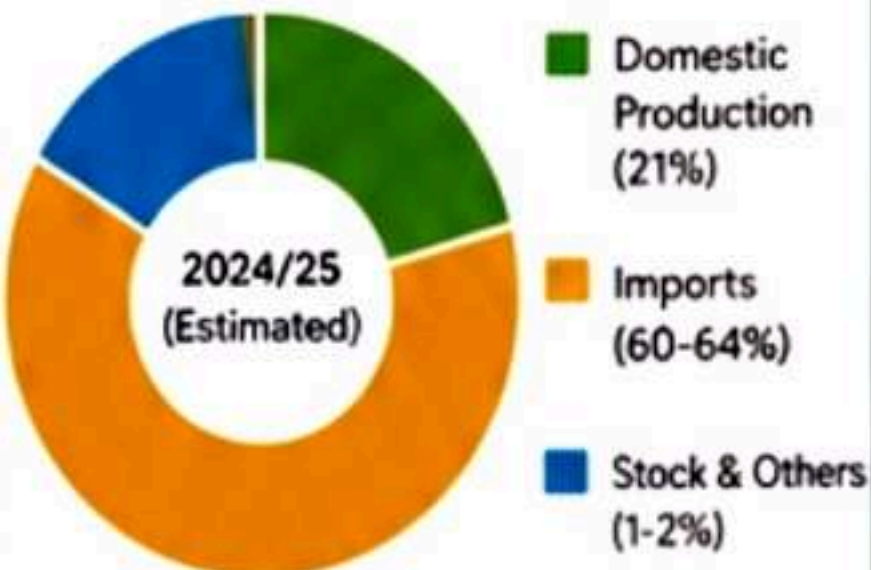
Sugar Demand 6.0 – 6.6 Million MT
(2024/25)

Import Dependence >60%
of Total Demand

Purpose: Achieve Sugar Self-Sufficiency by 2030

INDONESIA SUGAR SUPPLY – DEMAND BALANCE (2024/25)

Item	Volume (Million MT)	Share (%)
Total Demand	6.45	100%
Domestic Production	1.30 – 1.40	21%
Imports	3.80 – 4.10	60 – 64%
Ending Stock	0.10	1 – 2%
Supply – Demand Gap	3.10 – 3.30	>60%



INDONESIA SUGAR DEMAND OUTLOOK (Million Metric Tons of Raw Sugar Equivalent)



KEY DRIVERS OF SUGAR DEMAND GROWTH

Population growth and urbanization

Expansion of food & beverage industry

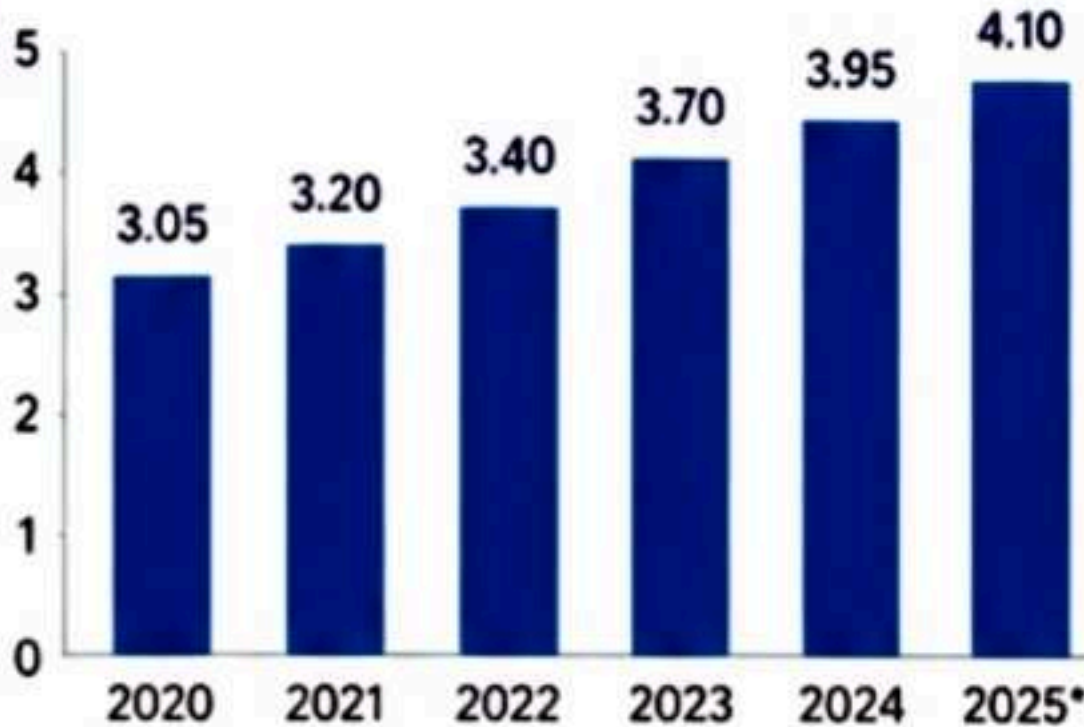
Rising disposable income and changing lifestyle

Growth in pharmaceutical and confectionery sectors

Export opportunities for value-added products

INDONESIA SUGAR IMPORT TREND

(Million MT – Raw Sugar Equivalent)



MAJOR SOURCES OF IMPORTS (MY 2024/25)

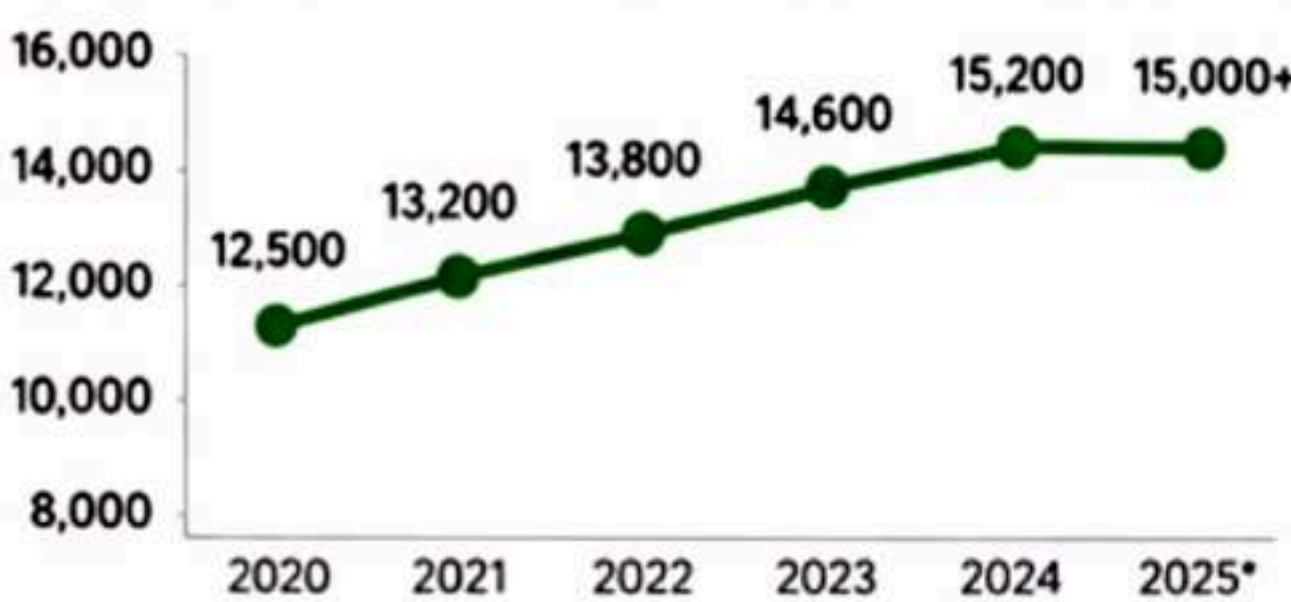
Country	Share (%)
Brazil	45%
Thailand	20%
Australia	15%
India	10%
Others	10%

GOVERNMENT POLICY & SUPPORT

- ✓ National Sugar Self-Sufficiency Roadmap to 2030
- ✓ Incentives for new sugar mills and plantation development
- ✓ Import tariff and quotas to protect local producers
- ✓ Support for modernization and productivity improvement
- ✓ Encouragement of downstream integration (ethanol, power, bio-products)



SUGAR PRICE OUTLOOK (White Sugar – IDR/kg)



- ✓ Prices expected to remain firm due to tight supply
- ✓ Inflation and logistics costs continue to pressure prices
- ✓ Long-term price trend remains strong

OPPORTUNITIES FOR PT SAPTA BORNEO UTAMA PROJECT

Build a modern 10,000 TCD sugar mill with high efficiency

Produce high-quality sugar for domestic and export markets

Reduce import dependency and contribute to food security

Integrate ethanol and bioenergy for additional revenue

Develop large-scale, high-yield sugarcane plantations

Create jobs and support regional economic growth

MARKET OUTLOOK & CONCLUSION

Indonesia's sugar market will remain undersupplied in the medium to long term, creating a significant opportunity for new, efficient, integrated sugar projects. The 10,000 TCD integrated sugar mill in Majalengka is strategically positioned to capture strong domestic demand, reduce imports, and deliver sustainable returns on investment.



Strong Demand Growth



Large Market Potential



Attractive Investment Opportunity



9. FEEDSTOCK SUPPLY STRATEGY

A reliable, sustainable and cost-competitive feedstock supply is critical to ensure consistent mill operations, high recovery and long-term project viability.

SUPPLY STRATEGY OVERVIEW

Develop and manage nucleus plantations to secure core supply and ensure quality and productivity.

Build strong partnerships with independent farmers through outgrower schemes and technical support.

Optimize logistics network to ensure timely delivery with minimum losses.

Adopt best agronomic practices and mechanization to maximize yields and reduce costs.

Implement sustainability and traceability standards across the supply chain.

SUGARCANE SUPPLY SOURCES & AREA (Target Maturity: 2030)

Nucleus Plantation

5,000 Ha

(42%)

Plasma / Outgrowers

6,500 Ha

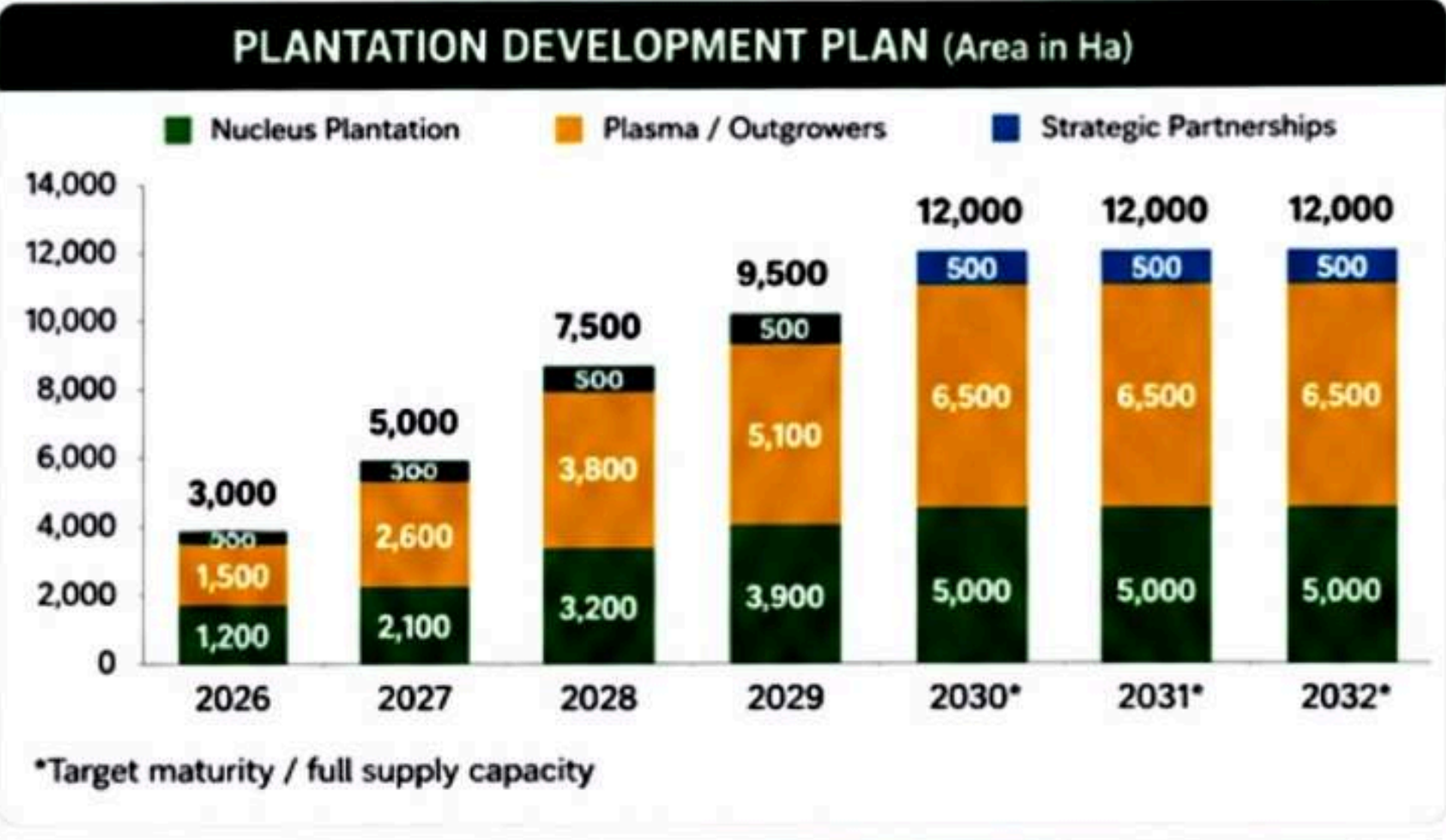
(54%)

Strategic Partnerships (Largeholders)

(40%)

Total Supply Area

12,000 Ha



SUGARCANE SUPPLY – DEMAND BALANCE (At Full Capacity)

Description	Volume (Thousand Tons)	Share (%)
Total Requirement (at 10,000 TCD mill)	2,500	100%
Nucleus Plantation	1,050	42%
Plasma / Outgrowers	1,350	54%
Strategic Partnerships (Largeholders)	100	4%
Total Supply	2,500	100%

Note: Assumes 250 operating days per year and 80 TCH cane per hectare.

LOGISTICS & INFRASTRUCTURE STRATEGY

Collection Centers	Establish strategically located collection centers to minimize hauling distance and waiting time.
Transportation Network	Develop and maintain all-weather roads and optimize fleet management for timely cane delivery.
Harvest & Delivery Management	Staggered harvesting schedule and real-time logistics monitoring to ensure fresh cane within 24 hours.
Milling Efficiency	High utilization through cane quality control, rapid unloading and efficient crushing systems.

SUSTAINABILITY & BEST PRACTICES

Sustainable Agronomy	Use of certified seed cane, balanced fertilization, integrated pest management and soil conservation.
Water & Soil Management	Efficient irrigation, drainage management and erosion control to enhance productivity and protect environment.
Social Inclusion	Outgrower development, fair pricing, capacity building and community engagement.
Certification & Traceability	Implement ISCC / Bonsucro aligned practices and digital traceability from farm to mill.

KEY SUPPLY RISKS & MITIGATION

Risk	Mitigation Strategy
Climate variability	Diversified planting areas, improved drainage, drought-tolerant varieties.
Farmer productivity variability	Extension services, training, input support, mechanization assistance.
Logistics disruption	Multiple routes, fleet backup, maintenance program and digital tracking.
Policy & regulatory changes	Active engagement, compliance and alignment with government programs.

SUPPLY CHAIN PERFORMANCE TARGETS (At Full Capacity)

KPI	Target	Description
Cane Supply Reliability	≥ 98%	Percentage of cane delivered vs. requirement
Average Cane Yield	≥ 80 TCH	Tons of cane per hectare
Cane Quality (Pol % Cane)	≥ 12%	Average sucrose content
Cane to Mill Time	≤ 24 hours	From harvest to crushing
Field to Factory Loss	≤ 5%	Losses during harvesting and transportation

KEY ENABLERS FOR SUCCESSFUL FEEDSTOCK SUPPLY

Strong partnerships with farmers and local communities

Continuous improvement in productivity and operational efficiency

Sustainable practices for long-term value creation

Technology and digital solutions for better decision making

Robust governance and performance monitoring



9.1 PLANTATION DEVELOPMENT PLAN

The plantation development plan ensures a disciplined and phased expansion of nucleus and outgrower areas to secure long-term sugarcane supply for the integrated sugar mill.

OBJECTIVES

- Establish a sustainable and productive sugarcane plantation base to support mill capacity.
- Achieve targeted area development on schedule with quality management.
- Maximize yield and sucrose content through best agronomic practices.
- Ensure long-term land productivity, environmental stewardship and social responsibility.

DEVELOPMENT STRATEGY

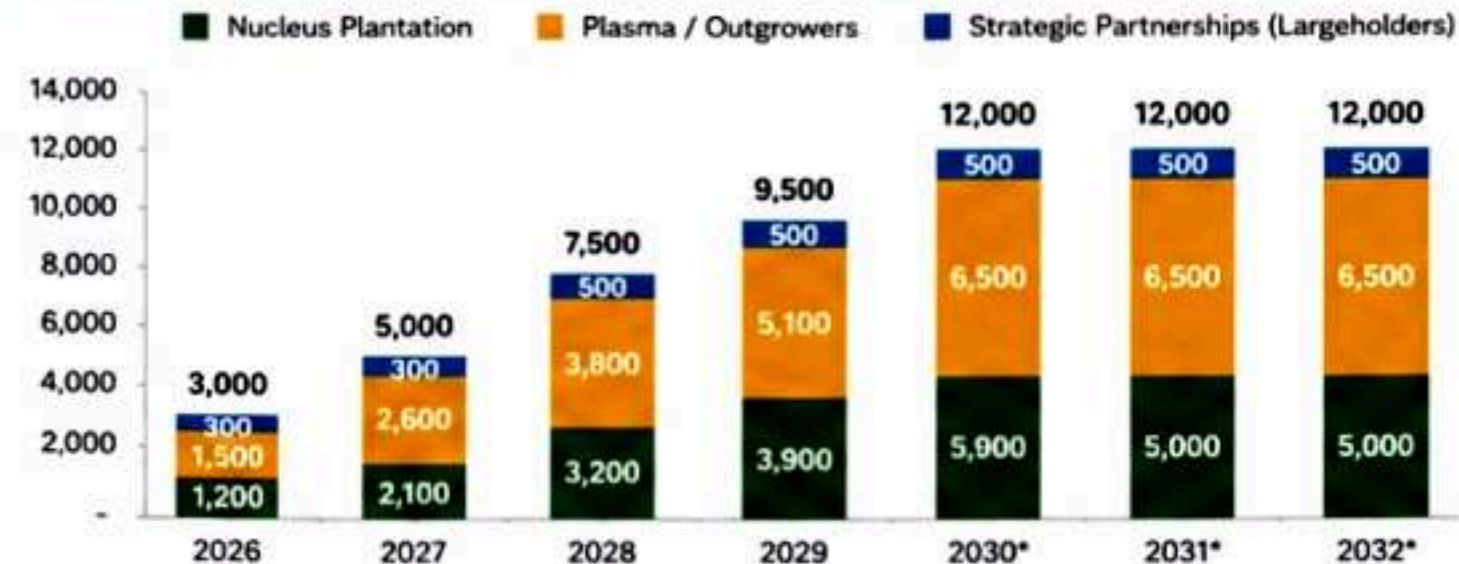
- Nucleus Development**: Develop company-owned estates with high management control and efficiency.
- Outgrower Partnership**: Expand through strong outgrower network with capacity building and incentives.
- Phased Expansion**: Gradual area expansion aligned with mill ramp-up and supply-demand balance.
- Sustainability Focus**: Implement GAP, soil conservation, water management and biodiversity protection.

VARIETY STRATEGY

	Recommended Varieties	Purpose
High yielding and high sucrose	PS 862	High yield & high sucrose
Disease and pest resistant	PS 881	High yield & adaptability
Adaptable to local climate and soil	PS 920	Ratoon ability & stability
Early, mid and late maturing mix	PS 864 / BL	Disease tolerance

*Final selection based on field trials and performance

DEVELOPMENT ROADMAP (AREA IN HA)



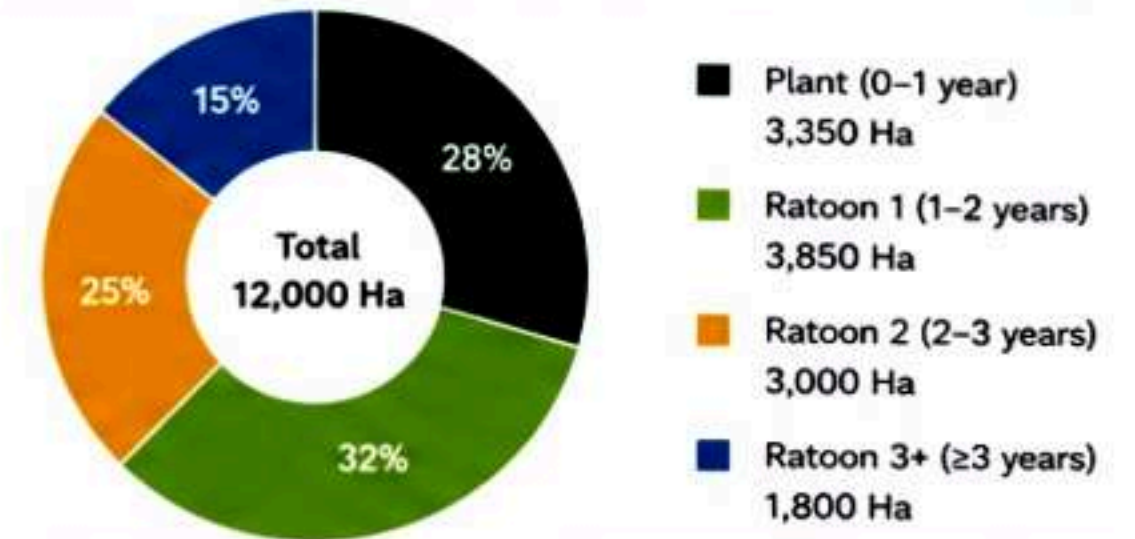
*Target maturity / full supply capacity

PLANTING & MATURITY SCHEDULE

Year	Development Stage (Area in Ha)				Total Cumulative Area (Ha)
	Plant (0-1 yr)	Ratoon 1 (1-2 yrs)	Ratoon 2 (2-3 yrs)	Ratoon 3+ (≥3 yrs)	
2026	3,000				3,000
2027		2,000	3,000		5,000
2028		2,500	2,000	3,000	7,500
2029		2,000	2,500	2,000	9,500
2030*		2,500	2,000	2,500	12,000
2031*			2,500	2,000	12,000
2032*				2,500	12,000

* Full supply capacity achieved

PLANTATION AREA BY MATURITY STAGE (2030)



A balanced maturity profile ensures stable cane supply, high productivity and efficient mill utilization.

ASSUMPTIONS

- Total developed area: 12,000 Ha (mature by 2030)
- Nucleus : Plasma : Strategic Partnerships = 42% : 54% : 4%
- Plant cane area developed annually to maintain optimal maturity mix.
- Average cane yield (full maturity) ≥ 80 TCH
- Operating days: 250 days/year
- Mill capacity designed to match 10,000 TCD cane requirement.
- Land suitability and legal compliance secured prior to planting.

YIELD IMPROVEMENT PROGRAM

- Soil fertility management**: Regular soil testing and balanced fertilization
- Integrated pest & disease management**: Use of certified seed cane and hot water treatment
- Improved irrigation & drainage**: Integrated weed management
- Mechanization & precision farming**: Use of ripper and sub-soiling for better root penetration
- Regular soil testing and balanced fertilization
- Use of certified seed cane and hot water treatment
- Integrated weed management
- Use of ripper and sub-soiling for better root penetration
- GAP implementation and field monitoring
- Performance tracking using digital tools (GIS, drones, IoT)

NURSERY & PLANTING SYSTEM

- Centralized nurseries**: Develop central and satellite nurseries
- Tissue culture plantlets**: Use of tissue culture plantlets for clean and uniform planting material
- Quality seed cane multiplication**: 3-stage seed cane system (Pre-basic, Basic, Certified)
- Mechanized planting**: Mechanized planting to ensure timeliness and uniformity

KEY SUCCESS FACTORS

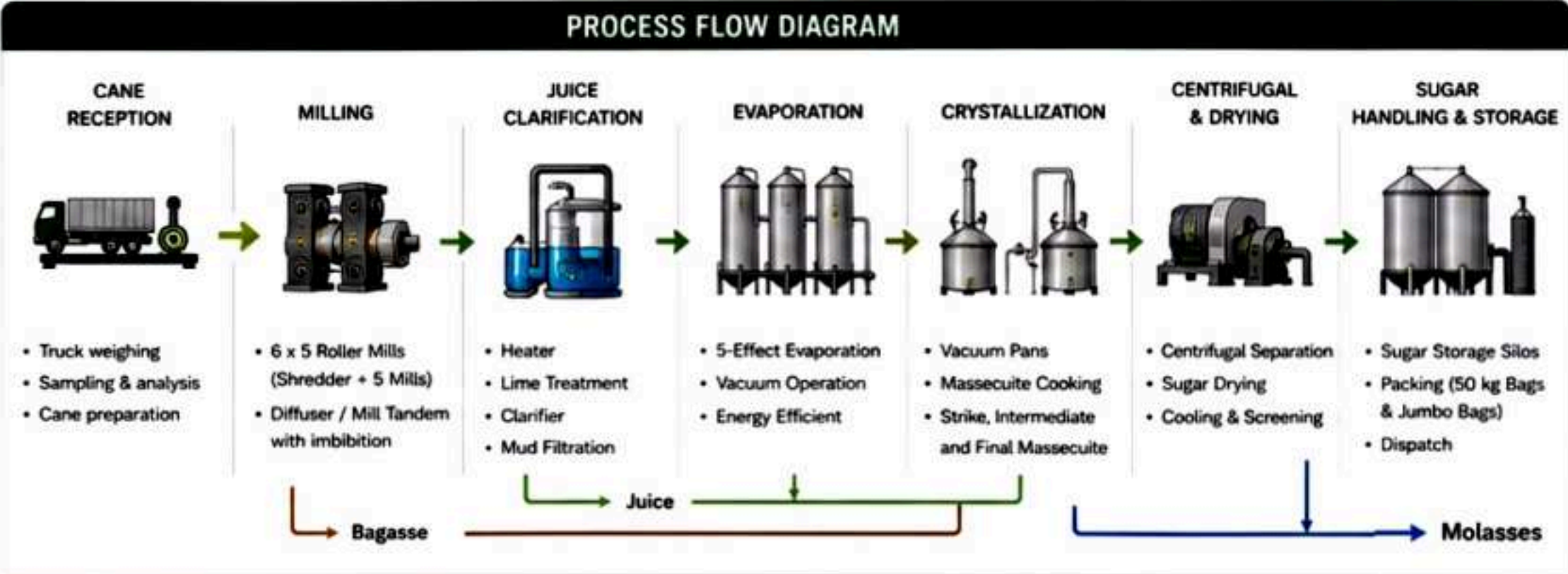
- Strong partnerships with farmers and communities**
- Discipline in execution and phased expansion**
- Focus on productivity, quality and cost efficiency**
- Sustainable practices for long-term productivity**
- Capacity building and farmer engagement**
- Data-driven decision making and continuous improvement**



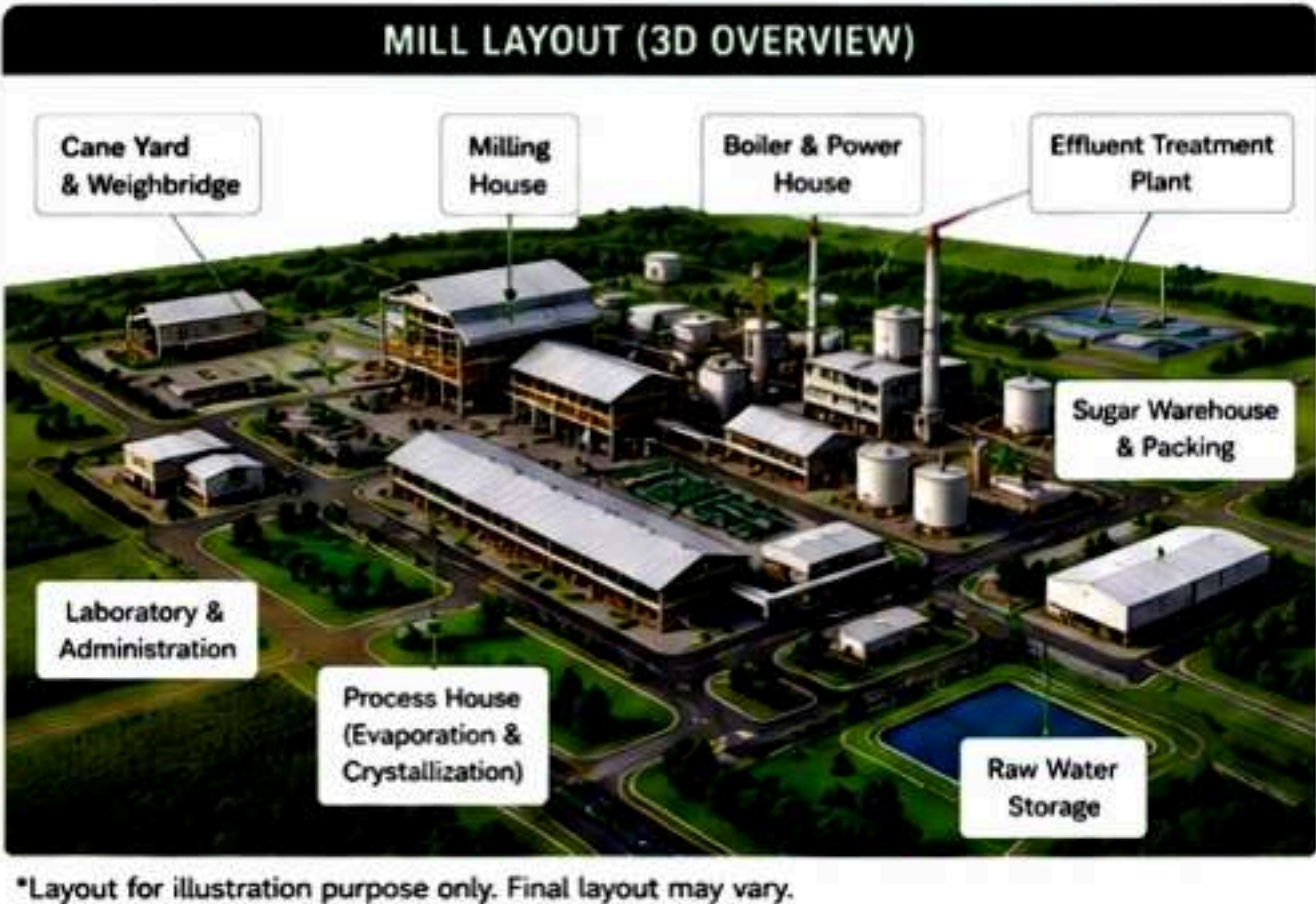
9.2 SUGAR MILL DESIGN (10,000 TCD)

The sugar mill is designed for high efficiency, reliability and sustainability to process 10,000 Tons of Cane per Day (TCD) and produce high quality sugar with optimal recovery and resource utilization.

DESIGN OVERVIEW		
	Design Capacity	10,000 TCD
	Operating Days	250 days/year
	Cane Supply Area	~12,000 Ha
	Sugar Production	~1,350 – 1,500 TPD (White Sugar)
	Sugar Recovery	≥ 12.5% Pol % Cane
	Bagasse Utilization	100% (Cogeneration)
	Mill Type	Modern, High Efficiency
	Automation	DCS Based



KEY DESIGN PARAMETERS	
Parameter	Specification
Cane Crushing Capacity	10,000 TCD
Cane Preparation	1 Shredder + 5 Roller Mills
Mill Tandem	6 Mill Tandem
Juice Extraction	~95 – 96%
Clarification	Lime + Sulphitation (Optional)
Evaporation	5-Effect
Massecurite Generation	3-Stage (A, B & C)
Centrifugals	High Performance
Sugar Moisture	≤ 0.05%
Sugar Color (ICUMSA)	≤ 150
Power Export (Net Surplus)	~18 – 25 MW
Water Consumption	~1.6 – 1.8 m³/Ton Cane



TECHNICAL SPECIFICATIONS	
Area / Equipment	Specification
Cane Knife	Cane Carrier + Cutter
Shredder	1 Unit
Roller Mills	5 Units (6 Mill Tandem)
Mill Drive	Electrical (AC Drives)
Clarifier	2 Units (High Rate)
Evaporation	5-Effect Falling Film
Vacuum Pans	3 Sets (A, B & C)
Centrifugals	6 Units
Boiler	High Pressure, High Efficiency
Turbogenerator	Back Pressure / Condensing
Control System	DCS with SCADA

UTILITIES & ENERGY BALANCE	
ENERGY BALANCE (Indicative)	
Bagasse Generated	~3,000 TCD (50% MC)
Bagasse HHV	~7.5 MJ/kg
Boiler Steam Generation	~180 TPH
Power Generation	~30 – 35 MW
Mill Power Requirement	~8 – 12 MW
Surplus Power (Export)	~18 – 25 MW
WATER BALANCE (Indicative)	
Raw Water Requirement	~16,000 – 18,000 m³/day
Process Water Consumption	~1.6 – 1.8 m³/ton cane
Effluent Generation	~9,000 – 11,000 m³/day
Recycle & Reuse	> 80%

STORAGE & LOGISTICS	
<ul style="list-style-type: none">Sugar Storage Capacity : 35,000 – 40,000 MTRaw Sugar Silo / Warehouse with FIFO SystemPacking Capacity : 1,500 – 2,000 TPDTruck Loading System with WeighbridgeEfficient Internal Road & Material Handling System	
ENVIRONMENTAL & SUSTAINABILITY	
	Effluent Treatment Plant with Zero Liquid Discharge (ZLD) approach
	Bagasse-based cogeneration for clean & renewable energy
	Ash utilization in field as soil conditioner
	Green belt development around mill area
	Compliance with national environmental regulations and best practices

DESIGN PRINCIPLES



High Efficiency
Maximize sugar recovery and energy utilization



Reliability
Robust equipment and proven technology



Sustainability
Renewable energy, resource optimization and low emissions



Automation
DCS based control for safe, stable and efficient operations



Expandability
Designed for future capacity and integration possibilities



Safety & Compliance
Adherence to international standards and best safety practices



9.3 ETHANOL PLANT

The ethanol plant will utilize sugarcane molasses and cane juice surplus to produce fuel grade ethanol for blending, industrial use and renewable energy applications.

PLANT OVERVIEW

	Feedstock	Molasses & Cane Juice
	Ethanol Capacity	60 KLPD (~21.9 Million Liter/Year)
	Operating Days	330 days/year
	Ethanol Grade	Fuel Grade ($\geq 99.5\%$ v/v) Denatured
	By-Product	DDGS, CO ₂ , Vinasse
	Plant Site	Adjacent to Sugar Mill
	Technology	Continuous Fermentation & Multi-Pressure Distillation
	Automation	DCS Based

ETHANOL PRODUCTION PROCESS FLOW DIAGRAM



KEY DESIGN PARAMETERS

Parameter	Specification
Ethanol Capacity	60 KLPD
Annual Production	~21.9 Million Liter
Feedstock	Molasses & Cane Juice
Ethanol Purity	$\geq 99.5\%$ v/v (Fuel Grade)
Denaturant	1 – 2% (v/v)
Operating Pressure	Atmospheric
Fermentation Type	Continuous
Fermentation Time	24 – 36 hours
Evaporation System	Multiple Effect
Distillation System	Multi-Pressure
Energy Source	Bagasse Steam & Power
Water Consumption	~2.5 – 3.0 L/L Ethanol

MATERIAL BALANCE (Indicative)

Item	Per 1,000 Ton Molasses
Molasses (Cane Sugar)	1,000 ton
Water Added	3,000 – 3,500 m ³
Ethanol (99.5% v/v)	60,000 liter
DDGS (Dry Basis)	280 – 320 ton
Vinasse (Raw)	9,000 – 10,000 m ³
CO ₂ (Food Grade, opt.)	45 – 50 ton

*Values are indicative and may vary based on feedstock quality and process efficiency.

UTILITY REQUIREMENTS (Indicative)

Utility	Requirement
Steam	25 – 30 TPH (from bagasse boiler)
Power	6 – 8 MW
Cooling Water	600 – 800 m ³ /hour
Process Water	2.5 – 3.0 L/L Ethanol
Boiler Feed Water	12 – 15 m ³ /hour

BY-PRODUCTS & UTILIZATION

- DDGS (Dried Distillers Grains with Solubles)
High protein animal feed ingredient.
- Vinasse
Used for bio-fertilizer after treatment and concentration.
- CO₂ (Optional Recovery)
Food grade CO₂ for beverage, industry, and dry ice.
- Biogas (from Vinasse)
Generated biogas used as boiler fuel.

STORAGE & LOGISTICS

- Ethanol Storage
2 x 3,000 KL Storage Tanks
- Denatured Ethanol
Loaded in Tanker Trucks
- Loading Capacity
60 – 80 KL/Truck
- Daily Dispatch
20 – 30 Trucks/Day

QUALITY SPECIFICATION (FUEL GRADE)

Parameter	Specification
Ethanol (v/v)	$\geq 99.5\%$
Water (v/v)	$\leq 0.5\%$
Methanol (v/v)	$\leq 0.05\%$
Acidity (as Acetic Acid)	$\leq 0.007\%$
Aldehydes (as Acetaldehyde)	$\leq 0.005\%$
Copper (mg/L)	≤ 0.1
Denaturant Content	1 – 2% v/v

ENVIRONMENTAL MANAGEMENT

- Vinasse Treatment Plant (Anaerobic + Aerobic) to meet regulatory discharge standards.
- Zero Liquid Discharge (ZLD) approach (option).
- CO₂ capture and reuse to reduce greenhouse gas emissions.
- Odor control systems for fermentation and vinasse areas.
- Compliance with national environmental regulations and best practices.

PLANT LAYOUT (BLOCK DIAGRAM)



KEY BENEFITS

- Adds value to molasses and cane juice surplus.
- Supports national biofuel blending program (E5 – E20).
- Reduces fossil fuel dependency and greenhouse emissions.
- Generates co-products for animal feed and fertilizer.
- Integrated operations with sugar mill for cost efficiency and sustainability.



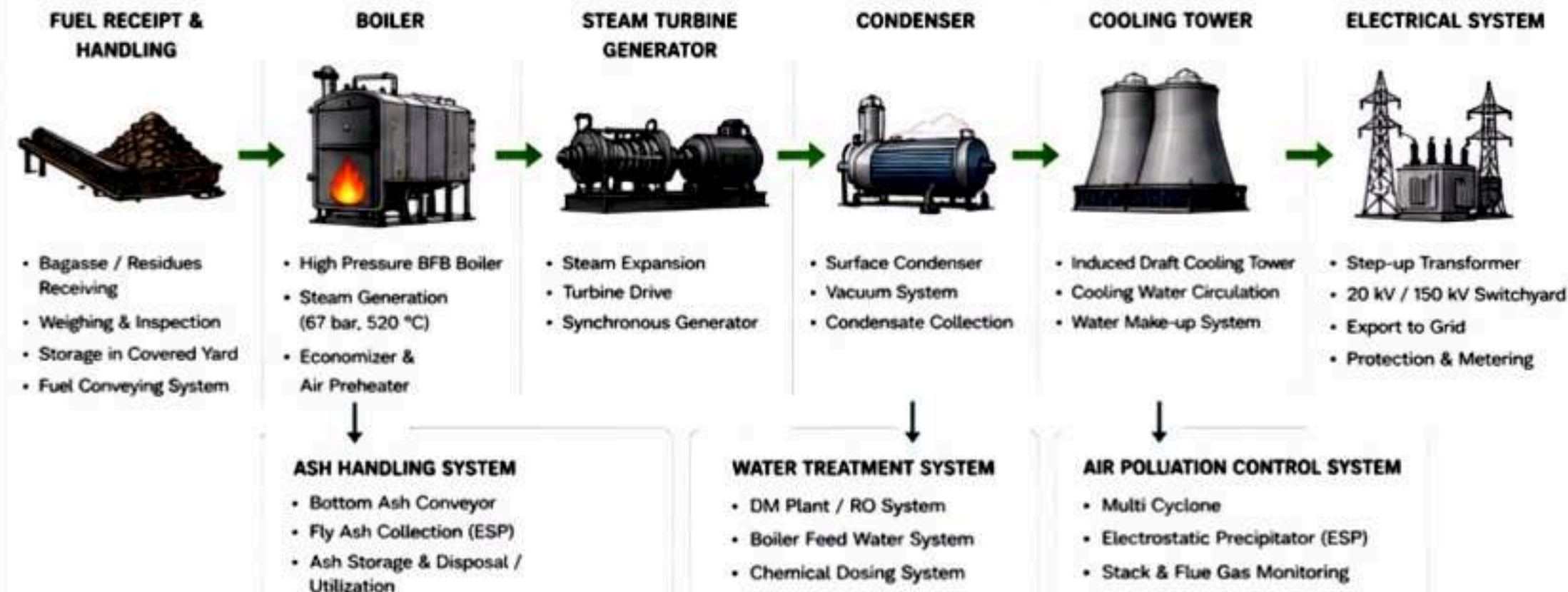
9.4 BIOMASS POWER PLANT

The biomass power plant will utilize bagasse and field residues to generate clean and renewable electricity to meet internal demand and export surplus to the grid.

PLANT OVERVIEW

⚡	Plant Capacity (Net)	30 MW
🔥	Fuel Source	Bagasse (Primary) + Field Residues (Backup)
🔧	Steam Source	High Pressure Boiler
📊	Annual Generation	~210 GWh/year
🕒	Capacity Factor	≥ 80%
🕒	Plant Availability	≥ 90%
🔌	Grid Connection	20 kV / 150 kV
🏭	Utilization	Captive Use + Export
⚙️	Technology	High Pressure BFB Boiler with Turbine Generator
🖥️	Control System	DCS Based
📍	Project Site	Adjacent to Sugar Mill & Ethanol Plant

BIOMASS POWER PLANT PROCESS FLOW DIAGRAM



KEY DESIGN PARAMETERS

Parameter	Specification
Net Power Output	30 MW
Gross Power Output	~33 MW
Steam Flow	~85 TPH
Steam Pressure / Temperature	67 bar / 520 °C
Boiler Type	Bubbling Fluidized Bed (BFB)
Fuel	Bagasse (Primary) Field Residues (Backup)
Fuel Consumption	~210,000 T/year (Bagasse) ~15,000 T/year (Residues)
Boiler Efficiency	≥ 88%
Turbine Efficiency	≥ 90%
Generator Efficiency	≥ 98%
Overall Plant Efficiency (Net)	~24 - 26%
Ash Generation	~2.5 - 3% of Fuel
Water Consumption	~2.5 - 3.0 m³ / MWh
Ash Disposal	Ash for Compost / Soil Conditioner / Landfill

FUEL BALANCE (INDICATIVE)

Item	Unit	Quantity
Bagasse Available (from 10,000 TCD Mill)	T/day	~2,400
Bagasse to Power Plant	T/day	~2,000
Field Residues (Backup)	T/day	~150
Total Fuel Input	T/day	~2,150
Lower Heating Value (LHV)	kcal/kg	2,000 - 2,200
Net calorific input	Gcal/day	~4,300

Note: Surplus bagasse retained for mill process.

POWER GENERATION (INDICATIVE)

Item	Unit	Quantity
Net Power Output	MW	30
Annual Generation	GWh/year	~210
Internal Consumption	GWh/year	~60
Export to Grid	GWh/year	~150
Capacity Factor	%	≥ 80
Plant Availability	%	≥ 90

UTILITY REQUIREMENTS

Utility	Requirement
Boiler Feed Water	~85 m³/hour
Cooling Water (Circulation)	~2,800 m³/hour
Make-up Water	~60 m³/hour
Compressed Air	~1,200 Nm³/hour
Power for Auxiliaries	~2.5 - 3 MW

ASH UTILIZATION

Ash Type	Quantity	Utilization
Bottom Ash	~1.5 - 2% of fuel	Soil conditioner / Construction material
Fly Ash	~0.5 - 1% of fuel	Compost / Brick / Landfill

Note: Ash utilization subject to quality compliance and local regulation.

STORAGE & LOGISTICS

🏠	Covered biomass storage yard with fire protection
🏗️	Stacker & reclaimer system
🚚	Conveyor system to boiler with metal detector
🚛	Truck access with weighbridge and sampling
🛣️	Road network for smooth logistics

ENVIRONMENTAL MANAGEMENT

- 🌱 High efficiency combustion for low emissions
- 🔍 ESP to control particulate emissions (< 50 mg/Nm³)
- 📊 Continuous Emission Monitoring System (CEMS)
- ♻️ Ash utilization to reduce landfill disposal
- 🌳 Noise control and greenbelt around plant
- 📋 Compliance with national environmental regulations

PLANT LAYOUT (3D ILLUSTRATION)



KEY BENEFITS

- 🌱 Utilizes bagasse and residues for renewable energy
- 🌳 Reduces fossil fuel consumption and carbon emissions
- ⚡ Generates reliable power for captive use and export
- 📊 Improves overall project sustainability and profitability
- 🌍 Supports clean energy transition and national targets



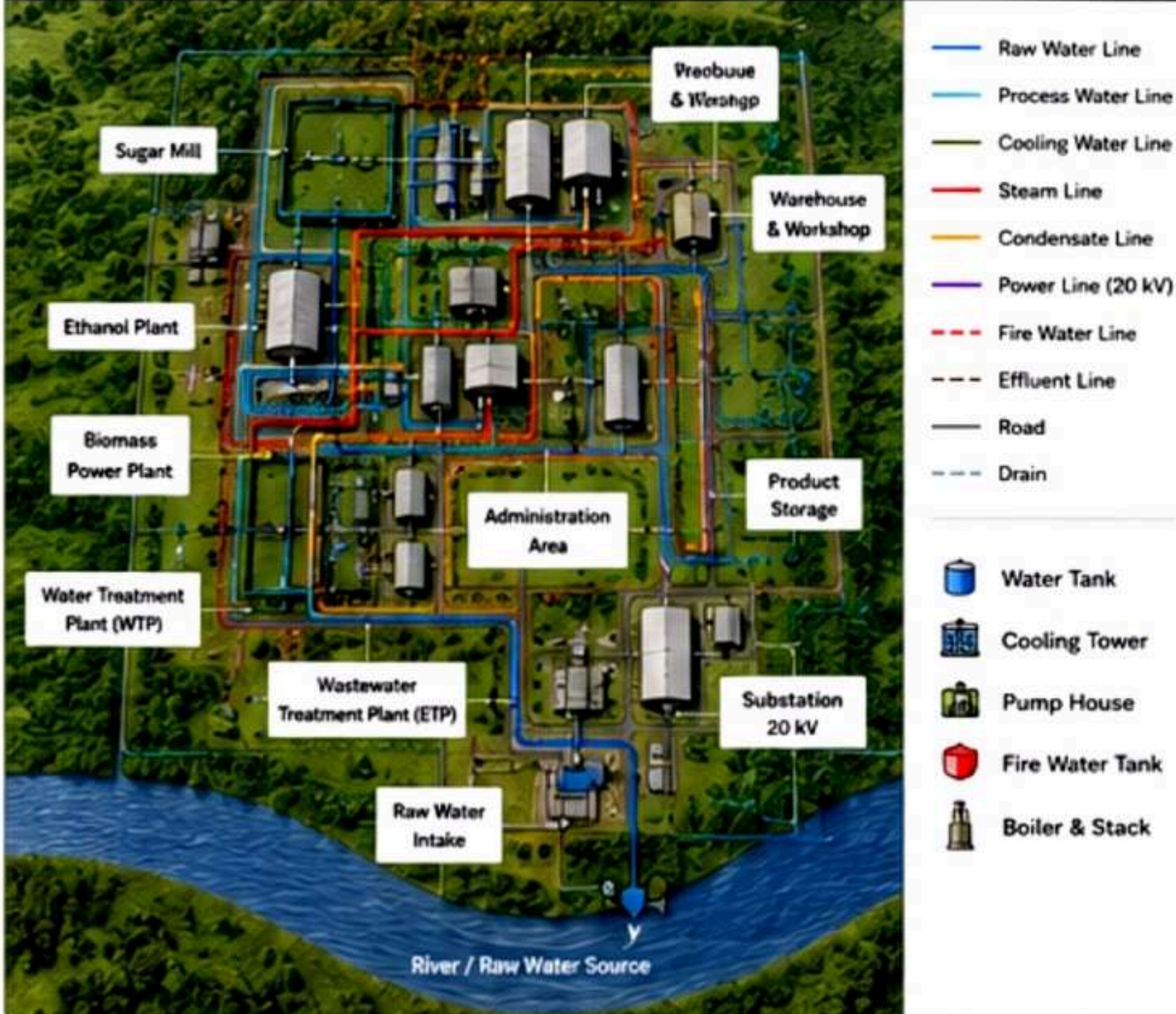
10. UTILITIES & INFRASTRUCTURE

Reliable utilities and robust infrastructure are designed to ensure efficient operations, safety, sustainability and future expansion of the integrated complex.

UTILITIES OVERVIEW

Utility	Purpose	Source / System	Key Specification	Reliability Strategy
Steam & Power	Process steam, power generation	Biomass Power Plant (Bagasse & Field Residues)	30 MW Power 85 TPH Steam	Dual boiler, N+1 critical equipment
Process Water	Process, cooling, boiler makeup	Raw Water Intake + Water Treatment Plant	16,000 - 18,000 m³/day (< 500 ppm TDS)	Redundant pumps, balanced storage
Cooling Water	Condenser & process cooling	Cooling Tower System (Closed Loop)	12,000 - 14,000 m³/hr @ 32 °C range	Dual cell towers, standby fans & pumps
Electricity	Plant operations, lighting, auxiliaries	Biomass Power Plant + Substation	20 kV Distribution 50 Hz, 3 Phase	Redundant feeders, automatic changeover
Compressed Air	Instrumentation, actuators, cleaning	Air Compressor System (Screw Type)	1,200 Nm³/hr 7-8 bar (g)	Duty/Standby configuration
Fuel & Lubricants	HFO (Start-up), diesel & lubricants	Storage Tanks & Distribution System	HFO: 200 m³ Diesel: 100 m³/day	Bunded tanks, leak detection
Fire Protection	Fire detection & suppression	Fire Water Tank + Pump House	2 x 1,000 m³ Tank NFPA Standard	Jockey + Electric + Diesel fire pumps
Wastewater	Domestic & industrial effluent	ETP (ZLD Approach for Process Effluent)	9,000 - 11,000 m³/day ZLD goal	Reuse > 80%, safe discharge

SITE UTILITIES MASTER PLAN

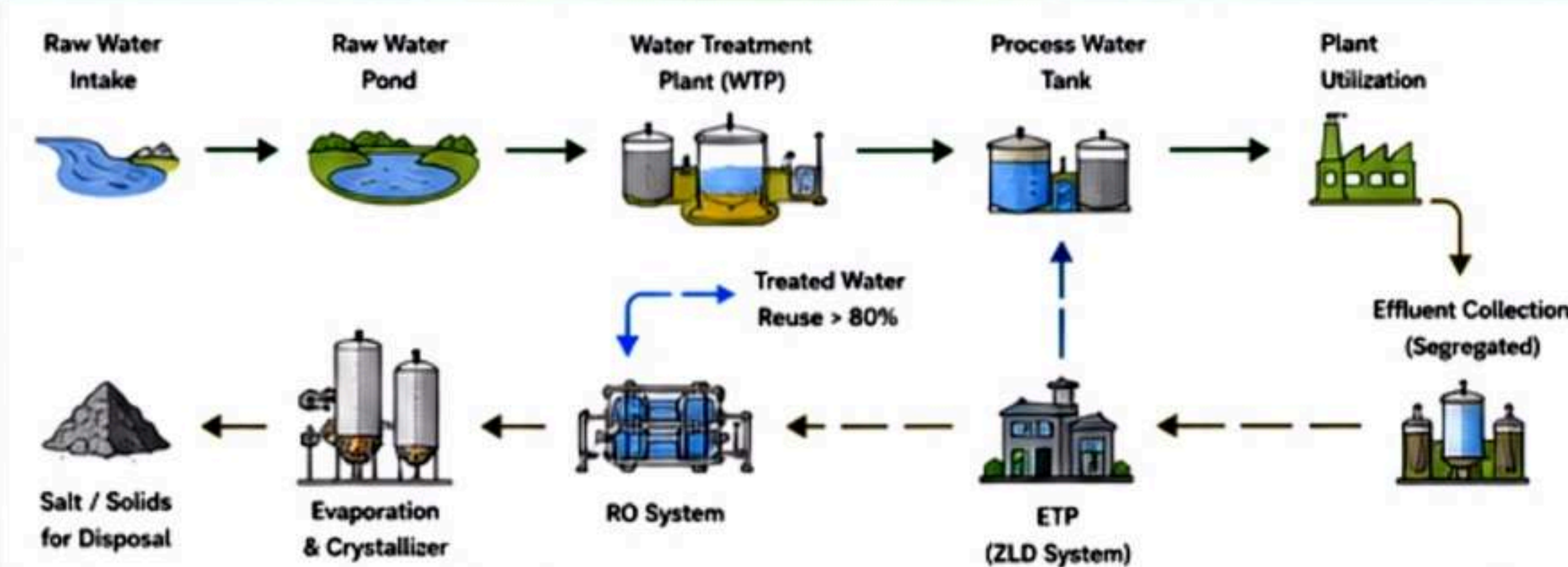


POWER & STEAM BALANCE (INDICATIVE)

POWER BALANCE		STEAM BALANCE	
Power Generation (Biomass)	30 MW	Steam Generation (BFB Boiler)	85 TPH
Internal Consumption	-6 MW	Process Steam Demand	-60 TPH
Net Power Available	24 MW	Turbine Steam Demand	-15 TPH
Export / Captive Use	-18-22 MW	Auxiliary / Losses	-10 TPH
Plant Load Factor	≥ 85%	Net Availability	≥ 90%

Note: Based on 10,000 TCD sugar mill, ethanol plant (60 KLDP) and biomass power plant (30 MW).

WATER SYSTEM & ZLD FLOW DIAGRAM



INFRASTRUCTURE FACILITIES

Road Network	Internal concrete & asphalt roads for all-weather access and heavy vehicle movement.
Site Drainage	Stormwater drainage system with retention pond and oil-water separators.
Buildings	Process buildings, warehouses, workshops, laboratories, administration and amenities.
Substation	20/150 kV step-up substation for power evacuation and export.
Telecom & IT	Fiber optic network, PA system, CCTV and data communication.
Boundary & Security	Perimeter fencing, security gate, lighting and CCTV surveillance.
Housing & Amenities	Staff housing, canteen, clinic, prayer room, sports facilities and parking.

UTILITY STORAGE & MAJOR EQUIPMENT

Utility / System	Storage / Capacity	Major Equipment
Raw Water	Raw Water Pond 50,000 m³	Intake Pump, Screening, Raw Water Pump
Process Water	Process Water Tank 2 x 2,500 m³	Clarifier, Filters, DM Plant, Transfer Pumps
Cooling Water	Cooling Tower 2 Cell (FRP)	Cooling Tower Fan, Basin, CW Pumps
Fire Water	Fire Water Tank 2 x 1,000 m³	Fire Pump (1x Jockey, 2x Electric, 1x Diesel)
Fuel (HFO/Diesel)	HFO Tank 200 m³ Diesel Tank 100 m³	Day Tank, Transfer Pump, Burner System
Compressed Air	Air Receiver 60 m³	Screw Compressors, Dryer, Filters
Boiler Feed Water	Deaerator & BFW Tank 2 x 150 m³	Deaerator, BFW Pumps, Chemical Dosing

INFRASTRUCTURE HIGHLIGHTS

- Integrated utility systems for high efficiency and low operating cost.
- High reliability design with N+1 critical equipment for all essential utilities.
- ZLD approach for sustainable water management and minimal discharge.
- Biomass-based power for energy self-sufficiency and export surplus.
- Future-ready infrastructure for capacity expansion and diversification.
- Designed in compliance with Indonesian regulations and international standards.

UTILITY RELIABILITY & SUSTAINABILITY INITIATIVES

ENERGY EFFICIENCY <ul style="list-style-type: none">High efficiency boilers & turbineVFD for pumps & fansHeat recovery & condensate return systemContinuous monitoring of energy performance	WATER CONSERVATION <ul style="list-style-type: none">ZLD and water reuse > 80%Rainwater harvestingLow flow fixturesOnline water balance monitoring	ENVIRONMENTAL PROTECTION <ul style="list-style-type: none">Low emission boilerBagasse & residues utilizationETP with advanced treatmentGreenbelt developmentNoise & air quality control	DIGITAL & SMART OPERATIONS <ul style="list-style-type: none">DCS & real-time monitoringPredictive maintenanceIoT based utility monitoringData-driven decision making	SAFETY & RELIABILITY <ul style="list-style-type: none">HAZOP & SIL complianceFire & gas detection systemEmergency response planRegular drills & training
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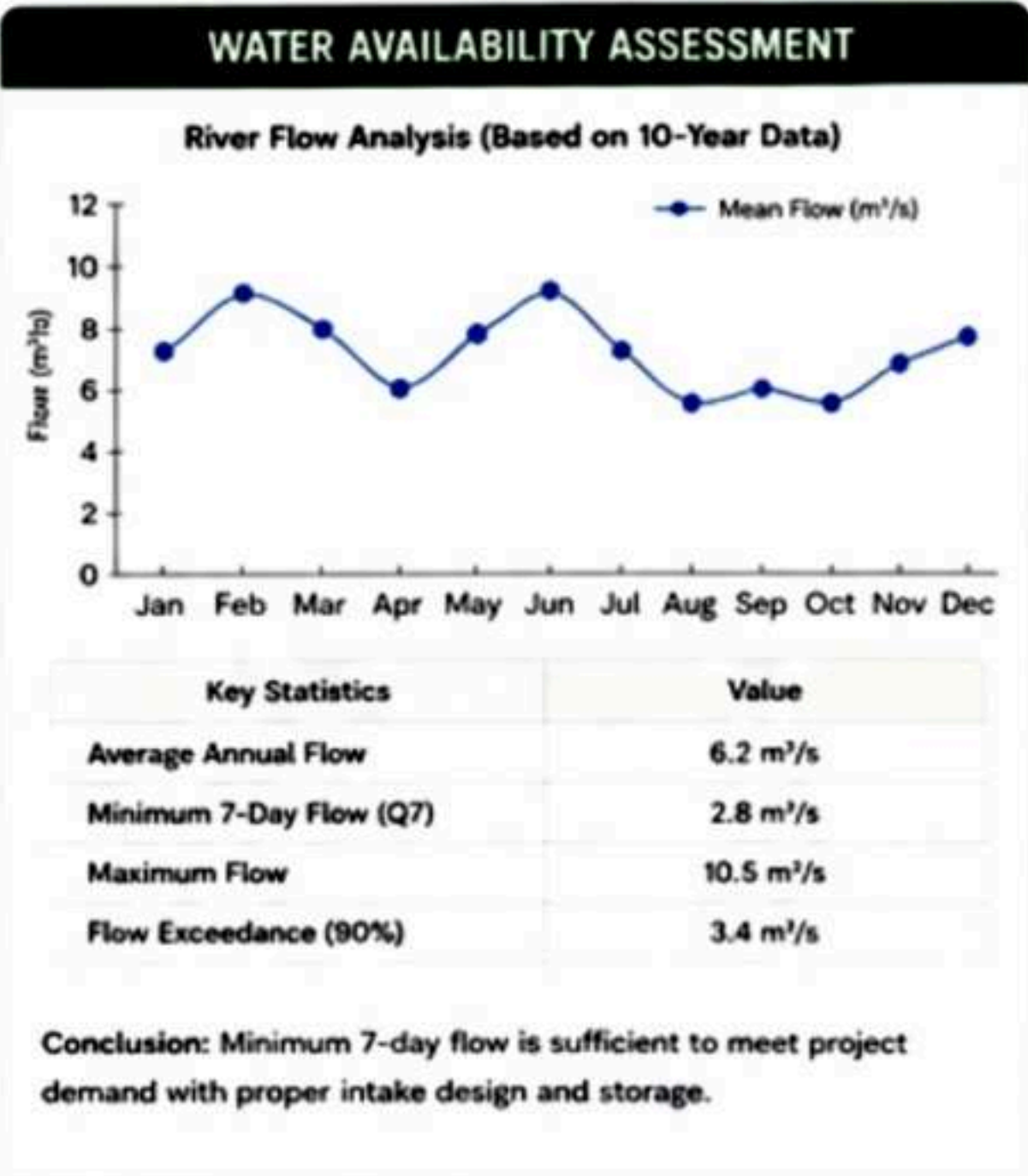


11. WATER SUPPLY ASSESSMENT

The water supply assessment ensures adequacy, reliability and quality of water sources to support all project operations sustainably.

WATER SOURCES OVERVIEW				
Source Option	Description	Status	Reliability	Suitability
Surface Water (River Intake)	Raw water from nearby river	Available	High (Seasonal)	Primary Source
Groundwater (Deep Well)	Deep bore well extraction	Available	High	Backup Source
Rainwater Harvesting	Roof & stormwater collection	Available	Moderate	Supplementary Use

SOURCE SELECTION SUMMARY	
	Primary source : Surface water (river intake)
	Backup source : Groundwater (deep well)
	Supplementary : Rainwater harvesting & reuse
	Source combination ensures year-round reliability and operational flexibility.



WATER QUALITY ASSESSMENT (River Water)				
Parameter	Unit	Result	Standard *	Compliance
pH	-	6.8	6.0 – 9.0	
TSS	mg/L	28	≤ 50	
Turbidity	NTU	15	≤ 25	
BOD	mg/L	3.2	≤ 6	
COD	mg/L	12	≤ 25	
Oil & Grease	mg/L	< 1	≤ 5	
Total Coliform	MPN/100mL	240	≤ 1000	
Hardness (as CaCO ₃)	mg/L	48	≤ 500	
Chloride	mg/L	12	≤ 250	
Sulfate	mg/L	12	≤ 250	

* Standards: Permenkes No. 2/2023 & Industrial Water Standards

River water quality is suitable for treatment and industrial use.

WATER DEMAND ASSESSMENT				
Total Water Demand (Average)			Peak Factor	
User / Area	m³/day	% of Total	Avg. Daily Demand	27,300 m³/day
Sugar Mill (10,000 TCD)	16,000	53%	Peak Factor	1.25
Ethanol Plant (60 KLPD)	2,800	9%	Peak Hourly Demand	1,420 m³/hour
Biomass Power Plant (30 MW)	2,500	8%	Design Basis	
Utilities & Cooling	4,000	13%	Design Horizon	25 years
Domestic & Other	2,000	7%	Plant Operating Days	330 days/year
TOTAL	27,300	100%	Water Recovery & Reuse Target	> 80%

WATER SUPPLY BALANCE			
Description	Average (m³/day)	Dry Season (m³/day)	Remarks
Available Water (Q7 Flow)	241,920	96,480	After 30% environmental flow
Planned Abstraction	27,300	27,300	From surface water intake
Water Deficit / (Surplus)	214,620	69,180	Sufficient
Storage Provided	150,000 m³	150,000 m³	Raw water pond capacity
Supply Reliability	> 99%	> 98%	Meets requirement

WATER INTAKE & RAW WATER SYSTEM

Design Criteria

- Intake Type : River bank intake with coarse & fine screening
- Design Capacity : 1,500 m³/hour
- Pipeline Material : HDPE / Ductile Iron
- Storage Pond Capacity : 150,000 m³ (usable)
- Pond Residence Time : 4 – 6 days
- Emergency Overflow : To river with energy dissipation

WATER TREATMENT PLANT (WTP)

Treatment Process

- Coagulation – Flocculation – Sedimentation
- Dual Media Filtration (Sand + Anthracite)
- Disinfection with Chlorine
- Treated Water Quality Target: TSS < 5 mg/L, Turbidity < 2 NTU, Total Coliform < 10 MPN/100 mL

WATER DISTRIBUTION SYSTEM

Design Criteria

- Distribution System : Closed loop network
- Materials : DI / Steel / HDPE (buried)
- Pressure Design : 4 – 6 bar
- Fire Flow Provision : As per NFPA 20
- Leakage Allowance : 10% of total demand

WATER REUSE & RECYCLE STRATEGY

- Target reuse & recycle : > 80%
- Reuse for cooling, boiler feed make-up, washing & gardening
- ZLD system to minimize discharge and environmental impact

SOURCE PROTECTION & ENVIRONMENTAL CONSIDERATIONS

- Maintain minimum environmental flow of 30% of Q7 in the river
- Intake located to avoid sedimentation and upstream pollution sources
- Regular water quality monitoring (physical, chemical, microbiological)
- Watershed protection and reforestation program in upstream area

RISK ASSESSMENT & MITIGATION

- Seasonal Low Flow** -> Provide raw water storage pond and groundwater backup
- Extreme Events (Flood/Drought)** -> Intake elevation & pond design to withstand extreme conditions
- Water Quality Deterioration** -> Source monitoring & treatment optimization
- Operational Risk** -> Redundant pumps, power backup and preventive maintenance

KEY SUMMARY

- Sufficient water availability from surface water with high reliability.
- Integrated raw water storage ensures stable supply during dry season.
- Advanced treatment & high reuse reduces freshwater consumption.
- Sustainable water management supports environmental compliance and long-term project viability.

WATER SUPPLY SUMMARY TABLE			
Item	Value	Unit	Remarks
Average Water Demand	27,300	m³/day	All facilities
Peak Hourly Demand	1,420	m³/hour	Peak factor 1.25
Source	Surface Water	-	Primary
Minimum 7-Day Flow (Q7)	2.8	m³/s	10-year data
Planned Abstraction	27,300	m³/day	< 12% of Q7
Storage Capacity	150,000	m³	Raw water pond
Reuse & Recycle Target	> 80%	-	ZLD based system
Supply Reliability	> 98%	-	Meets requirement

NEXT STEPS

- Detailed hydrology study & continuous flow monitoring
- Finalize intake location & detailed engineering design
- Pilot water treatment trials & process optimization
- Implement reservoir, treatment plant & distribution system
- Establish water quality monitoring & reporting system



12. ENVIRONMENTAL & SOCIAL IMPACT

The Environmental and Social Impact Assessment (ESIA) identifies potential impacts and defines mitigation measures to ensure compliance with Indonesian regulations and international standards, and to promote sustainable development and community well-being.

ESIA OVERVIEW		POTENTIAL ENVIRONMENTAL IMPACTS & IMITIGATION			POTENTIAL SOCIAL IMPACTS & MITIGATION		
	Approach	Aspect / Activity	Potential Impact	Mitigation Measures	Social Aspect	Potential Impact	Mitigation Measures
	Screening, Scoping, Baseline Study, Impact Assessment, Mitigation, Monitoring	Land Clearing & Plantation Development	Loss of vegetation, habitat disturbance, soil erosion, carbon emissions	Avoid HCV areas, phased clearing, reforestation, buffer zones, Erosion control, soil conservation	Land Acquisition & Resettlement	Displacement, loss of land & assets, livelihood impact	Avoidance where possible, FPIC, fair compensation, resettlement action plan
	Regulatory Framework	Air Emissions (Boiler, Mill, Transportation)	Air pollution (PM, NOx, SO2, CO2), odor, GHG emissions	High efficiency equipment, emission control devices (ESP), regular maintenance, green belt	Livelihood & Economic Impact	Changes in livelihood, economic inequality	Local employment, skills training, support for local businesses, inclusive development
	Indonesian Law No. 32/2009 (Env. Protection) PP No. 22/2021 (ESIA) OJK Sustainable Finance Regulation IFC Performance Standards Equator Principles	Water Use & Effluent Discharge	High water consumption, effluent discharge, impact on water quality	ZLD approach, ETP, reuse & recycle, continuous monitoring, compliant discharge, water conservation	Labor & Working Conditions	Worker health & safety risks, labor grievances	Comply wielh & safety, OHS management system, training, grievance mechanism
	Study Components	Waste Generation	Solid waste, ash, filter cake, oil & chemical waste	Reduce, reuse, recycle, proper segregation, safe storage and disposal, beneficial reuse (ash to field)	Community Health & Safety	Health risks from dust, noise, traffic, chemicals	HSE plan, community health programs, emergency preparedness
	Physical Environment Biological Environment Social & Economic Health & Safety	Noise & Vibration	Noise from equipment and traffic	Low-noise equipment, silencers, maintenance, noise barriers, regular monitoring	Cultural Heritage	Impact on cultural sites and values	Cultural heritage screening, protection measures, chance find procedure
	Study Area	Traffic & Transportation	Dust, noise, road safety risk, traffic congestion	Transport plan, speed control, covered trucks, road maintenance, driver training	Security & Social Conflict	Community unrest, security issues	Community engagement, local recruitment, conflict prevention plan
	Plant site, plantation area, water intake, access roads, and supporting infrastructure.	Energy Use & GHG Emissions	Greenhouse gas emissions from energy generation	Biomass-based energy, energy efficiency, renewable energy mix, GHG monitoring & reduction plan			

BASELINE ENVIRONMENTAL CONDITIONS (Summary)			BIODIVERSITY ASSESSMENT		ENVIRONMENTAL MANAGEMENT PLAN (EMP)	
Component	Parameter	Baseline Status	<ul style="list-style-type: none">Habitat types: Secondary forest, riparian area, agriculture land, grassland.No Critical Habitat within project footprint.Presence of common wildlife species; no IUCN Red List critical species recorded.Conservation plan:<ul style="list-style-type: none">Maintain riparian buffer (≥ 50 m).Protect natural forest patches.Rehabilitation of degraded areas.No-hunting and wildlife protection program.		Key Components	Measures
Air Quality	PM10, SO2, NO2, CO, O3	Within national standard			Air Quality Management	Emission control, monitoring, greenbelt, dust control
Water Quality (Surface)	pH, BOD, COD, TSS, Turbidity	Within Class II standard			Water Management	ZLD, water conservation, monitoring, spill prevention
Water Quality (Groundwater)	pH, TDS, Hardness, NO3-	Within drinking water standard			Waste Management	Waste minimization, recycling, safe disposal
Noise Level (dBA)	Day 45 - 55 / Night 40 - 50	Within standard			Soil & Land Management	Erosion control, soil conservation, land rehabilitation
Soil Quality	pH, Organic matter, N, P, K	Good - Moderate			Biodiversity Management	Habitat protection, reforestation, biodiversity monitoring
Ambient Ecology	Flora, Fauna, Habitat	Secondary forest, agricultural area			Noise & Vibration Management	Noise control, maintenance, monitoring
Socio-Economic	Livelihood, income, education, health, infrastructure	Agriculture-based communities			Emergency Preparedness	Emergency response plan, drills, training, equipment
					Monitoring & Reporting	Regular monitoring, compliance reporting, audit

We engage with stakeholders through inclusive, transparent and ongoing dialogue.

Stakeholder Identification

(communities, government, workers, NGOs, suppliers, customers)

Engagement Methods

(meetings, consultations, surveys, information disclosure)

Grievance Mechanism

Accessible, transparent and timely resolution

Communication & Disclosure

Public information and progress reporting

HEALTH, SAFETY & ENVIRONMENT (HSE) MANAGEMENT

PEOPLE

Safety & Health

PLANET

Environmental Protection

PROFIT

Sustainable Operations

SUSTAINABILITY

HSE Management System aligned with ISO 45001 and ISO 14001

Hazard Identification and Risk Assessment (HIRA)

Standard Operating Procedures (SOPs) and Safe Work Practices

Personal Protective Equipment (PPE) and training

Incident reporting, investigation and corrective action

Contractor HSE management

Regular audits and performance monitoring

MONITORING & PERFORMANCE INDICATORS

Aspect	Key Indicators	Frequency
Air Quality	PM ₁₀ , SO ₂ , NO ₂ , Opacity	Monthly
Water Quality	pH, BOD, COD, TSS	Monthly
Effluent	Flow, COD, TSS, TDS	Daily
Noise Level	Leq (dBA)	Monthly
Waste	Quantity, Type, Disposal	Monthly
Biodiversity	Flora & fauna monitoring	6 Monthly
Social	Grievances, Employment	Monthly
Compliance	Regulation compliance	Monthly

COMPLIANCE & PERMITTING	CLIMATE CHANGE & RESILIENCE	CUMULATIVE IMPACT CONSIDERATION	ESIA SUMMARY
<ul style="list-style-type: none">Environmental Permit (Persetujuan Lingkungan)Water Use Permit (SIPA)Effluent Discharge Permit (SPPL/SPDES)Air Emission Permit (UKL-UPL/SPPL)Waste Management Permit (B3 & Non-B3)Plantation & Land Use PermitsOther sectoral permits as applicable <p>Full compliance with applicable national and local regulations.</p>	<ul style="list-style-type: none">GHG emissions baseline and reduction planUse of biomass for renewable energyEnergy efficiency improvementClimate risk assesament (flood, drought, fire)Adaptation measures in infrastructure and operations	<p>Cumulative impacts from the project and other existing/planned activities in the area are considered and managed through:</p> <ul style="list-style-type: none">Integrated water managementLand use planningStakeholder coordinationEnvironmental monitoring	<ul style="list-style-type: none">Potential impacts are manageable with mitigation measures.No significant residual impact expected.Project is environmentally and socially feasible and sustainable.Commitment to responsible operations and continuous improvement.

OUR COMMITMENT				
<p>Protect the Environment</p> <p>Minimize impacts and conserve natural resources.</p>	<p>Respect People</p> <p>Uphold human rights and support community well-being.</p>	<p>Ensure Safety</p> <p>Provide safe and healthy workplace for all.</p>	<p>Operate Responsibly</p> <p>Comply with laws and apply best industry practices.</p>	<p>Create Shared Value</p> <p>Contribute to local development and long-term sustainability.</p>



13. ESG FRAMEWORK

Our ESG Framework guides how we create long-term value for stakeholders by managing environmental and social impacts responsibly and upholding strong governance and business ethics.



ESG VISION

To be a responsible and sustainable agribusiness company that creates value for people, planet and prosperity.

ENVIRONMENTAL

Protect the environment and use natural resources responsibly



Climate Change & Energy

Reduce GHG emissions and improve energy efficiency across operations.



Water Stewardship

Conserve water, treat and reuse, and protect water quality.



Resource Efficiency & Waste

Minimize waste, maximize by-product utilization and promote circular economy.



Biodiversity & Land Use

Protect biodiversity, prevent deforestation and restore degraded areas.



Pollution Prevention

Prevent pollution to air, water and soil and comply with applicable standards.

SOCIAL

Respect people and contribute to community well-being



Occupational Health & Safety

Protect the health and safety of our employees, contractors and visitors.



People & Labor Practices

Uphold human rights, fair employment and diversity & inclusion.



Community Engagement & Development

Engage with communities and support education, health, livelihood and infrastructure.



Product Responsibility

Ensure product quality, safety and responsible marketing.



Supply Chain Responsibility

Work with suppliers to uphold ESG standards and ethical practices.

GOVERNANCE

Uphold integrity, transparency and accountable governance



Corporate Governance

Maintain effective governance structure, oversight and risk management.



Business Ethics & Integrity

Operate with integrity, zero tolerance for bribery, corruption and fraud.



Compliance & Risk Management

Comply with laws and regulations and manage ESG-related risks.



Stakeholder Engagement

Engage stakeholders through open, transparent and regular communication.



Data Security & Transparency

Ensure data protection and disclose ESG performance transparently.

ESG PRIORITY TOPICS

- Climate change mitigation & adaptation
- Renewable energy & energy efficiency
- Water stewardship & effluent management
- Sustainable land use & biodiversity
- Waste valorization & circular economy
- Occupational health & safety
- Human rights & fair labor practices
- Community development & inclusivity
- Ethics, compliance & anti-corruption
- Responsible supply chain management

ESG GOALS & TARGETS

Pillar	Goal	Target	Baseline (2026)	2030 Target	2040 Target
Environmental	GHG Emissions (Scope 1 & 2)	Reduce intensity (tCO ₂ e/t sugar)	0.43	-20%	-50%
	Renewable Energy Share	% of total energy from renewable	45%	≥ 75%	100%
	Water Reuse	% of process water reused	60%	≥ 85%	≥ 95%
	Waste to Resource	% of waste recovered / utilized	70%	≥ 90%	≥ 95%
	Zero Deforestation	No net deforestation	-	Zero	Zero
Social	LTIFR (Lost Time Injury Frequency Rate)	Per 1 million man-hours	1.2	≤ 0.7	≤ 0.3
	Local Employment	% of employees from local area	58%	≥ 70%	≥ 80%
	Training & Development	Average training hours / employee / year	24	≥ 40	≥ 60
	Community Investment	% of PAT	0.8%	≥ 1.5%	≥ 2.0%
Governance	Board Independence	% independent commissioners	33%	≥ 50%	≥ 50%
	Anti-Corruption Training	% of employees trained	70%	100%	100%
	ESG Disclosure	Aligned with GRI Standards	Basic	Comprehensive	Comprehensive

UN SDGs ALIGNMENT



ESG STRATEGIES & ACTIONS

ENVIRONMENTAL

- Expand biomass & biogas utilization for renewable energy.
- Implement ZLD (Zero Liquid Discharge).
- Optimize water & energy efficiency.
- Rehabilitate riparian buffers & conservation areas.
- Implement Integrated Pest Management (IPM) and sustainable agriculture.



SOCIAL

- Promote a safe, healthy and inclusive workplace.
- Respect human rights and prohibit child/forced labor.
- Invest in education, health, infrastructure and livelihood programs.
- Strengthen grievance mechanism and community dialogue.
- Prioritize local procurement and develop local suppliers.



GOVERNANCE

- Strengthen Board oversight of ESG.
- Integrate ESG into risk management and business strategy.
- Uphold zero tolerance for corruption and unethical practices.
- Ensure data integrity, cybersecurity and privacy.
- Enhance transparency and stakeholder engagement.



STAKEHOLDER ENGAGEMENT



ESG GOVERNANCE

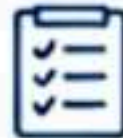
Body / Role	Key Responsibilities
Board of Commissioners	Oversee ESG strategy, performance and disclosure
ESG Steering Committee	Set ESG targets, policies and monitor progress
Management Team	Integrate ESG into business operations
ESG Working Groups	Implement programs, track KPIs and report
Internal Audit	Provide independent assurance and improvement
All Employees & Partners	Embed ESG culture in daily activities

ESG IMPLEMENTATION ROADMAP

2026 Foundation	2027-2028 Integration	2029-2030 Acceleration	2031+ Leadership
<ul style="list-style-type: none">Establish governance & policiesBaseline assessmentSet targets & KPIEarly quick wins	<ul style="list-style-type: none">Integrate ESG into operationsExpand programsStrengthen data & reporting	<ul style="list-style-type: none">Scale initiativesAchieve 2030 targetsExternal assuranceValue chain engagement	<ul style="list-style-type: none">Achieve net zero ambitionInnovation & circular businessIndustry leadership

REPORTING & DISCLOSURE

- Annual Sustainability Report aligned with GRI Standards and SASB.
- ESG data verified by independent third party.
- Transparent disclosure to stakeholders and public.
- Continuous improvement and feedback integration.



KEY ESG COMMITMENTS



We protect our planet



We respect people & rights



We operate with integrity



We create long-term shared value











We build a better future together

14. IMPLEMENTATION SCHEDULE

The project will be implemented in a phased and integrated manner to ensure timely delivery, cost efficiency and operational readiness.

SCHEDULE KEY



PHASE / ACTIVITY		YEAR 1				YEAR 2				YEAR 3				YEAR 4				DURATION	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
	1. PRE-DEVELOPMENT & PLANNING <ul style="list-style-type: none">Feasibility Study & ApprovalsDetailed Project Planning	<div><div></div></div>																6 months	
		<div><div></div></div>																	
	2. LAND & INFRASTRUCTURE PREPARATION <ul style="list-style-type: none">Land Acquisition & ClearingSite Establishment & Access Roads	<div><div></div></div>																9 months	
						<div><div></div></div>													
	3. ENGINEERING & DESIGN <ul style="list-style-type: none">FEED & Detailed EngineeringPermitting & Statutory Approvals	<div><div></div></div>																12 months	
						<div><div></div></div>													
	4. PROCUREMENT <ul style="list-style-type: none">Long Lead ItemsEquipment & Material Procurement					<div><div></div></div>												12-15 months	
						<div><div></div></div>				<div><div></div></div>									
	5. CONSTRUCTION & INSTALLATION <ul style="list-style-type: none">Civil Works & FoundationsPlant Construction & Equipment InstallationUtilities & Infrastructure					<div><div></div></div>				<div><div></div></div>				<div><div></div></div>				20-24 months	
										<div><div></div></div>				<div><div></div></div>					
	6. PRE-COMMISSIONING <ul style="list-style-type: none">Mechanical CompletionPre-Commissioning & Testing													<div><div></div></div>				6 months	
														<div><div></div></div>					
	7. COMMISSIONING & START-UP <ul style="list-style-type: none">Commissioning & Performance TestingRamp-up to Full Operation													<div><div></div></div>				6 months	
														<div><div></div></div>					
	8. PROJECT COMPLETION <ul style="list-style-type: none">Handover & Stabilization																	—	
KEY MILESTONES		<div><div></div>Project Approval (End Q3, Y1)</div>				<div><div></div>FEED Completion (End Q2, Y2)</div>				<div><div></div>Mechanical Completion (End Q1, Y4)</div>				<div><div></div>Start of Operations (End Q3, Y4)</div>				<div><div></div>Project Completion (End Q4, Y4)</div>	

IMPLEMENTATION STRATEGY

- ✔ Phase-wise execution to optimize resources and cash flow.
- ✔ Early procurement of long lead equipment to reduce delays.
- ✔ Integrated project management with robust governance.
- ✔ Strong contractor and supplier management.
- ✔ Focus on safety, quality and environmental compliance.

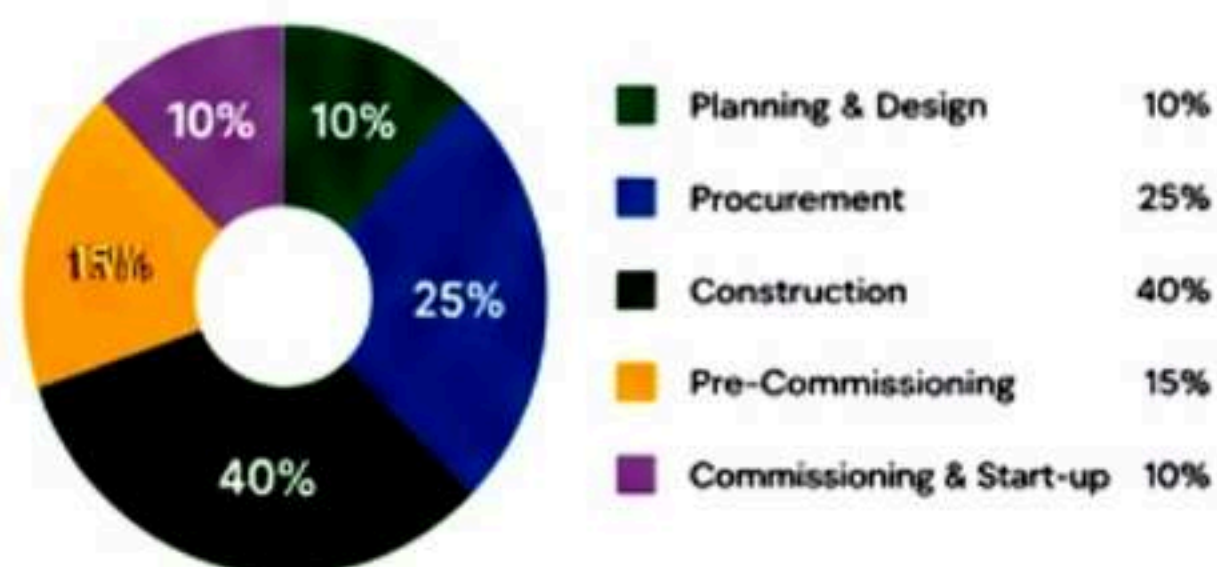
MOBILIZATION PLAN

Activity	Timing	Key Resources
Site Mobilization	Y1 Q2	Site Office, Workforce, Equipment
Temporary Facilities	Y1 Q2	Camp, Warehouse, Workshop
Construction Workforce Peak	Y2 Q4 – Y3 Q3	~1,000 –1,500 People
Equipment Mobilization	Y2 Q1 – Y3 Q1	Cranes, Lifting, Earthmoving
Utilities Tie-in	Y3 Q3 – Y4 Q1	Power, Water, Steam, Process






RESOURCES PLAN

- | | |
|---|---|
|  | Estimated Total Workforce (Peak)
1,000 – 1,500 people |
|  | Major Equipment
150+ items |
|  | Construction Camp Capacity
1,500 rooms |
|  | Safety Target
Zero Harm |

INVESTMENT PHASING (INDICATIVE)



RISK MANAGEMENT DURING IMPLEMENTATION

-  **Schedule Risk**
Detailed planning, monitoring, and recovery plan
-  **Cost Overrun Risk**
Robust budgeting, value engineering, cost control
-  **Supply Chain Risk**
Multiple suppliers, early procurement, logistics plan
-  **Safety & Environment Risk**
HSE management system, training, inspections
-  **Quality Risk**
QA/QC plan, testing, commissioning protocols

CRITICAL SUCCESS FACTORS

- ✔ Strong leadership and governance.
- ✔ Timely approvals and permits.
- ✔ Effective stakeholder engagement.
- ✔ Reliable contractors and suppliers.
- ✔ Proactive risk management.
- ✔ Focus on quality, safety and sustainability.

PROJECT COMPLETION SUMMARY (TARGET DATES)

Milestone	Target Date	Description
Project Approval	Q3, Year 1	Investment decision and all major approvals
FEED Completion	Q2, Year 2	Front-End Engineering Design completed
Mechanical Completion	Q1, Year 4	All major equipment installed and ready
Start of Operations	Q3, Year 4	Ramp-up to commercial operation
Project Completion	Q4, Year 4	Stabilization and final handover



Total Project Duration
Approx. 42 Months

(From Approval to Project Completion)

ON TIME. ON BUDGET. SAFE. SUSTAINABLE. DELIVERING VALUE FOR GENERATIONS.



15. EPC STRATEGY

The EPC strategy ensures efficient execution, cost certainty, quality delivery and timely completion of the integrated project through a structured and collaborative approach.

EPC OBJECTIVES

Deliver on Time

Deliver on Budget

High Quality Construction

Zero Harm

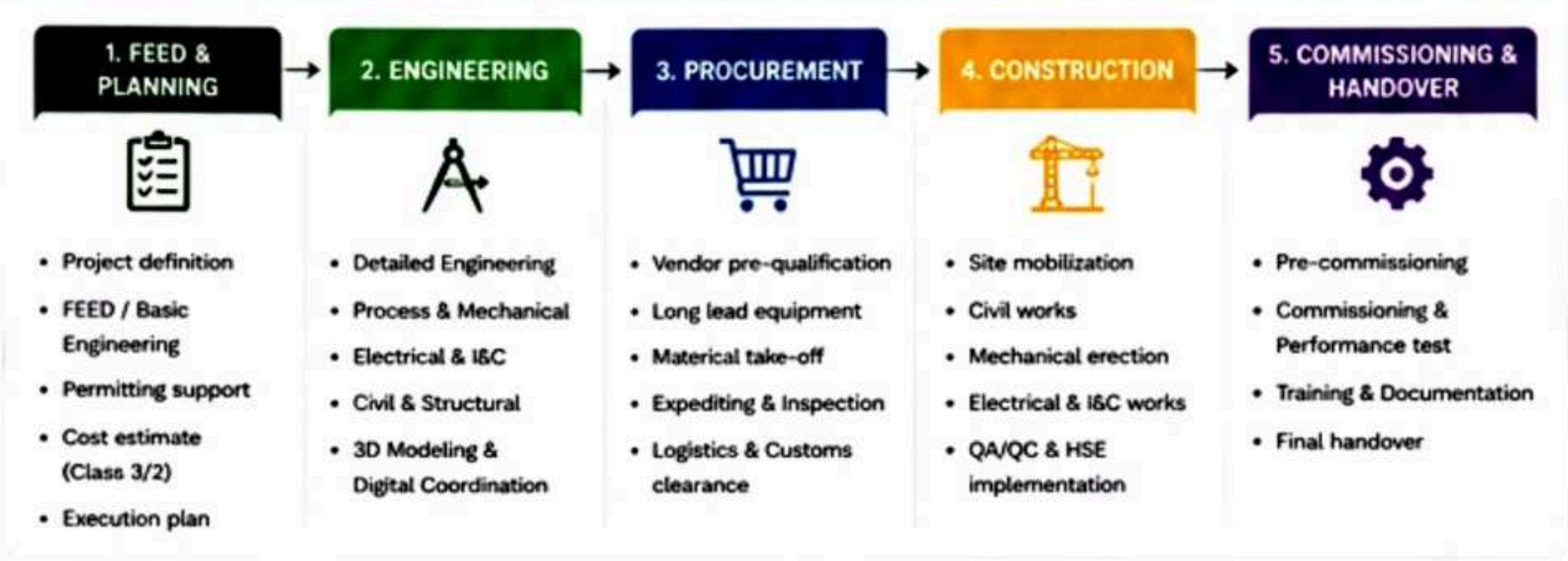
Sustainable Delivery

EPC DELIVERY MODEL

LUMP SUM TURNKEY (LSTK)
Single point responsibility for engineering, procurement, construction, testing and commissioning.
Fixed price, fixed scope and fixed schedule.

- One contract, one responsibility
- Cost certainty and reduced risk
- Better interface management
- Shorter project duration
- Performance based delivery

EPC PROJECT DELIVERY FRAMEWORK



SCOPE OF EPC CONTRACT

- Engineering (FEED to detailed)
- Procurement of all equipment & materials
- Construction, installation & site works
- Testing, pre-commissioning & commissioning
- Integrated safety, quality & environment management
- Training, documentation & as-built drawings
- Final handover & performance guarantee

RISK ALLOCATION MATRIX (EPC LSTK)

Risk Category	Owner	Mitigation Approach
Design Risk	EPC Contractor	Proven design, reviews, 3D model
Procurement Risk	EPC Contractor	Vendor qualification, expediting
Construction Risk	EPC Contractor	Detailed planning, supervision
Cost Overrun Risk	EPC Contractor	Fixed price contract
Schedule Delay Risk	EPC Contractor	Integrated schedule, progress control
Quality Risk	EPC Contractor	QA/QC plan, inspections & tests
Permitting Risk	Owner	Timely approvals & clearances
Change in Scope	Owner	Change control process
Force Majeure	Shared	Contract clauses as per standard

CONTRACT STRATEGY

- EPC Contract Type**
Lump Sum Turnkey (LSTK) with performance guarantees
- Contract Form**
EPC (Turnkey) based on FIDIC EPC / Owner's standard
- Payment Terms**
Milestone based progress payment with retention
- Performance Guarantees**
Time for Completion, Availability, Efficiency, Quality & Safety

VENDOR & SUPPLIER STRATEGY

- Pre-qualification of vendors based on technical, financial & HSE capability
- Competitive bidding for major packages and long lead items
- Framework agreements for key equipment
- Local content & local supplier development
- Expediting, inspection & factory acceptance tests
- Logistics optimization for on-time delivery

INTEGRATED PROJECT EXECUTION APPROACH



HSE & QUALITY STRATEGY

- HSE Plan aligned with ISO 45001
- Zero Harm goal and Life Saving Rules
- Permit to Work, toolbox talk and training
- Regular inspections, audits & monitoring
- Quality Plan aligned with ISO 9001
- Third party inspection & testing

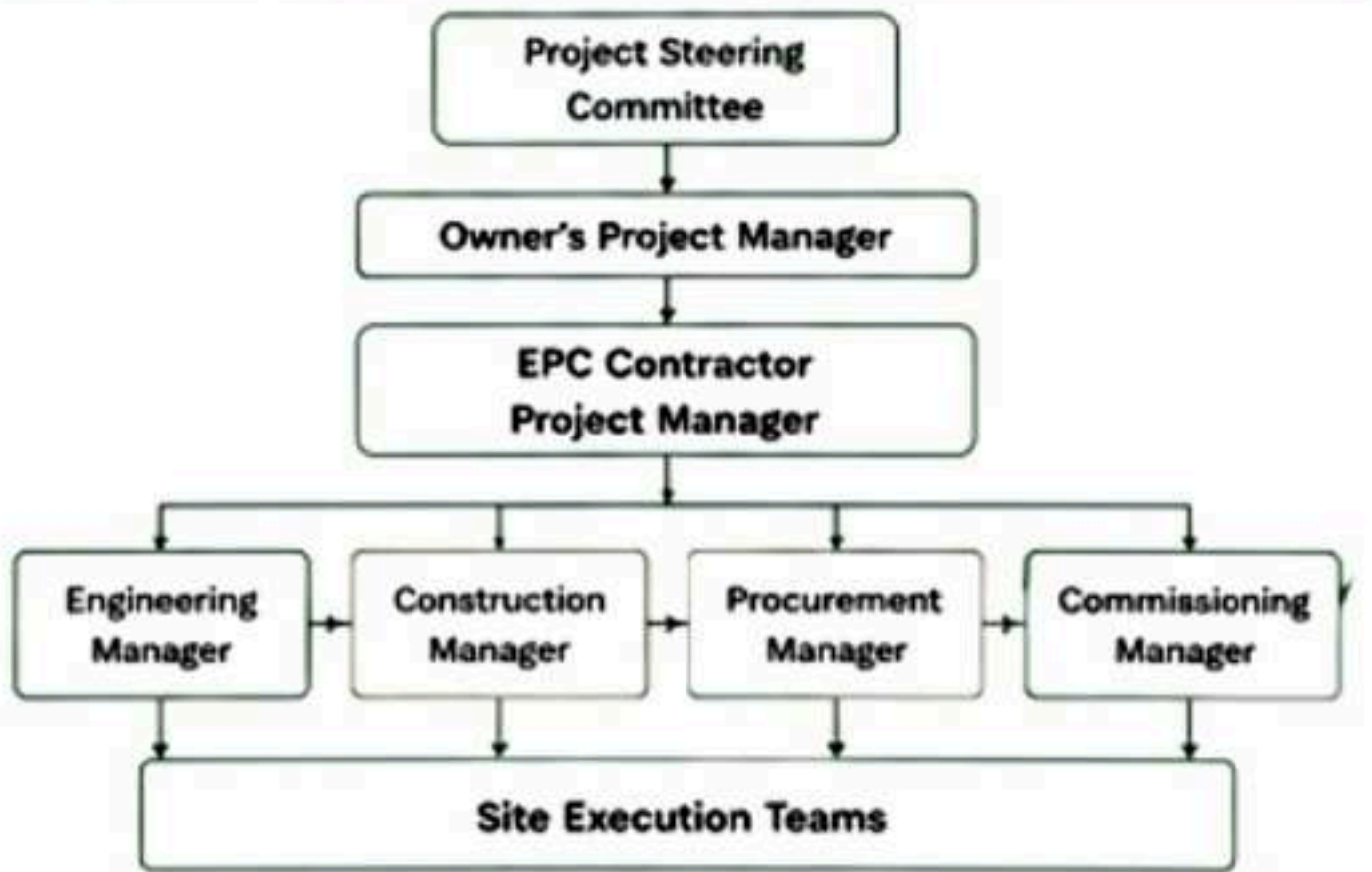
TENTATIVE EPC PACKAGING STRATEGY

Package No.	Package Description	Contract Strategy
PKG-01	Site Preparation & Civil Works	LSTK / Fixed Price
PKG-02	Sugar Mill Plant Equipment	LSTK / Fixed Price
PKG-03	Ethanol Plant	LSTK / Fixed Price
PKG-04	Biomass Power Plant	LSTK / Fixed Price
PKG-05	Utilities & Offsites (Water, Effluent, Cooling, Roads, Storage)	LSTK / Fixed Price
PKG-06	Electrical, Instrumentation & Control	LSTK / Fixed Price
PKG-07	Tanks, Piping & Miscellaneous	LSTK / Fixed Price

KEY PERFORMANCE INDICATORS (KPIs)

Schedule Performance	≥ 95%
Cost Performance	≤ Budget
Safety Performance (TRIR)	0.0
Quality (Punch List Closure)	≥ 98%
Commissioning Readiness	≥ 95%
Client Satisfaction	High

EPC GOVERNANCE STRUCTURE



KEY SUCCESS FACTORS

- Clear scope definition and interface management
 - Experienced EPC contractor with strong track record
 - Detailed planning and realistic scheduling
 - Effective stakeholder engagement and communication
- Robust risk management and change control
 - Strong HSE and quality culture
 - Timely decision making and approvals
 - Continuous monitoring and performance tracking

EXPECTED OUTCOMES

Timely Project Completion

Cost Certainty & Savings

High Quality Assets & Performance

Safe Construction & Sustainable Delivery

Long Term Operational Excellence

16. CAPEX ESTIMATE (USD 1 BILLION)

The total estimated Capital Expenditure for the integrated project is USD 1,000 Million including EPC, pre-commissioning and owner's costs.



Total CAPEX
USD 1,000 M



CAPEX / TCD Cane
USD 50,000



CAPEX / M L Ethanol
USD 100,000

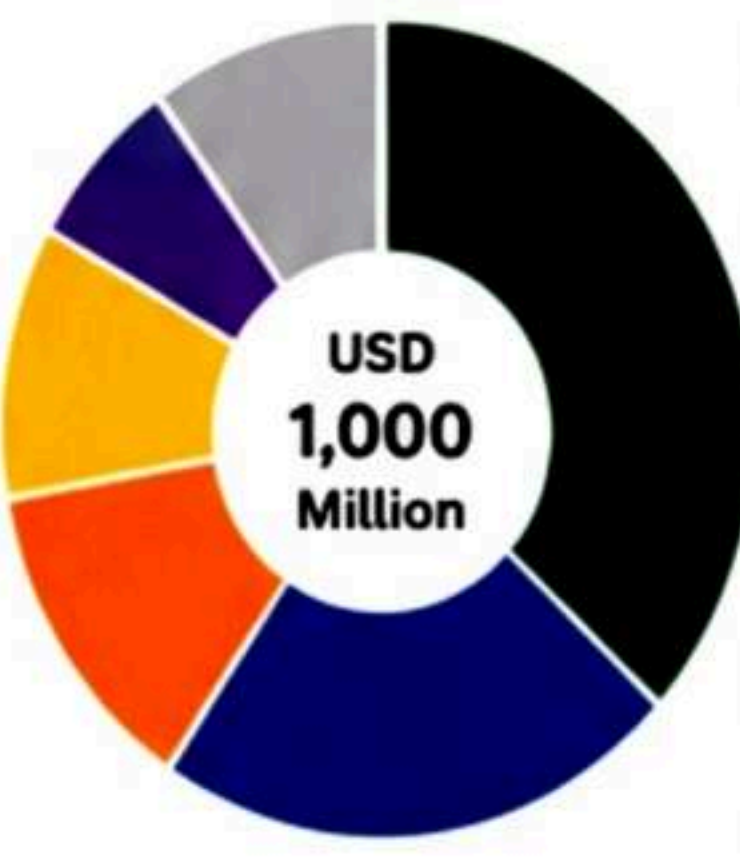


Project Duration
42 Months

CAPEX SUMMARY

Item	USD Million	% of Total
1 Direct Costs (EPC)	820	82.0%
2 Indirect Costs	80	8.0%
3 Owner's Costs	60	6.0%
4 Contingency (10%)	40	4.0%
TOTAL CAPEX	1,000	100%

CAPEX BREAKDOWN (BY AREA)



USD 1,000 Million

- Sugar Mill Complex (10,000 TCD) 35% (350 M)
- Ethanol Plant (60 KLPD) 22% (220 M)
- Biomass Power Plant (30 MW) 15% (150 M)
- Utilities & Offsites 12% (120 M)
- Storage & Logistics 6% (60 M)
- Plantation & Others 10% (100 M)

CAPEX BY MAJOR FACILITY

Facility	USD Million	%
Sugar Mill (10,000 TCD)	300	30%
Ethanol Plant (60 KLPD)	220	22%
Biomass Power Plant (30 MW)	150	15%
Utilities & Offsites	120	12%
Storage & Logistics	60	6%
Plantation & Others	100	10%
Pre-Commissioning & Misc	50	5%
TOTAL CAPEX	1,000	100%

DIRECT COSTS (EPC) BREAKDOWN

Description	USD Million	% of EPC
Process Equipment & Packages	420	51%
Civil, Structural & Buildings	120	15%
Piping & Insulation	80	10%
Electrical & Instrumentation	80	10%
Mechanical Equipment	60	7%
Other (Painting, Scaffolding, etc.)	30	4%
EPC Total	820	100%



INDIRECT COSTS BREAKDOWN

Description	USD Million	% of Total
Engineering & Design	20	25%
Project Management	15	19%
Owner's Representative	10	12%
Permits & Licenses	10	12%
Insurance & Guarantees	10	12%
Start-up Support	10	12%
Contingency (within Indirect)	5	6%
Total	80	100%

OWNER'S COSTS BREAKDOWN


Description	USD Million	% of Total
Land & Site Preparation	25	42%
Financing & Fees	10	17%
Training & Recruitment	10	17%
IT & Office Setup	5	8%
Working Capital (Initial)	10	16%
Total	60	100%

CAPEX BY PROJECT PHASE (CASH FLOW PROFILE)

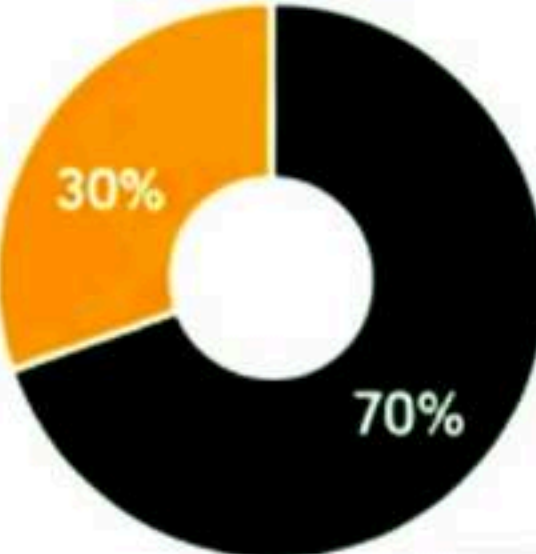
Phase	Description	USD Million	% of Total	Cash Flow Profile (USD Million)			
				Y1	Y2	Y3	Y4
1	Planning & FEED	10	1%	5	5	-	-
2	Engineering & Procurement	240	24%	80	100	60	-
3	Construction & Installation	580	58%	200	250	130	-
4	Pre-Commissioning & Testing	120	12%	-	-	60	60
5	Commissioning & Start-up	50	5%	-	-	-	50
TOTAL		1,000	100%	85	305	370	240

COST DRIVERS

- Large scale integrated facility (sugar, ethanol, power & plantation)
- High specification equipment & automation
- Fluctuating commodity & equipment prices
- Logistics & remote location considerations
- HSE, environmental & sustainability compliance
- Contingency for risk mitigation (10%)



FUNDING PLAN (INDICATIVE)



Debt Financing
USD 700 Million (70%)

Equity
USD 300 Million (30%)

Estimated Debt : Equity
70 : 30

UNIT ECONOMICS (BASED ON CAPEX)

Parameter	Value	Unit
Total CAPEX	1,000	USD Million
Sugar Mill Capacity	10,000	TCD Cane
Ethanol Capacity	60	KLPD
Biomass Power Capacity	30	MW
CAPEX / TCD Cane	50,000	USD / TCD
CAPEX / ML Ethanol	100,000	USD / ML
CAPEX / MW Power	33,333	USD / MW

CONTINGENCY PLAN (10%)

Design & Scope Changes Risk provision for design changes and scope variations	20 M
Price Escalation Allowance for material & equipment price escalation	15 M
Execution Risks Mitigation for schedule delay, productivity & logistics risks	5 M
Total Contingency	40 M

CAPEX HIGHLIGHTS



Total CAPEX
USD 1.0 Billion

Inclusive of EPC,
Owner's Costs & Contingency



EPC Cost
USD 820 Million

82% of total CAPEX



Contingency
USD 40 Million

10% of EPC Cost



Project Duration
42 Months

From approval to
commissioning



Debt : Equity
70 : 30

Balanced funding
structure



Strong Returns

Built for long-term
profitability & growth



17. OPEX ESTIMATE

The total estimated Operating Expenditure for the integrated project is USD 64.0 Million per year on stabilized operations basis.



Total Annual OPEX
USD 64.0 Million



OPEX / TCD Cane
USD 6.40

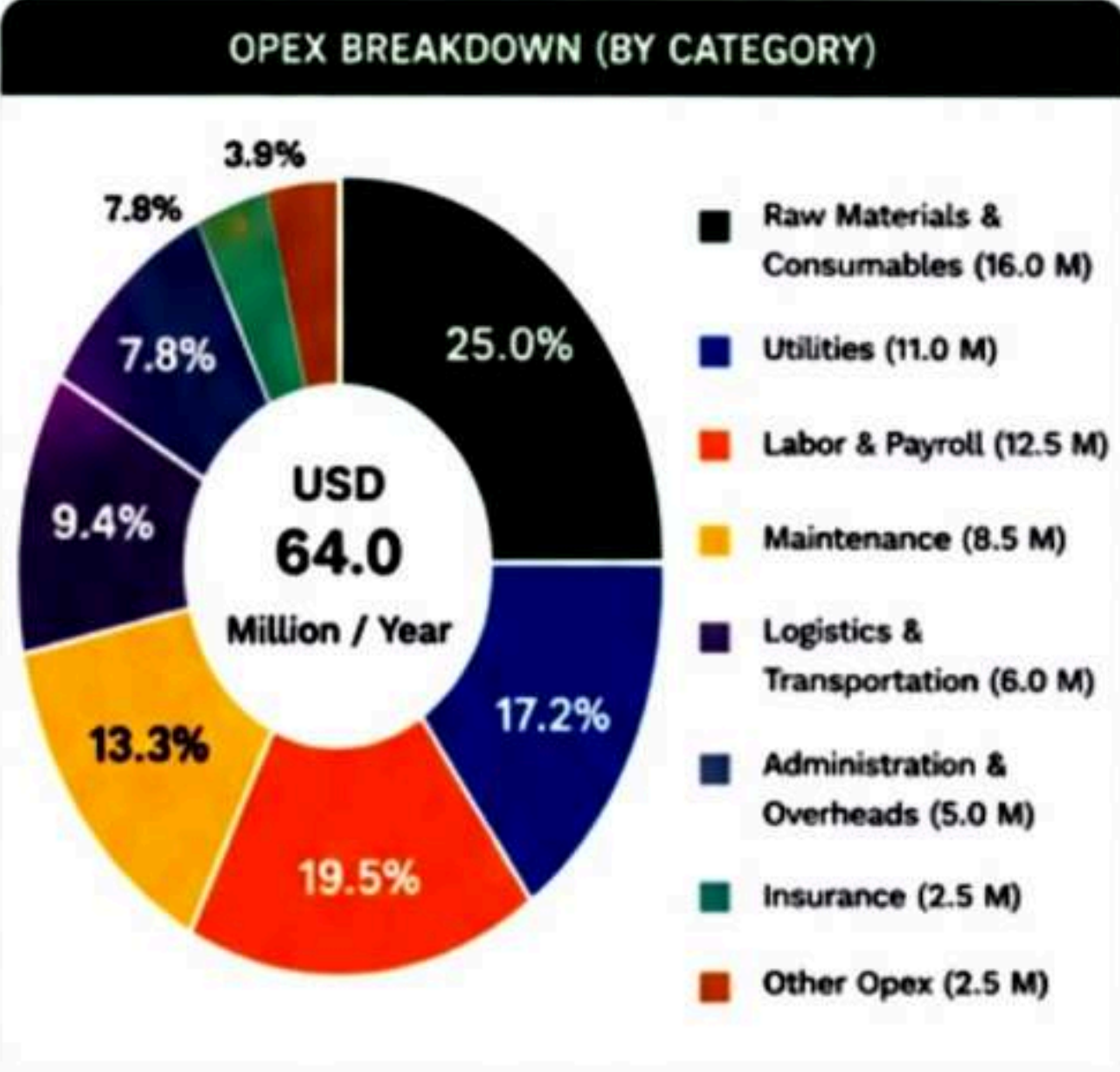


OPEX / ML Ethanol
USD 64.0



Operating Days
330 Days/Year

OPEX SUMMARY (ANNUAL)		
Cost Category	USD Million / Year	% of Total
1 Raw Materials & Consumables	16.0	25.0%
2 Utilities	11.0	17.2%
3 Labor & Payroll	12.5	19.5%
4 Maintenance	8.5	13.3%
5 Logistics & Transportation	6.0	9.4%
6 Administration & Overheads	5.0	7.8%
7 Insurance	2.5	3.9%
8 Other Operating Expenses	2.5	3.9%
TOTAL OPEX	64.0	100%



OPEX BY MAJOR FACILITY (ANNUAL)		
Facility	USD Million / Year	% of Total
Sugar Mill (10,000 TCD)	24.0	37.5%
Ethanol Plant (60 KLPD)	16.0	25.0%
Biomass Power Plant (30 MW)	12.0	18.8%
Utilities & Offsites	6.0	9.4%
Storage & Logistics	3.0	4.7%
Plantation Operations	2.0	3.1%
Others (Admin, Insurance, Misc.)	1.0	1.6%
TOTAL OPEX	64.0	100%

1. RAW MATERIALS & CONSUMABLES (16.0 M)		
Item	USD Million / Year	%
Chemicals (Process & Treatment)	6.0	37.5%
Enzymes & Yeast	2.5	15.6%
Lubricants & Oils	1.5	9.4%
Boiler Chemicals	1.5	9.4%
Packing Materials	1.5	9.4%
Laboratory & Others	3.0	18.7%
TOTAL	16.0	100%

2. UTILITIES (11.0 M)		
Item	USD Million / Year	%
Power (Net Purchase)	4.0	36.4%
Steam & Condensate	3.0	27.3%
Water (Raw & Process)	2.0	18.2%
Fuel (Auxiliary)	1.0	9.1%
Cooling Water & Others	1.0	9.1%
TOTAL	11.0	100%

3. LABOR & PAYROLL (12.5 M)		
Item	USD Million / Year	%
Salaries & Wages	8.0	64.0%
Benefits & Allowances	2.5	20.0%
Training & Development	1.0	8.0%
Contract / Casual Labor	1.0	8.0%
TOTAL	12.5	100%

4. MAINTENANCE (8.5 M)		
Item	USD Million / Year	%
Mechanical Maintenance	4.0	47.1%
Electrical & Instrument	2.0	23.5%
Spare Parts & Consumables	1.5	17.6%
Maintenance Services	1.0	11.8%
TOTAL	8.5	100%

5. LOGISTICS & TRANSPORTATION (6.0 M)		
Item	USD Million / Year	%
Raw Material Transportation	3.0	50.0%
Product Dispatch & Freight	2.0	33.3%
Internal Transport & Handling	1.0	16.7%
TOTAL	6.0	100%

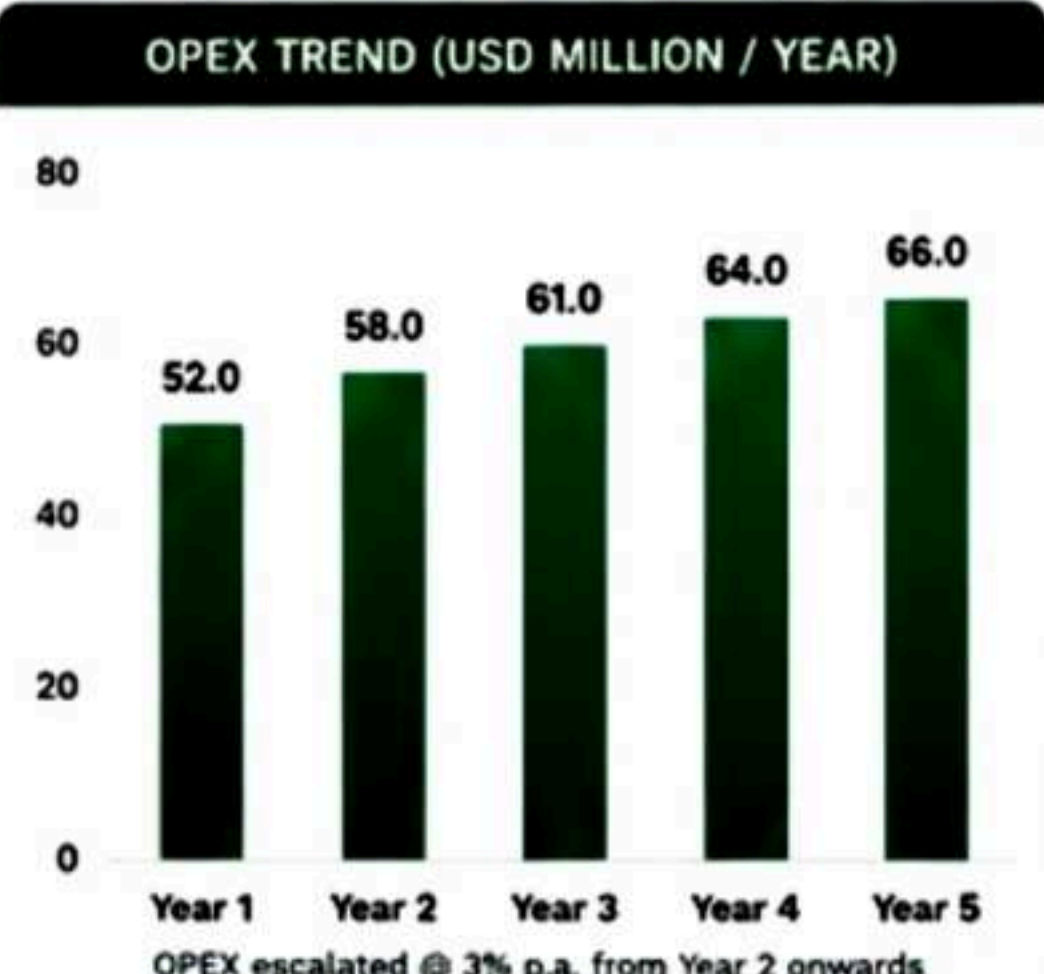
6. ADMINISTRATION & OVERHEADS (5.0 M)		
Item	USD Million / Year	%
Office & General Expenses	2.0	40.0%
Professional Fees	1.5	30.0%
IT, Communication & Others	1.0	20.0%
Corporate Social & CSR	0.5	10.0%
TOTAL	5.0	100%

7. INSURANCE (2.5 M)		
Item	USD Million / Year	%
Property & Plant Insurance	1.5	60.0%
Business Interruption	0.5	20.0%
Liability & Others	0.5	20.0%
TOTAL	2.5	100%

8. OTHER OPERATING EXPENSES (2.5 M)		
Item	USD Million / Year	%
Environmental Compliance	1.0	40.0%
Certification & Audit	0.5	20.0%
Community Relations	0.5	20.0%
Miscellaneous	0.5	20.0%
TOTAL	2.5	100%

OPEX DRIVERS

- High chemical consumption in sugar and ethanol process
- Energy cost linked to electricity & steam requirement
- Labor intensive operations
- Equipment reliability and maintenance strategy
- Logistics cost driven by cane supply radius
- Compliance, safety and environmental standards



OPEX INTENSITY (INDICATIVE)		
Parameter	Unit	Value
USD / TCD Cane	USD	6.40
USD / Ton Sugar	USD	27.5
USD / KL Ethanol	USD	64.0
USD / MWh (Power Net)	USD	22.0

KEY SENSITIVITIES (±10% CHANGE)	
Cost Element	Impact on OPEX
Chemicals	±1.60 M
Power Cost	±1.10 M
Labor Cost	±1.25 M
Freight (Logistics)	±0.60 M
Maintenance Cost	±0.85 M
Total Potential Impact	±5.40 M / Year

OPEX OPTIMIZATION INITIATIVES	
Process optimization to reduce chemical & steam consumption	
Energy efficiency program to lower power cost	
Preventive maintenance and reliability improvement	
Local sourcing and vendor development	
Automation & digitalization to improve productivity	
Continuous training and cost awareness culture	

NOTES & ASSUMPTIONS	
Operating Days : 330 days per year	
OPEX estimated on stabilized operations (Year 1 ramp-up excluded)	
Prices based on current market as of June 2026	
Escalation @ 3% per annum from Year 2 onwards	
Includes all operating costs excluding depreciation, financing & tax	

OPEX SUMMARY (AT A GLANCE)	
Total Annual OPEX	USD 64.0 Million
OPEX / TCD Cane	USD 6.40
OPEX / ML Ethanol	USD 64.0
Operating Days	330 Days/Year



18. REVENUE MODEL

The integrated project generates diversified and stable revenue streams from multiple high-value products and by-products, supported by long-term offtake strategies and favorable market fundamentals.



Total Annual Revenue
USD 214.0 Million



EBITDA Contribution
USD 101.0 Million
(47.2%)



Gross Margin
42.6%

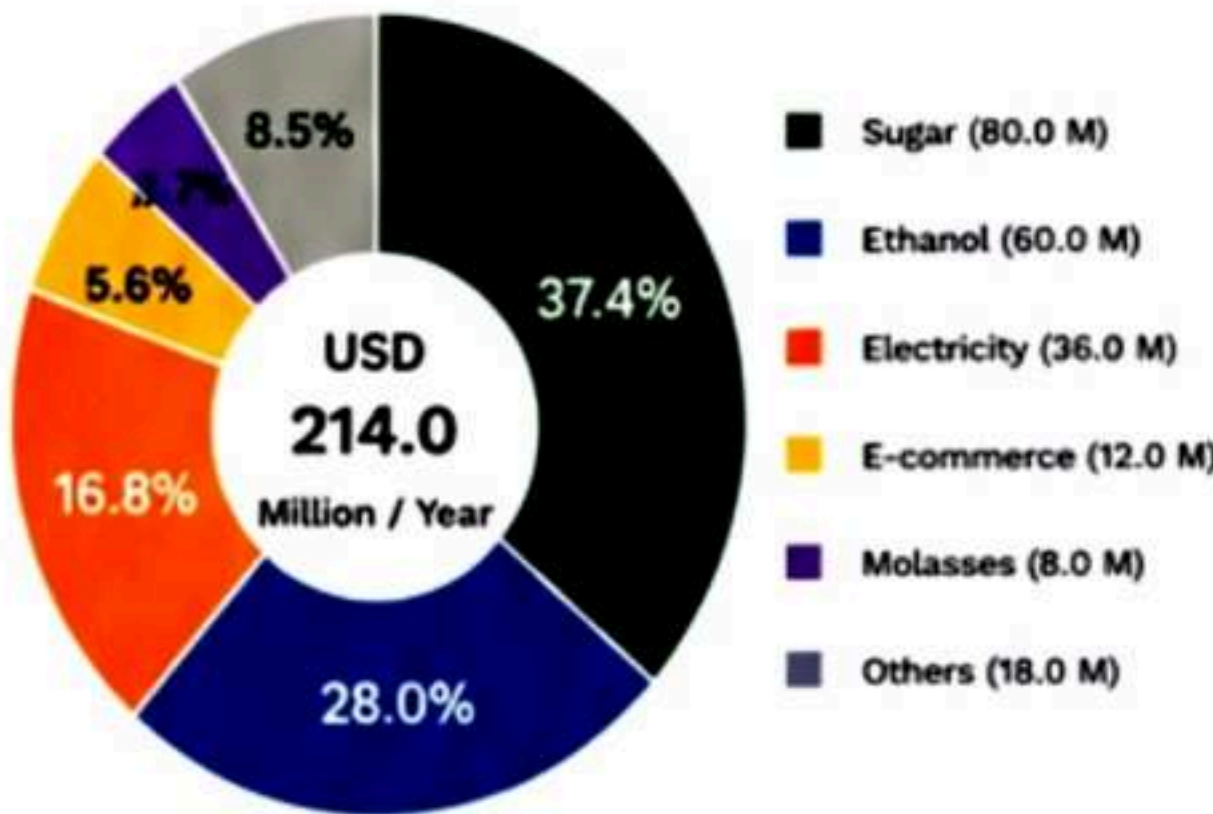


Revenue Start
Year 2
(Ramp-up)

REVENUE SUMMARY (AT FULL CAPACITY – YEAR 5)

Revenue Stream	Annual Revenue (USD Million / Year)	% of Total
1 Sugar	80.0	37.4%
2 Ethanol	60.0	28.0%
3 Electricity (Biomass Power)	36.0	16.8%
4 E-commerce (Export Credits / RECs)	12.0	5.6%
5 Molasses (Industrial / Feed)	8.0	3.7%
6 Others (Bagasse Pellets, Ash, etc.)	18.0	8.5%
TOTAL ANNUAL REVENUE	214.0	100%

REVENUE BREAKDOWN (AT FULL CAPACITY)



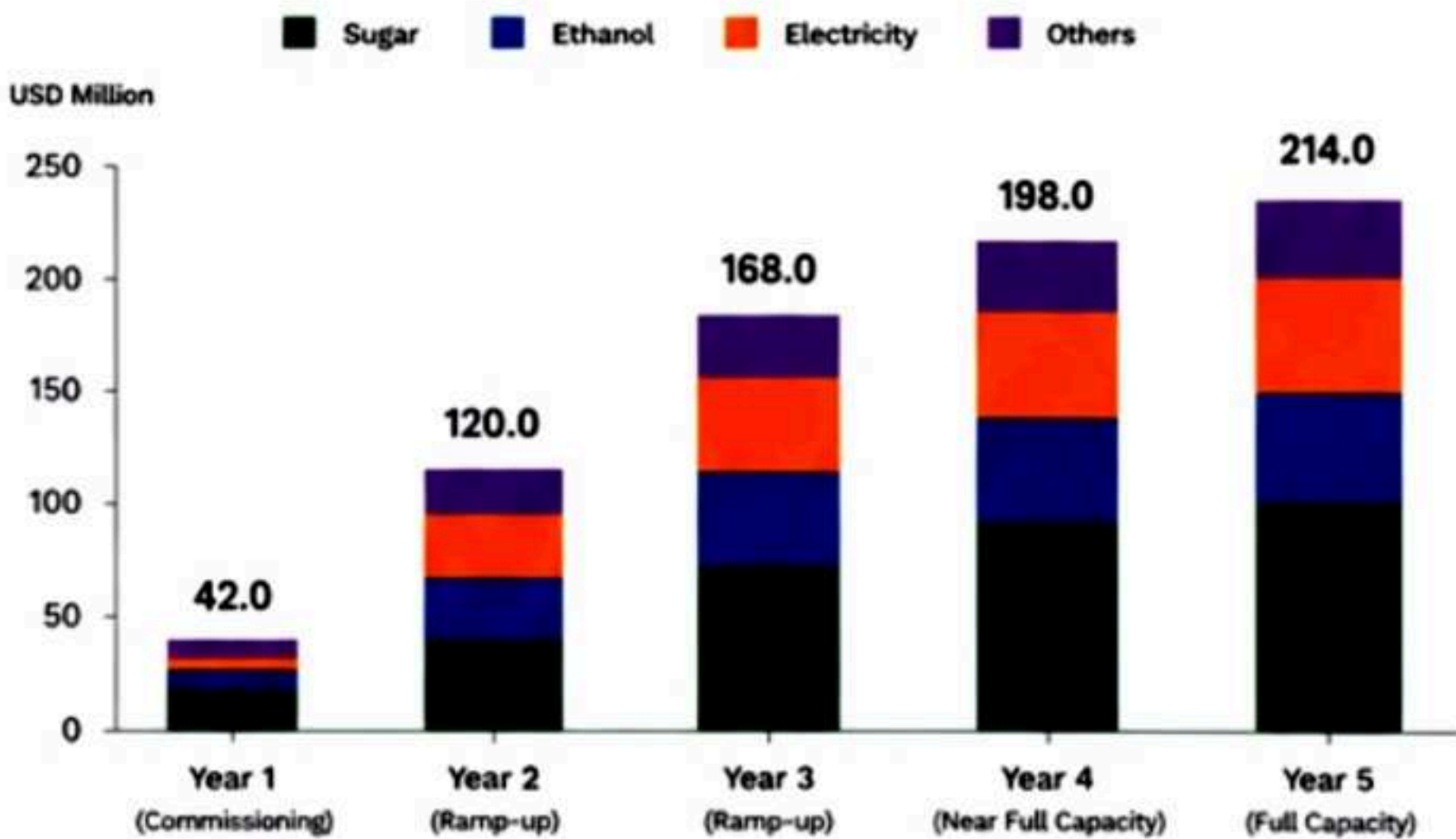
KEY REVENUE DRIVERS

- Strong demand for sugar in domestic & export markets
- Rising ethanol demand for fuel blending & industrial use
- Renewable energy sales through biomass power generation
- Carbon credits & green energy certificates
- Value addition from by-products and waste utilization
- Long-term offtake agreements with creditworthy buyers
- Strategic location with access to export and domestic markets

PRODUCT REVENUE MODEL

Product	Capacity / Volume (Annual)	Unit Price Assumption (USD)	Annual Revenue (USD Million)	% of Total
Sugar	Sugar Production: 120,000 TCD (38,600,000 kg)	0.60 / kg	80.0	37.4%
Ethanol	Ethanol Production: 60 KL/PD (21,900,000 KL)	2.74 / L	60.0	28.0%
Electricity	Power Generation: 30 MW (Net Export: 22 MW)	0.10 / kWh	36.0	16.8%
E-commerce / Carbon Credits	Estimated 120,000 tCO ₂ e / Year	10.00 / tCO ₂ e	12.0	5.6%
Molasses	Production: 150,000 Ton / Year	53.00 / Ton	8.0	3.7%
Others	Bagasse Pellets, Ash, etc.	—	18.0	8.5%
TOTAL			214.0	100%

REVENUE RAMP-UP PROFILE (USD MILLION)



LONG-TERM OFFTAKE STRATEGY

Product	Offtake Strategy	Tenor	% of Volume Committed
Sugar	Export & Domestic Sales Agreements	3–5 Years	70%
Ethanol	Fuel Blending & Industrial Offtake	5 Years	80%
Electricity	Power Purchase Agreement (PPA)	15 Years	100%
Carbon Credits	Voluntary & Compliance Market	5 Years	—
Molasses & Others	Feed, Industrial & Third Party Sales	Rolling	—

PRICE ASSUMPTIONS (REAL TERMS)

Product	Unit	Base Price (USD)	Inflation / Escalation
Sugar	USD / kg	0.60	2.0% p.a.
Ethanol	USD / L	2.74	2.0% p.a.
Electricity	USD / kWh	0.10	2.0% p.a.
Carbon Credits	USD / tCO ₂ e	10.00	2.0% p.a.
Molasses	USD / Ton	53.00	2.0% p.a.
Others	—	—	2.0% p.a.

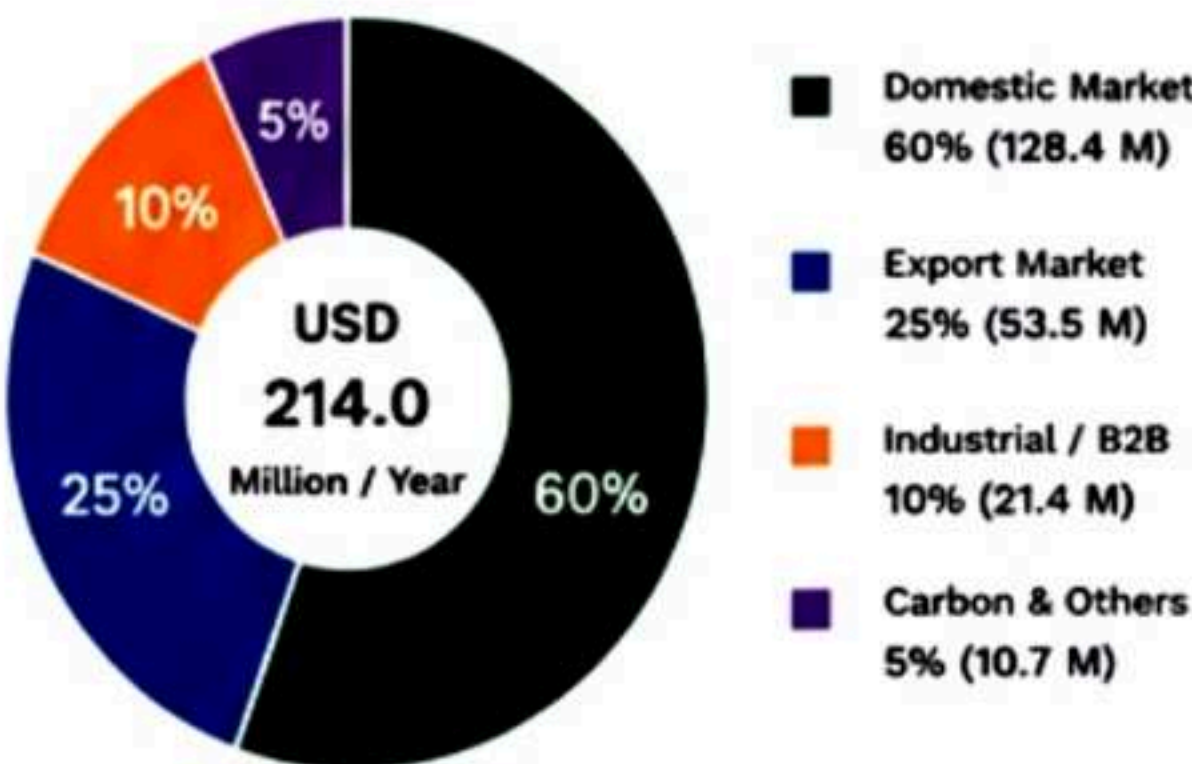
REVENUE SENSITIVITY (YEAR 5 IMPACT)

Scenario	Revenue (USD Million)	Change from Base Case
Base Case	214.0	—
Sugar Price +10%	+8.0	+3.7%
Ethanol Price +10%	+6.0	+2.8%
Electricity Tariff +10%	+3.6	+1.7%
All Prices +10%	+17.6	+8.2%
All Prices -10%	-17.6	-8.2%

REVENUE INCOME STATEMENT SUMMARY (AT FULL CAPACITY – YEAR 5)

USD Million	214.0
Cost of Sales	(122.9)
Gross Profit	91.1
Gross Margin	42.6%
Operating Expenses (OPEX)	(64.0)
EBITDA	101.0
EBITDA Margin	47.2%
Depreciation & Amortization	(25.0)
EBIT	76.0
Interest Expense	(20.0)
Profit Before Tax	56.0
Tax (25%)	(14.0)
Net Profit (After Tax)	42.0
Net Margin	19.6%

REVENUE BY MARKET (AT FULL CAPACITY)



KEY ASSUMPTIONS

- Prices in real terms (June 2026 base year)
- Production at full capacity from Year 5 onwards
- Revenue excludes VAT / sales taxes
- Carbon credits based on 120,000 tCO₂e / year
- Escalation @ 2.0% p.a. from Year 2 onwards
- FX assumption: 1 USD = 15,000 IDR (reference)

REVENUE HIGHLIGHTS



Diversified revenue across 6 streams



Long-term offtake & stable cash flow visibility



Strong contribution from clean energy & sustainability



High margin core products (Sugar & Ethanol)



Robust growth potential with capacity expansion



PT SAPTA BORNEO UTAMA

Integrated Sugar, Ethanol, Biomass & Plantation Project

Jl Sultan Alaudin Rt.01 No.11
Kelurahan Mekarsari, Balikpapan
East Kalimantan 76122, Indonesia

FEASIBILITY STUDY

V1.5 | JUNE 2026

19. FINANCIAL MODEL SUMMARY

The financial model evaluates the project's economic viability based on a 10-year operations period after a 2-year construction period.



NPV (10%)
USD 428.4 M



IRR (Project)
18.6%



DSCR (Avg.)
1.62x



Payback Period
6.0 Years



Project Life
20 Years

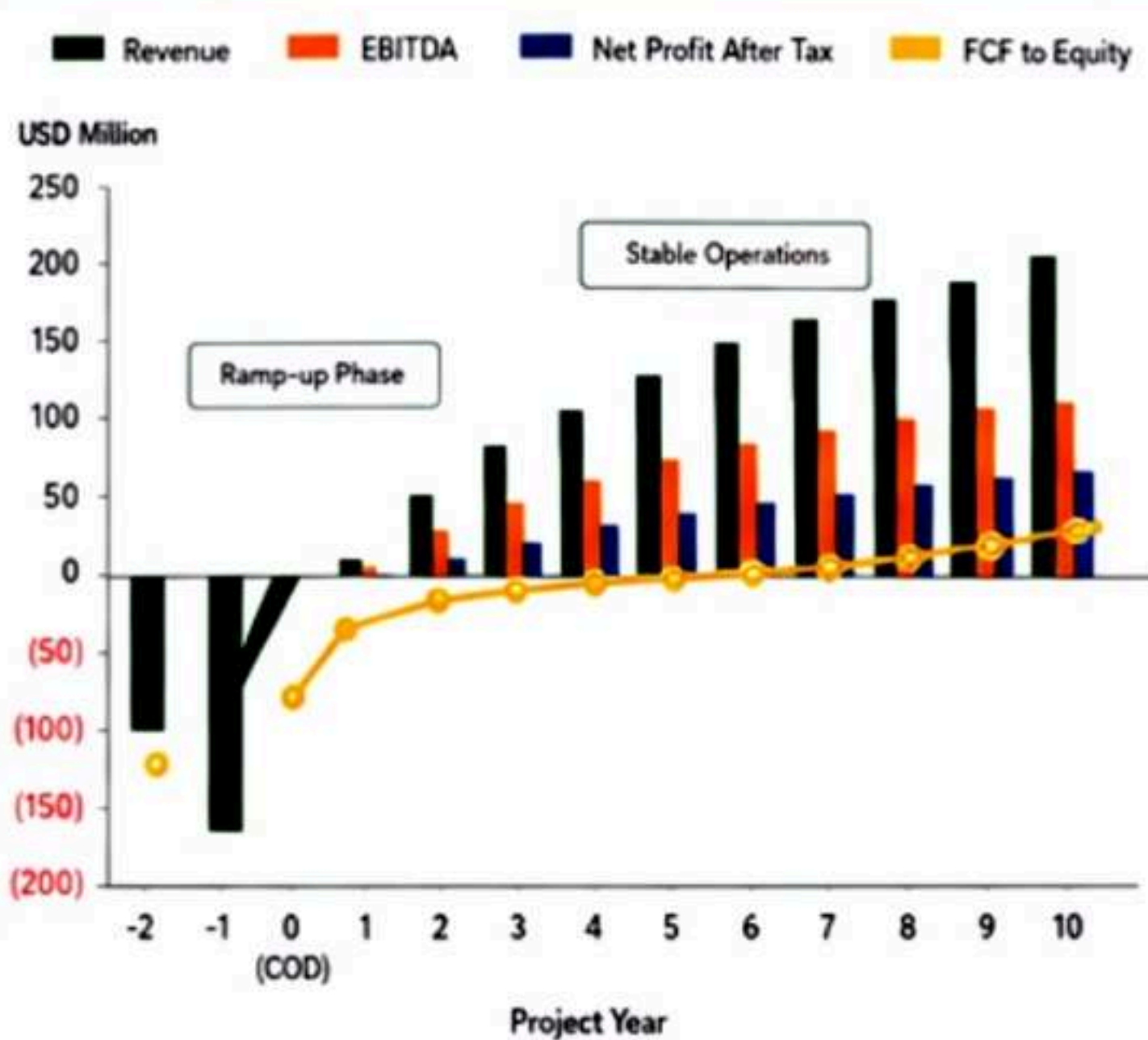
KEY FINANCIAL METRICS (AT BASE CASE)

Metric	Unit	Value
Total Project Cost (CAPEX)	USD Million	1,000.0
Total Annual Revenue (Year 5)	USD Million	214.0
EBITDA (Year 5)	USD Million	101.0
Net Profit After Tax (Year 5)	USD Million	42.0
NPV (10%)	USD Million	428.4
IRR (Project)	%	18.6%
DSCR (Average)	x	1.62x
Payback Period (from COD)	Years	6.0
Project Life	Years	20
Equity IRR	%	23.4%
Equity Payback	Years	4.8

CASH FLOW SUMMARY (USD MILLION)

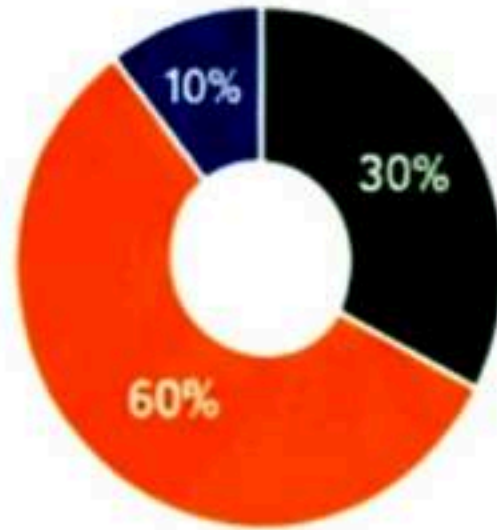
Year	Free Cash Flow to Firm	Free Cash Flow to Equity	Cumulative FCF to Equity
-2	(300.0)	(120.0)	(120.0)
-1	(700.0)	(280.0)	(400.0)
0 (COD)	-	-	(400.0)
1	37.2	22.8	(377.2)
2	61.1	39.2	(338.0)
3	78.4	52.0	(286.0)
4	96.1	64.5	(221.5)
5	115.3	78.8	(142.7)
6	121.0	84.2	(58.5)
7	125.6	88.6	30.1
8	129.8	92.0	122.1
9	134.5	95.8	217.9
10	139.7	99.5	317.4
Total (Years 1-10)	1,088.7	617.4	-

PROJECT CASH FLOW PROFILE (USD MILLION)



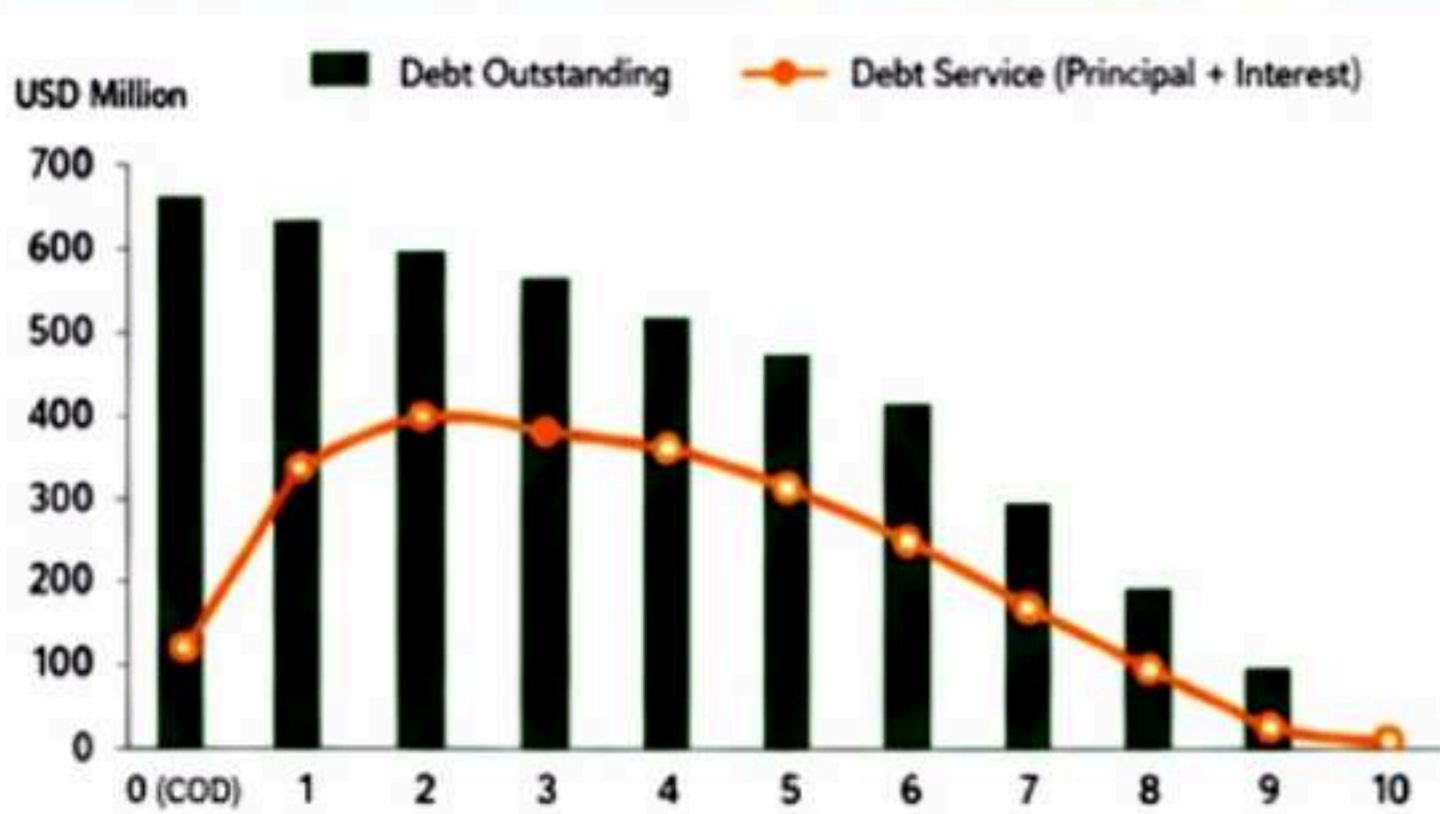
PROJECT FUNDING PLAN (USD MILLION)

Source of Funds	Amount (USD Million)	% of Total
Equity	300.0	30.0%
Term Loan	600.0	60.0%
Subordinated Loan / Other Debt	100.0	10.0%
Total	1,000.0	100%



Equity (30%)
Term Loan (60%)
Subordinated Loan / Other Debt (10%)

DEBT REPAYMENT PROFILE (USD MILLION)



Debt Terms

Interest Rate	8.0% p.a.
Repayment Tenor	10 Years (Incl. 1 Year Grace)
Repayment Profile	Semi-annual, Equal Principal
DSCR Covenant	>= 1.20x

PROFITABILITY RATIOS (Years 1-10 Average)

Ratio	Unit	Value
Gross Margin	%	42.6%
EBITDA Margin	%	47.2%
EBIT Margin	%	35.5%
Net Profit Margin	%	19.6%
ROE (Average)	%	21.8%
ROA (Average)	%	12.6%
Return on Invested Capital (ROIC)	%	16.7%

CAPITAL STRUCTURE (Average)



Equity 30.0%
Debt 70.0%

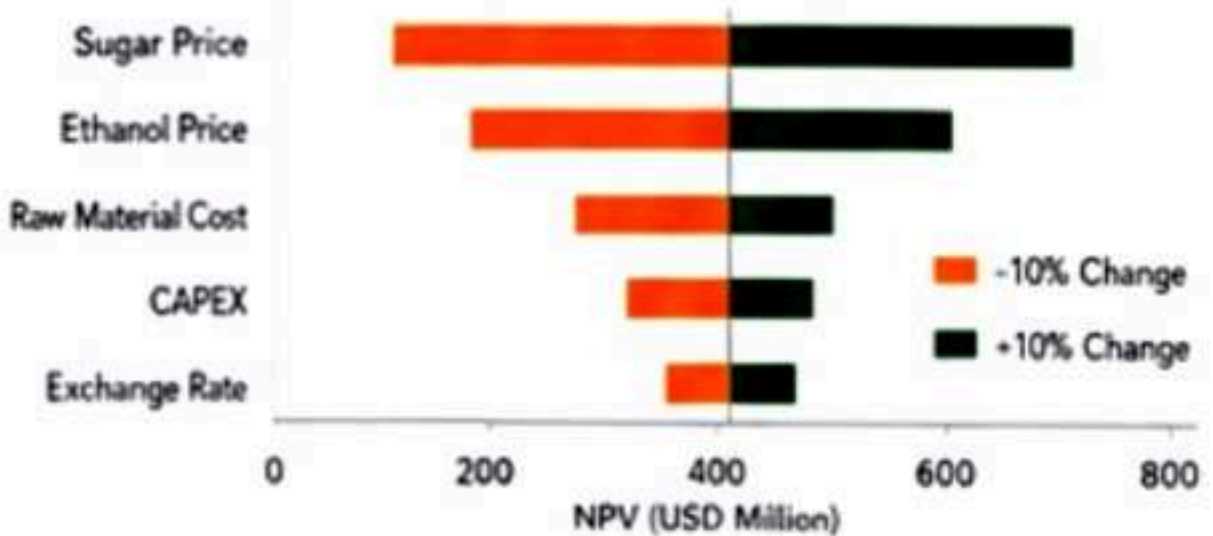
SCENARIO ANALYSIS (NPV @ 10%)

Scenario	NPV (USD Million)	IRR (%)	Comment
Base Case	428.4	18.6%	As per base assumptions
Optimistic Case	672.3	24.7%	Higher prices, lower costs
Pessimistic Case	184.1	11.2%	Lower prices, higher costs

KEY SENSITIVITY ANALYSIS (NPV @ 10%)

Parameter	-10% Change	Base Case	+10% Change
Sugar Price	262.0	428.4	594.8
Ethanol Price	286.3	428.4	570.6
Raw Material Cost	562.1	428.4	294.7
CAPEX	321.7	428.4	335.2
Exchange Rate (IDR/USD)	390.6	428.4	466.2

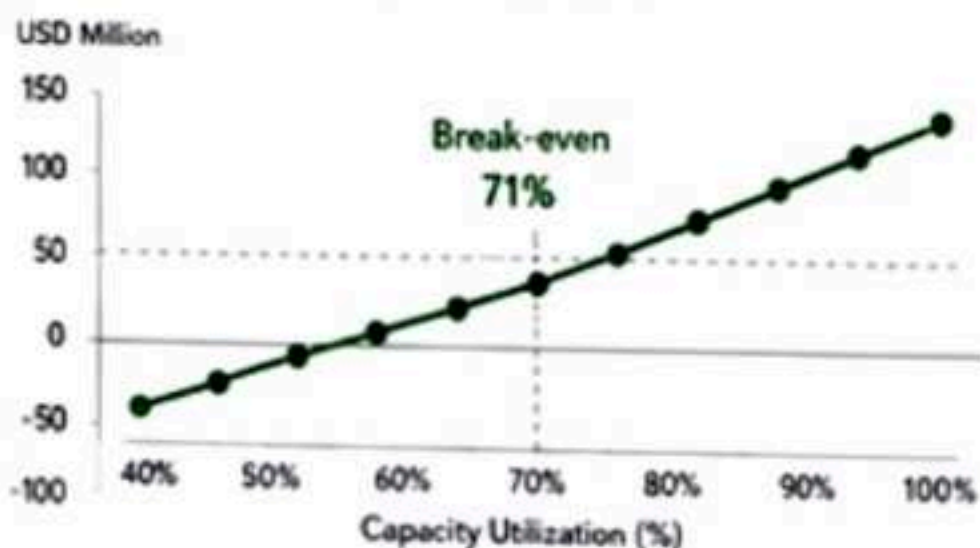
Tornado Chart (Sensitivity on NPV)



BREAK-EVEN ANALYSIS

Break-even Sugar Price	USD 452 / Ton
Break-even Ethanol Price	USD 0.68 / L
Break-even EBITDA	USD 48.5 Million / Year
Break-even Volume	71% of Capacity

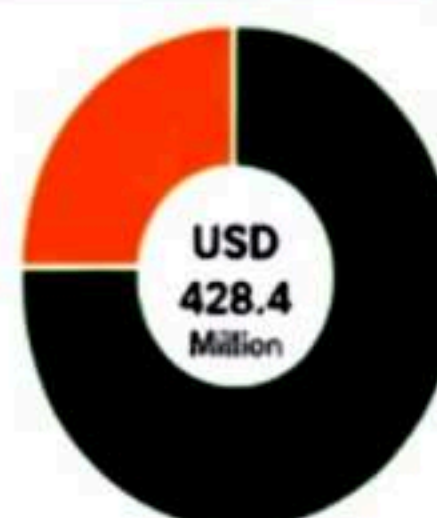
EBITDA vs. Capacity Utilization



PROJECT VALUATION (@ 10% DISCOUNT RATE)

Description	USD Million
PV of Cash Inflows	1,610.2
PV of Cash Outflows (including CAPEX & OPEX)	(1,181.8)
Net Present Value (NPV)	428.4
IRR (Project)	18.6%

VALUE DISTRIBUTION (NPV)



Equity Value
315.6 (73.7%)
Debt Value
112.8 (26.3%)



Strong Project Viability
NPV (10%):
USD 428.4 Million



Attractive Returns
IRR (Project):
18.6%
IRR (Equity): 23.4%



Healthy Cash Flows
Positive FCF from
Year 7 onwards



Robust Debt Coverage
Average DSCR:
1.62x



Accelerated Payback
Equity Payback:
4.8 Years



Sustainable Growth
Diversified revenue,
long-term value creation

STRONG FINANCIALS. SUSTAINABLE RETURNS. DELIVERING VALUE FOR GENERATIONS.

20. PROJECTED INCOME STATEMENT

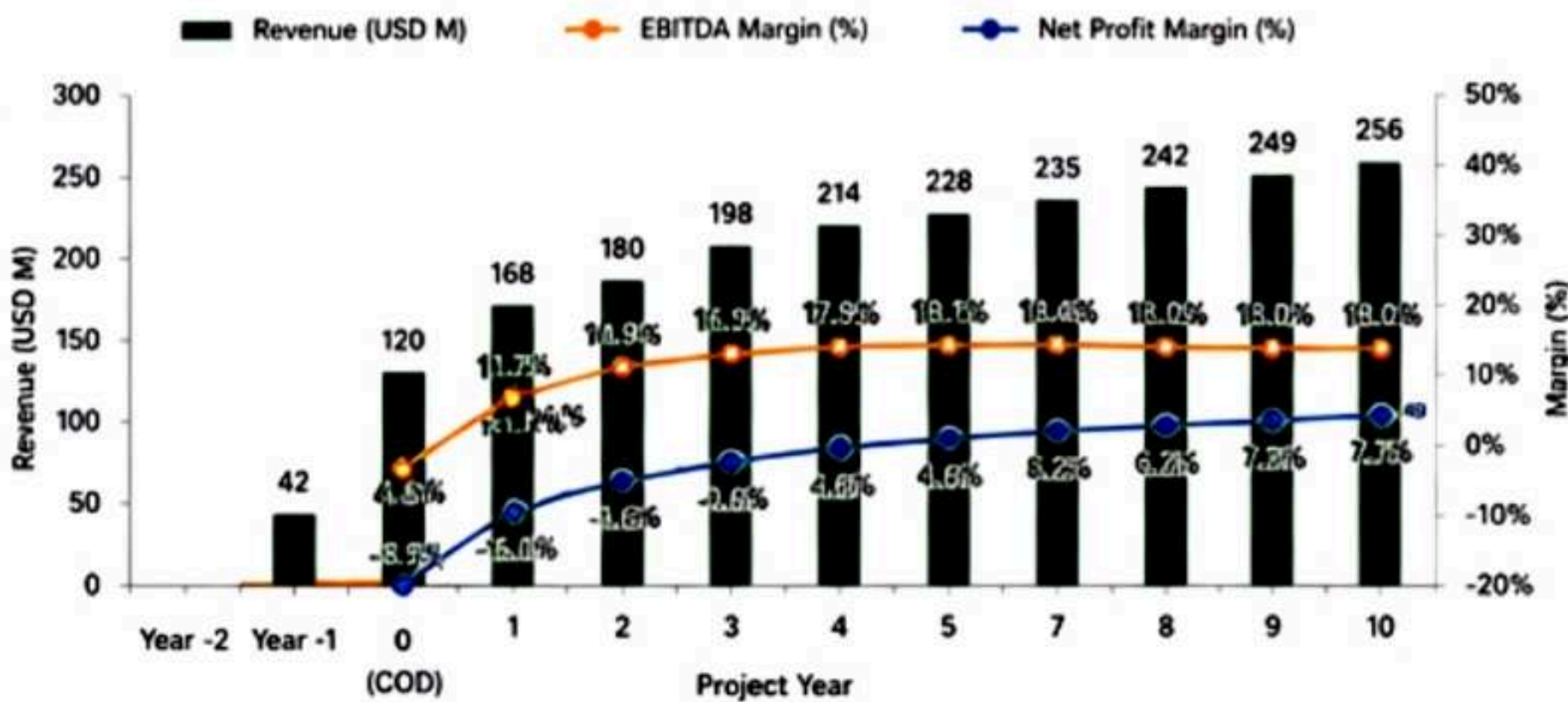
The projected income statement shows the expected financial performance of the project over a 10-year operational period after a 2-year construction period.

			
Annual Revenue Year 5	EBITDA Margin Year 5	Net Profit Margin Year 5	Net Profit After Tax Year 5
USD 214.0 M	47.2%	19.6%	USD 42.0 M

PROFIT & LOSS STATEMENT (USD MILLION)

DESCRIPTION	UNIT	PRE-OPS Year -2	PRE-OPS Year -1	COD Year 0	OPERATIONAL YEARS									
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total Revenue	USD M	-	-	42.0	120.0	168.0	180.0	198.0	214.0	221.0	228.0	242.0	249.0	256.0
Cost of Sales	USD M	-	-	(28.0)	(72.0)	(97.0)	(102.0)	(111.0)	(122.9)	(126.8)	(130.9)	(139.5)	(144.1)	(148.8)
Gross Profit	USD M	-	-	14.0	48.0	71.0	78.0	87.1	94.2	97.1	99.9	102.5	104.9	107.2
Gross Margin	%	-	-	33.3%	40.0%	42.3%	43.3%	43.9%	42.6%	42.6%	42.6%	42.4%	42.1%	41.9%
Operating Expenses (OPEX)	USD M	-	-	(12.0)	(34.0)	(46.0)	(49.0)	(52.0)	(54.0)	(56.0)	(57.0)	(59.0)	(60.0)	(61.0)
EBITDA	USD M	-	-	2.0	14.0	25.0	29.0	35.0	37.1	38.2	40.1	43.5	44.9	46.2
EBITDA Margin	%	-	-	4.8%	11.7%	14.9%	16.1%	17.5%	17.3%	17.9%	18.1%	18.4%	18.0%	18.0%
Depreciation & Amortization	USD M	-	-	(12.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)	(18.0)
EBIT	USD M	-	-	(10.0)	(4.0)	7.0	11.0	17.0	19.1	20.2	22.1	25.5	26.9	28.2
EBIT Margin	%	-	-	-23.8%	-3.3%	4.2%	6.1%	8.5%	8.9%	9.4%	9.7%	10.5%	10.8%	11.0%
Interest Expense	USD M	-	-	(6.0)	(15.0)	(14.0)	(13.0)	(11.0)	(9.0)	(8.0)	(7.0)	(6.0)	(4.0)	(3.0)
Other Income (Net)	USD M	-	-	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Profit Before Tax	USD M	-	-	(15.5)	(18.0)	(6.0)	(1.0)	7.0	11.1	13.2	18.1	21.5	23.9	26.2
Income Tax (25%)	USD M	-	-	-	-	-	-	(1.8)	(2.8)	(3.3)	(4.0)	(4.7)	(5.4)	(6.6)
Net Profit After Tax	USD M	-	-	(15.5)	(18.0)	(6.0)	(1.0)	5.3	8.3	9.9	12.1	14.2	17.9	19.6
Net Profit Margin	%	-	-	-36.9%	-15.0%	-3.6%	-0.6%	2.9%	4.1%	4.6%	5.6%	6.8%	7.2%	7.7%
Earnings Per Share (USD)	USD	-	-	(0.077)	(0.089)	(0.030)	(0.005)	0.026	0.041	0.049	0.060	0.071	0.090	0.098

KEY FINANCIAL TRENDS



SUMMARY HIGHLIGHTS

- Revenue grows from USD 42.0 M in Year 0 to USD 214.0 M in Year 5 and reaches USD 256.0 M in Year 10.
- EBITDA margin stabilizes around 18% from Year 5 onwards.
- Net profit turns positive in Year 3 and reaches USD 42.0 M in Year 5.
- Strong operating leverage improves profitability as capacity utilization and product mix optimize.
- Conservative assumptions with 2.0% inflation for costs and prices from Year 2 onwards.

INCOME STATEMENT SUMMARY (USD MILLION)

Particulars	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Revenue	42.0	120.0	168.0	180.0	198.0	214.0	256.0
EBITDA	2.0	14.0	25.0	29.0	35.0	38.2	46.2
EBIT	(10.0)	(4.0)	7.0	11.0	17.0	20.2	28.2
Net Profit After Tax	(15.5)	(18.0)	(6.0)	(1.0)	5.3	9.9	19.6
Net Profit Margin	-36.9%	-15.0%	-3.6%	-0.6%	2.9%	4.6%	7.7%

ASSUMPTIONS

	Inflation	2.0% p.a. from Year 2 onwards
	Corporate Tax Rate	25%
	Exchange Rate	USD 1 = IDR 15,000 (assumed)
	Sugar Price (Base Year)	USD 452 / Ton
	Ethanol Price (Base Year)	USD 0.68 / Liter
	Capacity Utilization	71% in Year 1, ramping to 100% by Year 5
	Depreciation	Straight-line over 15 years for plant & equipment
	Interest Rate (Avg.)	8.0% p.a.

FINANCIAL TAKEAWAYS



Attractive Returns
IRR (Project): 18.6%
NPV (10%):
USD 428.4 Million



Strong Cash Flows
Positive FCF from
Year 7 onwards



Robust Debt Coverage
Average DSCR:
1.62x



Healthy Profitability
Net Profit Margin
Year 5: 19.6%



Sustainable Growth
Diversified revenue
& long-term value creation



PT SAPTA BORNEO UTAMA

Integrated Sugar, Ethanol, Biomass & Plantation Project

JI Sultan Alaudin Rt.01 No.11
Kelurahan Mekarsari, Balikpapan
East Kalimantan 76122, Indonesia

FEASIBILITY STUDY

V1.5 | JUNE 2026

21. PROJECTED CASH FLOW

The projected cash flow statement reflects the expected cash inflows and outflows of the project over a 10-year operational period after a 2-year construction.



NPV (10%)
USD 428.4 M



IRR (Project)
18.6%



Payback Period
6.0 Years

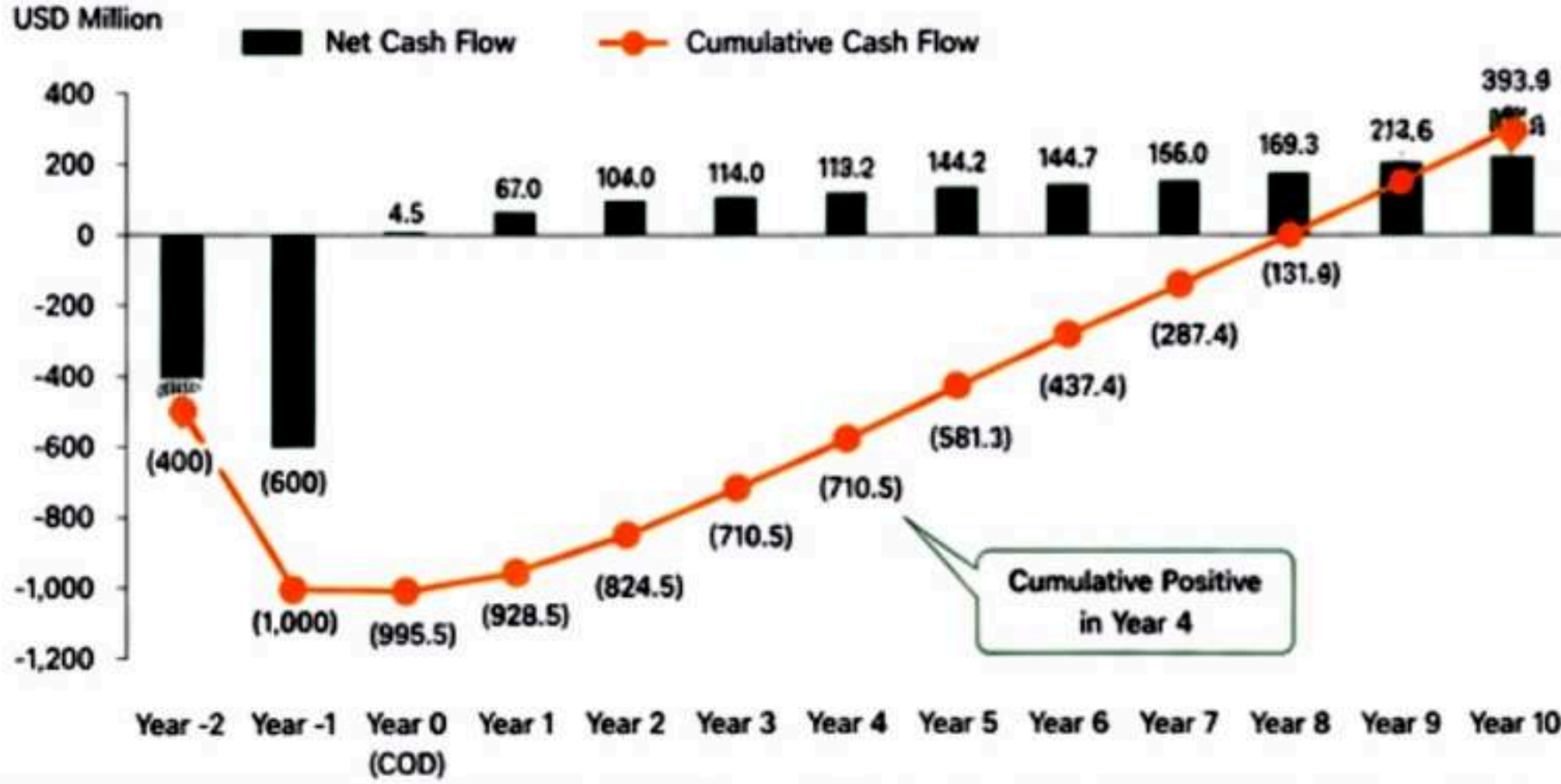


Cumulative FCF
Positive in
Year 4

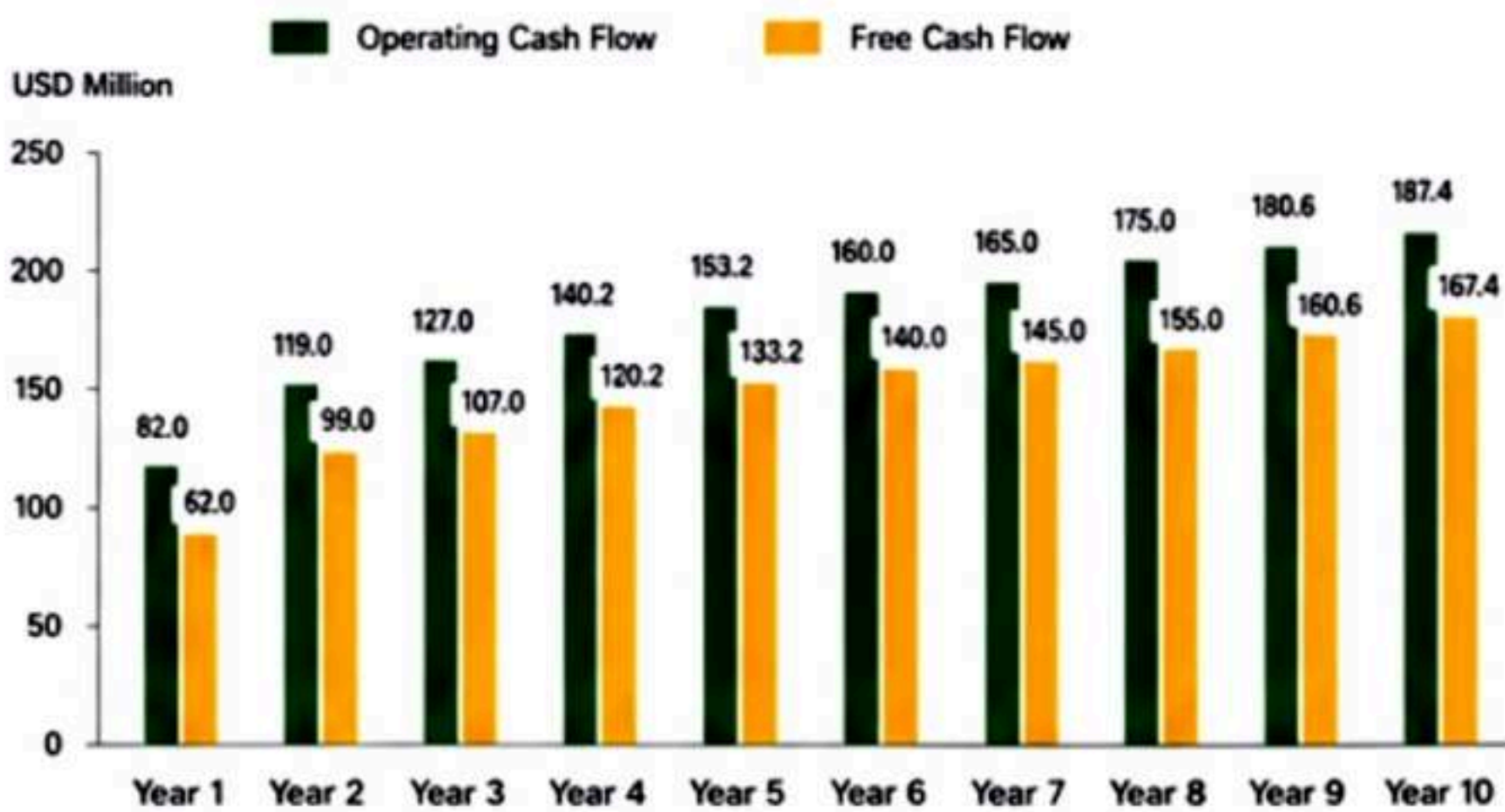
PROJECTED CASH FLOW STATEMENT (USD MILLION)

Description		Pre-Ops	Pre-Ops	COD	Operational Years									
		Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Cash Inflows														
Cash Sales (Revenue)	USD M	-	-	42.0	120.0	168.0	180.0	198.0	214.0	221.0	228.0	242.0	249.0	256.0
Other Income	USD M	-	-	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total Cash Inflows	USD M	-	-	42.5	121.0	169.0	181.0	199.0	215.0	222.0	229.0	243.0	250.0	257.0
Cash Outflows														
Operating Expenses (OPEX)	USD M	-	-	(12.0)	(34.0)	(46.0)	(49.0)	(52.0)	(54.0)	(56.0)	(57.0)	(59.0)	(60.0)	(61.0)
Interest Expense	USD M	-	-	(6.0)	(15.0)	(14.0)	(13.0)	(11.0)	(9.0)	(8.0)	(7.0)	(6.0)	(4.0)	(3.0)
Taxes (Cash)	USD M	-	-	-	-	-	-	(1.8)	(2.8)	(3.3)	(4.0)	(4.7)	(6.4)	(6.6)
Capital Expenditure (CAPEX)	USD M	(400.0)	(600.0)	-	-	-	-	-	-	-	-	-	-	-
Working Capital Investment	USD M	-	-	(20.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
Total Cash Outflows	USD M	(400.0)	(600.0)	(38.0)	(54.0)	(65.0)	(67.0)	(69.8)	(70.8)	(72.3)	(73.0)	(74.7)	(75.4)	(75.6)
Net Cash Flow	USD M	(400.0)	(600.0)	4.5	67.0	104.0	114.0	129.2	144.2	149.7	156.0	169.3	174.6	181.4
Cumulative Cash Flow	USD M	(400.0)	(1,000.0)	(995.5)	(928.5)	(824.5)	(710.5)	(581.3)	(437.1)	(287.4)	(131.4)	37.9	212.5	393.9

CASH FLOW PROFILE (USD MILLION)



FREE CASH FLOW (USD MILLION)



CASH FLOW HIGHLIGHTS

- ✓ Total initial investment (CAPEX) of USD 1.0 Billion during construction (Year -2 to Year -1).
- ✓ Project reaches Commercial Operation Date (COD) at the end of Year 0.
- ✓ Positive operating cash flow generated from Year 1 onwards.
- ✓ Cumulative cash flow turns positive in Year 4.
- ✓ Strong and growing free cash flow throughout the operational period.
- ✓ Supports debt repayment, dividends, and future expansion.

KEY CASH FLOW METRICS

Metric	Value
Net Present Value (NPV @10%)	USD 428.4 Million
Internal Rate of Return (IRR)	18.6%
Payback Period (from COD)	6.0 Years
Cumulative Positive Cash Flow	Year 4
Average Annual Free Cash Flow (Years 1-10)	USD 128.6 Million
Minimum Debt Service Coverage Ratio (DSCR)	1.62x (Average)

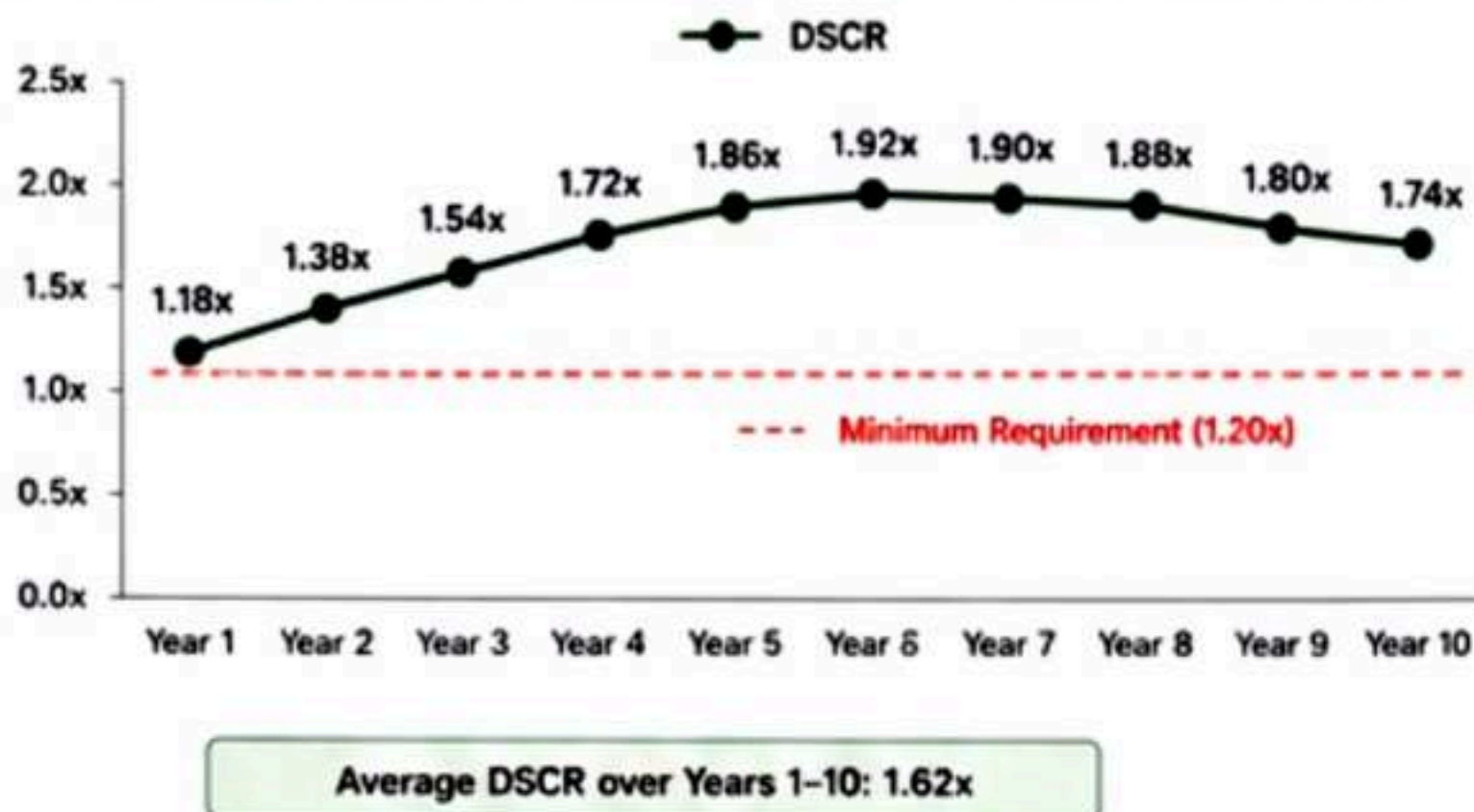
SENSITIVITY (NPV @10%)

Scenario	Change	NPV (USD Million)	Impact
Base Case	-	428.4	-
Revenue -10%	-10%	262.0	-38.9%
Revenue +10%	+10%	594.8	+38.9%
OPEX +10%	+10%	364.1	-15.0%
CAPEX +10%	+10%	388.6	-9.3%
Sugar Price -10%	-10%	280.3	-34.6%
Ethanol Price -10%	-10%	286.3	-33.2%

PROJECT FINANCING STRUCTURE



DEBT SERVICE COVERAGE RATIO (DSCR)



FINANCIAL TAKEAWAYS



Attractive Returns
IRR (Project): 18.6%
NPV (10%):
USD 428.4 Million



Strong Cash Flows
Positive FCF from
Year 1 onwards



Robust Debt Coverage
Average DSCR:
1.62x



Healthy Profitability
Net Profit Margin
Year 5: 19.6%



Sustainable Growth
Diversified revenue
& long-term value creation

STRONG FINANCIALS. SUSTAINABLE RETURNS. DELIVERING VALUE FOR GENERATIONS.

22. BALANCE SHEET FORECAST

The balance sheet forecast presents the projected financial position of the project over a 10-year operational period after a 2-year construction period.



NPV (10%)
USD 428.4 M



IRR (Project)
18.6%



Payback Period
6.0 Years



Debt Service Coverage (Avg.)
1.62x

BALANCE SHEET FORECAST (USD MILLION)																
DESCRIPTION	PRE-OPS Year -2	PRE-OPS Year -1	COD Year 0	OPERATIONAL YEARS												
				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10			
ASSETS																
Non-Current Assets																
Property, Plant & Equipment (Net)	800.0	950.0	1,000.0	980.0	960.0	940.0	920.0	900.0	880.0	860.0	840.0	820.0	800.0			
Biological Assets (Plantations)	20.0	30.0	35.0	38.0	41.0	44.0	47.0	50.0	53.0	56.0	59.0	62.0	65.0			
Intangible Assets	5.0	5.0	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.5			
Total Non-Current Assets	825.0	985.0	1,040.0	1,022.5	1,005.0	987.5	970.0	952.5	935.0	917.5	900.0	882.5	865.5			
Current Assets																
Cash & Cash Equivalents	-	-	5.0	25.0	30.0	35.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0			
Accounts Receivable	-	-	8.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0			
Inventories	-	-	12.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0			
Other Current Assets	-	-	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5			
Total Current Assets	-	-	28.0	67.0	76.5	86.0	93.5	100.0	106.5	113.0	119.5	126.0	132.5			
TOTAL ASSETS	825.0	985.0	1,068.0	1,089.5	1,081.5	1,073.5	1,063.5	1,052.5	1,041.5	1,030.5	1,019.5	1,008.5	998.0			
EQUITY & LIABILITIES																
Equity																
Paid-in Capital	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0			
Additional Paid-in Capital	-	-	-	-	-	-	-	-	-	-	-	-	-			
Retained Earnings	-	-	-	(15.5)	2.5	12.5	22.0	31.9	41.8	52.1	62.8	73.8	85.7			
Other Reserves	-	-	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
Total Equity	300.0	300.0	300.0	285.5	303.5	313.5	323.0	332.9	342.8	353.1	363.8	374.8	386.7			
Non-Current Liabilities																
Long-term Loans	500.0	520.0	520.0	480.0	440.0	400.0	360.0	320.0	280.0	240.0	200.0	160.0	120.0			
Lease Liabilities	-	-	-	2.0	1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4	0.2			
Deferred Tax Liabilities	-	-	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
Total Non-Current Liabilities	500.0	520.0	520.0	492.0	451.8	411.6	371.4	331.2	291.0	250.8	210.6	170.4	130.2			
Current Liabilities																
Accounts Payable	-	-	10.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0			
Short-term Loans (Revolving)	-	-	30.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0	54.0	56.0	58.0			
Accrued Expenses & Others	-	-	8.0	13.0	14.2	15.4	16.6	17.8	19.0	20.1	21.1	22.3	23.5			
Total Current Liabilities	-	-	48.0	68.0	72.2	76.4	80.6	84.8	89.0	93.1	97.1	101.3	105.5			
TOTAL EQUITY & LIABILITIES	825.0	985.0	1,068.0	1,089.5	1,081.5	1,073.5	1,063.5	1,052.5	1,041.5	1,030.5	1,019.5	1,008.5	998.0			

TOTAL ASSETS TREND (USD MILLION)



Year	Total Assets (USD Million)
Year -2	825.0
Year -1	985.0
Year 0	1,068.0
Year 1	1,089.5
Year 2	1,081.5
Year 3	1,073.5
Year 4	1,063.5
Year 5	1,052.5
Year 6	1,041.5
Year 7	1,030.5
Year 8	1,019.5
Year 9	1,008.5
Year 10	998.0

CAPITAL STRUCTURE OVER TIME



Year	Equity	Non-Current Liabilities	Current Liabilities	Total
Year -2	300.0	500.0	0.0	825.0
Year -1	300.0	520.0	0.0	985.0
Year 0	300.0	520.0	0.0	1,068.0
Year 1	285.5	492.0	68.0	1,089.5
Year 2	303.5	451.8	72.2	1,081.5
Year 3	313.5	411.6	76.4	1,073.5
Year 4	323.0	371.4	80.6	1,063.5
Year 5	332.9	331.2	84.8	1,052.5
Year 6	342.8	291.0	89.0	1,041.5
Year 7	353.1	250.8	93.1	1,030.5
Year 8	363.8	210.6	97.1	1,019.5
Year 9	374.8	170.4	101.3	1,008.5
Year 10	386.7	130.2	105.5	998.0

KEY BALANCE SHEET RATIOS (END OF PERIOD)				
Ratio	Year 0	Year 1	Year 5	Year 10
Current Ratio (x)	0.58	0.99	1.12	1.26
Debt to Equity Ratio (x)	1.89	1.95	1.78	1.61
Gearing Ratio (x)	0.83	0.85	0.75	0.67
Return on Equity (ROE, %)	-	-5.4%	21.8%	22.2%
Return on Assets (ROA, %)	-	-1.4%	9.3%	11.0%

BALANCE SHEET HIGHLIGHTS

- ✓ Total assets peak in Year 1 at USD 1,089.5 million and gradually decline as depreciation exceeds new investments.
- ✓ Equity grows steadily driven by retained earnings, strengthening the capital base over time.
- ✓ Long-term debt is repaid systematically, declining to USD 120.0 million by Year 10.
- ✓ Healthy liquidity maintained with current ratio above 1.0 from Year 2 onwards.
- ✓ Conservative balance sheet supports financial stability and future expansion.



Strong Financial Position
Robust asset base supports operations and growth.



Improving Solvency
Decreasing leverage and strong equity accumulation.



Healthy Liquidity
Current ratio exceeds 1.0 from Year 2 onwards, ensuring short-term obligations met.



Sustainable Growth
Balanced capital structure enables long-term value creation and expansion.




Resilient & Future Ready
Strong financial foundation to support diversification and market opportunities.


STRONG FINANCIALS. SUSTAINABLE RETURNS. DELIVERING VALUE FOR GENERATIONS.

23. DSCR ANALYSIS


The Debt Service Coverage Ratio (DSCR) measures the project's ability to service debt from available cash flows. Lenders typically require a minimum DSCR of 1.20x.




NPV (10%)
USD 428.4 M



IRR (Project)
18.6%



Payback Period
6.0 Years



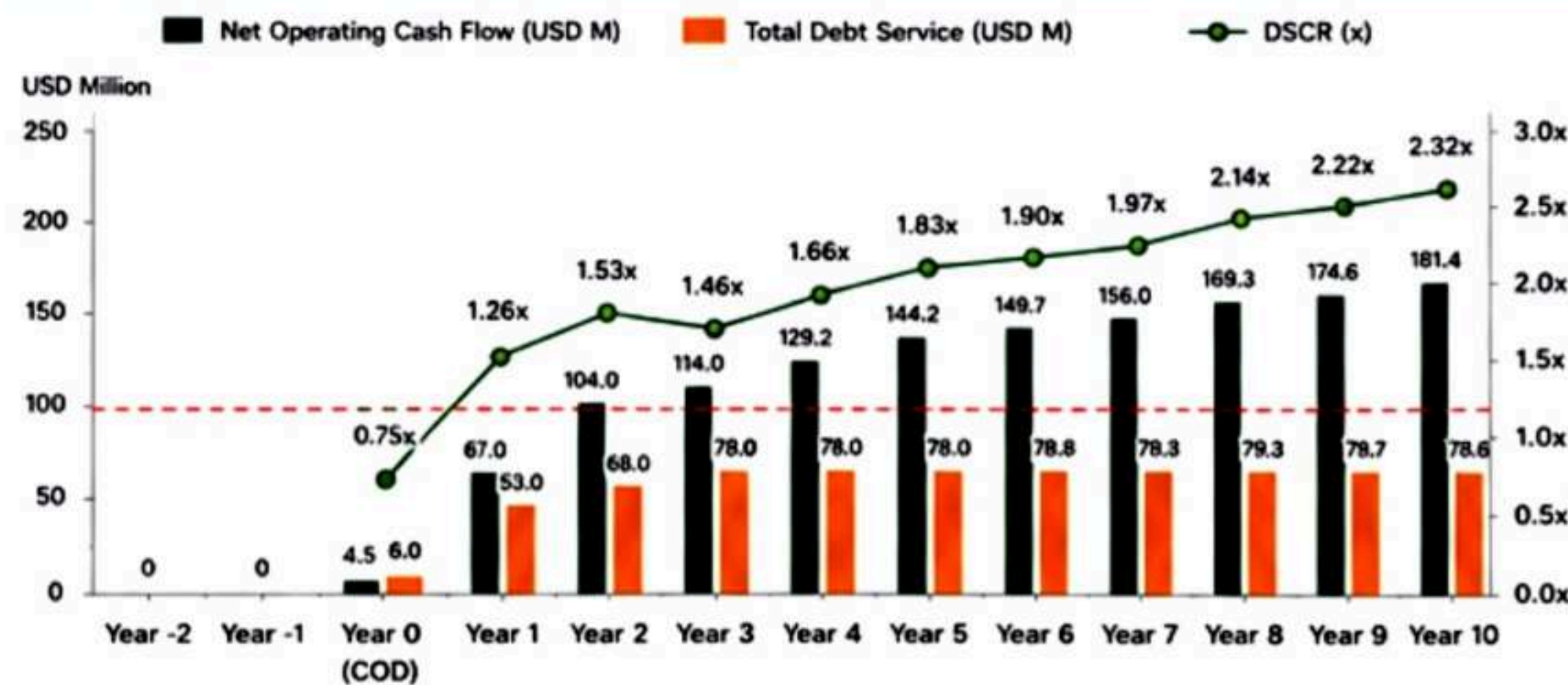
Average DSCR (Years 1-10)
1.62x

DSCR CALCULATION (USD MILLION)

DESCRIPTION	PRE-OPS Year -2	PRE-OPS Year -1	COD Year 0	OPERATIONAL YEARS									
				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Operating Cash Flow (A)	-	-	4.5	67.0	104.0	114.0	129.2	144.2	149.7	156.0	169.3	174.6	181.4
Interest Expense (B)	-	-	6.0	15.0	14.0	13.0	11.0	9.0	8.0	7.0	6.0	4.0	3.0
Principal Repayment (C)	-	-	-	38.0	54.0	65.0	67.0	69.8	70.8	72.3	74.7	74.7	75.6
Total Debt Service (D = B + C)	-	-	6.0	53.0	68.0	78.0	78.0	78.8	78.8	79.3	79.0	78.7	78.6
DSCR (A / D)	-	-	0.75x	1.26x	1.53x	1.46x	1.66x	1.83x	1.90x	1.97x	2.14x	2.22x	2.32x

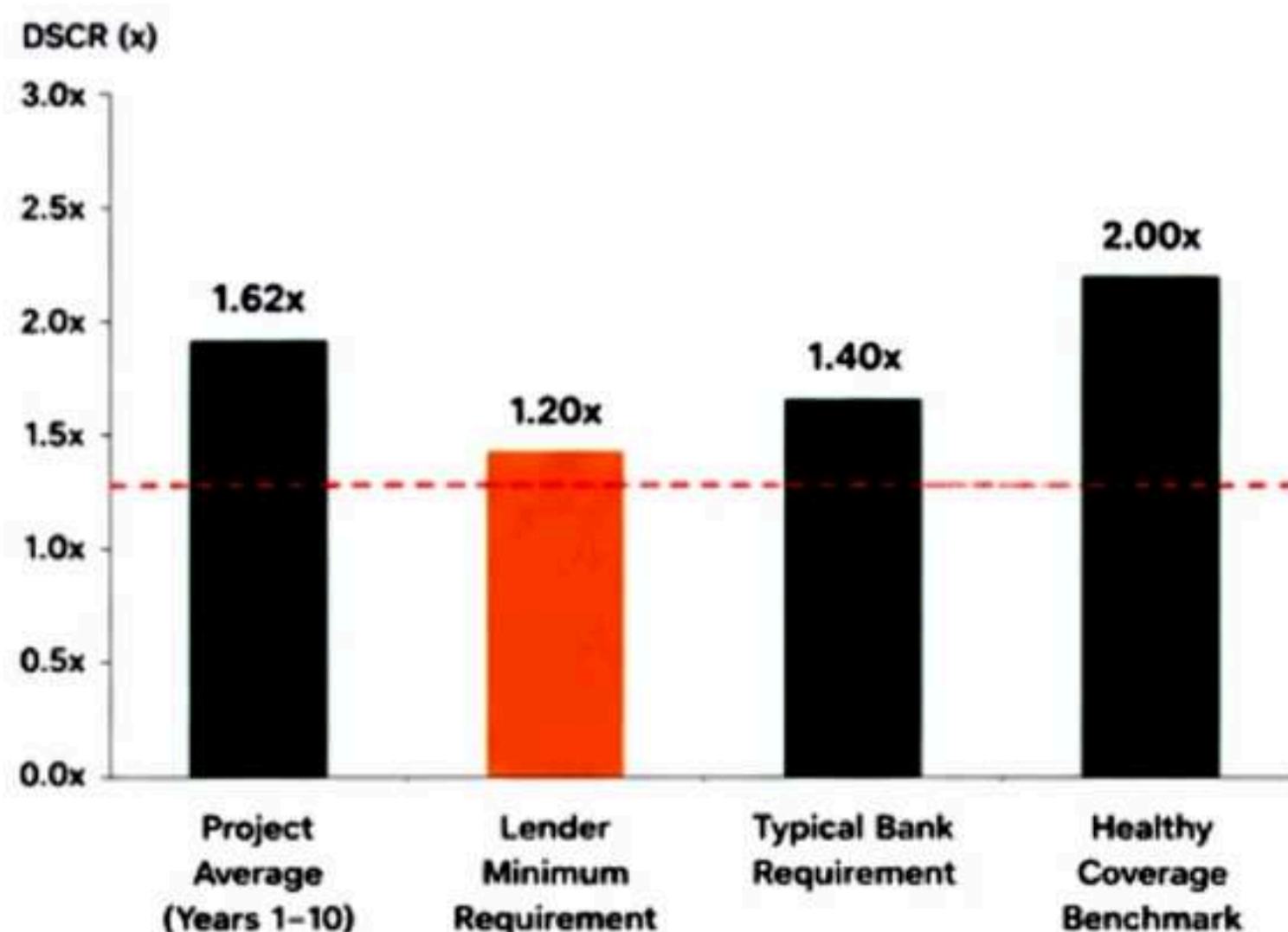
Note: Minor differences may occur due to rounding.

DSCR TREND OVER TIME



Year	Net Operating Cash Flow (USD M)	Total Debt Service (USD M)	DSCR (x)
Year -2	0	0	-
Year -1	0	0	-
Year 0 (COD)	4.5	6.0	0.75x
Year 1	67.0	53.0	1.26x
Year 2	104.0	68.0	1.53x
Year 3	114.0	78.0	1.46x
Year 4	129.2	78.0	1.66x
Year 5	144.2	78.0	1.83x
Year 6	149.7	78.8	1.90x
Year 7	156.0	79.3	1.97x
Year 8	169.3	78.7	2.14x
Year 9	174.6	78.6	2.22x
Year 10	181.4	78.6	2.32x

DSCR COMPARISON



Category	DSCR (x)
Project Average (Years 1-10)	1.62x
Lender Minimum Requirement	1.20x
Typical Bank Requirement	1.40x
Healthy Coverage Benchmark	2.00x


ANNUAL DSCR SUMMARY

Year	Net Operating Cash Flow (USD M) (A)	Total Debt Service (USD M) (D)	DSCR (A/D)	Compliance
Year 0 (COD)	4.5	6.0	0.75x	Below Min.
Year 1	67.0	53.0	1.26x	Meets
Year 2	104.0	68.0	1.53x	Meets
Year 3	114.0	78.0	1.46x	Meets
Year 4	129.2	78.0	1.66x	Meets
Year 5	144.2	78.8	1.83x	Meets
Year 6	149.7	78.8	1.90x	Meets
Year 7	156.0	79.3	1.97x	Meets
Year 8	169.3	79.0	2.14x	Meets
Year 9	174.6	78.7	2.22x	Meets
Year 10	181.4	78.6	2.32x	Meets
Average (Years 1-10)	128.6	76.8	1.62x	Meets

KEY HIGHLIGHTS

- ✓ DSCR at COD (Year 0) is 0.75x due to ramp-up phase and initial cash flow.
- ✓ DSCR exceeds the minimum lender requirement of 1.20x from Year 1 onwards.
- ✓ Average DSCR for Years 1-10 is 1.62x, indicating strong debt servicing capability.
- ✓ DSCR improves steadily as cash flows grow and debt principal amortizes.
- ✓ Peak DSCR of 2.32x in Year 10 provides a strong cushion for debt obligations.
- ✓ The project maintains healthy coverage throughout the operational period.

DEBT SERVICE BREAKDOWN (USD MILLION)










Year	Interest Expense (B) (USD M)	Principal Repayment (C) (USD M)
Year 0 (COD)	6.0	0.0
Year 1	15.0	38.0
Year 2	14.0	54.0
Year 3	13.0	65.0
Year 4	11.0	67.0
Year 5	9.0	69.8
Year 6	8.0	70.8
Year 7	7.0	72.3
Year 8	6.0	73.0
Year 9	4.0	74.7
Year 10	3.0	75.6

DSCR SENSITIVITY ANALYSIS (Average DSCR: Years 1-10)

Scenario	Revenue Change	OPEX Change	Average DSCR (Years 1-10)	Impact
Base Case	-	-	1.62x	-
Revenue -10%	-10%	-	1.31x	-19.1%
Revenue +10%	+10%	-	1.95x	+20.4%
OPEX +10%	-	+10%	1.42x	-12.3%
OPEX -10%	-	-10%	1.84x	+13.6%
Combined (-10% Rev, +10% OPEX)	-10%	+10%	1.09x	Below Min.
Combined (+10% Rev, -10% OPEX)	+10%	-10%	2.18x	Strong

KEY ASSUMPTIONS

 Debt tenor	10 Years (incl. 1 Year Grace)
 Repayment profile	Semi-annual, Equal Principal
 Interest rate	8.0% p.a.
 DSCR covenant (Minimum)	1.20x
 Cash flows	Post-tax, After CAPEX & Working Capital
 Figures in	USD Million
 Inflation	2.0% p.a. from Year 2 onwards

FINANCIAL TAKEAWAYS

Strong Debt Servicing Capability
Average DSCR of 1.62x exceeds lender requirement.

Robust Cash Flow Generation
Healthy margins and efficient operations drive DSCR.

Low Financial Risk
DSCR remains above 1.20x under stress scenarios (except severe down case).

Sustainable Leverage
Debt is well supported by long-term stable cash flows.

Supports Growth
Strong coverage enables future expansion and value creation.

STRONG FINANCIALS. SUSTAINABLE RETURNS. DELIVERING VALUE FOR GENERATIONS.

24. LLCR ANALYSIS

The Loan Life Coverage Ratio (LLCR) measures the project's ability to repay debt over the entire loan tenor using cumulative cash flows. Lenders typically require a minimum LLCR of 1.20x.



NPV (10%)

USD 428.4 M



IRR (Project)

18.6%



Payback Period

6.0 Years



Average LLCR (Years 1–10)

2.08x

LLCR CALCULATION (USD MILLION)													
DESCRIPTION	PRE-OPS	PRE-OPS	COD	OPERATIONAL YEARS									
	Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Operating Cash Flow (A)	-	-	4.5	67.0	104.0	114.0	129.2	144.2	149.7	156.0	169.3	174.6	181.4
Total Debt Service (B)	-	-	6.0	53.0	68.0	78.0	78.0	78.8	78.8	79.3	79.0	78.7	78.6
Loan Life Coverage Ratio (LLCR)	-	-	0.75x	1.26x	1.53x	1.46x	1.66x	1.83x	1.90x	1.97x	2.14x	2.22x	2.32x
Cumulative Net Operating Cash Flow (Cumulative A)			4.5	71.5	175.5	179.5	289.7	418.7	562.9	868.6	1,037.9	1,212.5	1,393.9
Cumulative Debt Service (Cumulative B)			6.0	59.0	127.0	205.0	283.0	361.8	440.6	519.9	598.9	677.6	756.2
Loan Life Coverage Ratio (Cumulative C / Cumulative B)			0.75x	1.21x	1.38x	1.41x	1.48x	1.56x	1.63x	1.67x	1.71x	1.79x	1.84x

LLCR TREND OVER TIME



Year	Net Operating Cash Flow (USD M)	Total Debt Service (USD M)	LLCR (x)
Year -2	0	0	-
Year -1	0	0	-
Year 0 (COD)	4.5	6.0	0.75x
Year 1	67.0	53.0	1.26x
Year 2	104.0	68.0	1.53x
Year 3	114.0	78.0	1.46x
Year 4	129.2	78.0	1.66x
Year 5	144.2	78.8	1.83x
Year 6	149.7	78.8	1.90x
Year 7	156.0	79.3	1.97x
Year 8	169.3	79.0	2.14x
Year 9	174.6	78.7	2.22x
Year 10	181.4	78.6	2.32x

LLCR CUMULATIVE ANALYSIS



Year	Cumulative Net Operating Cash Flow (USD M)	Cumulative Debt Service (USD M)	Cumulative LLCR (x)
Year -2	0	0	-
Year -1	0	0	-
Year 0 (COD)	4.5	6.0	0.75x
Year 1	71.5	59.0	1.21x
Year 2	175.5	127.0	1.38x
Year 3	179.5	205.0	1.41x
Year 4	289.7	283.0	1.48x
Year 5	418.7	361.8	1.56x
Year 6	562.9	440.6	1.63x
Year 7	868.6	519.9	1.67x
Year 8	1,037.9	598.9	1.71x
Year 9	1,212.5	677.6	1.79x
Year 10	1,393.9	756.2	1.84x

ANNUAL LLCR SUMMARY				
Year	Net Operating Cash Flow (A) USD M	Total Debt Service (B) USD M	LLCR (A/B)	Compliance
Year 0 (COD)	4.5	6.0	0.75x	Below Min.
Year 1	67.0	53.0	1.26x	Meets
Year 2	104.0	68.0	1.53x	Meets
Year 3	114.0	78.0	1.46x	Meets
Year 4	129.2	78.0	1.66x	Meets
Year 5	144.2	78.8	1.83x	Meets
Year 6	149.7	78.8	1.90x	Meets
Year 7	156.0	79.3	1.97x	Meets
Year 8	169.3	79.0	2.14x	Meets
Year 9	174.6	78.7	2.22x	Meets
Year 10	181.4	78.6	2.32x	Meets
Average (Years 1–10)	128.6	76.8	1.85x	Meets

KEY HIGHLIGHTS

- Project LLCR at COD (Year 0) is 0.75x due to initial cash flow ramp-up.
- LLCR exceeds the minimum requirement of 1.20x from Year 1 onwards.
- Average LLCR for Years 1–10 is 1.85x, indicating strong long-term debt repayment ability.
- Cumulative LLCR reaches 1.84x by Year 10, providing a healthy repayment buffer.
- The project maintains robust cash generation to service and repay debt over the loan life.

LLCR COMPARISON



Category	Value (x)
Project Average (Years 1–10)	1.85x
Lender Minimum Requirement	1.20x
Typical Bank Requirement	1.40x
Strong Coverage Benchmark	2.00x

LLCR SENSITIVITY ANALYSIS (Average LLCR: Years 1–10)				
Scenario	Revenue Change	OPEX Change	Average LLCR (Years 1–10)	Impact
Base Case	-	-	1.85x	-
Revenue -10%	-10%	-	1.48x	-19.8%
Revenue +10%	+10%	-	2.24x	+21.1%
OPEX +10%	-	+10%	1.63x	-11.9%
OPEX -10%	-	-10%	2.10x	+13.5%
Combined (+10% Rev, +10% OPEX)	+10%	+10%	1.96x	+6.0%
Combined (-10% Rev, +10% OPEX)	-10%	+10%	1.27x	-31.4%

KEY ASSUMPTIONS

- Debt tenor: 10 Years (incl. 1 Year Grace)
- Repayment profile: Semi-annual, Equal Principal
- Interest rate: 8.0% p.a.
- LLCR covenant (Minimum): 1.20x
- Cash flows: Post-tax, After CAPEX & Working Capital
- Figures in: USD Million
- Inflation: 2.0% p.a. from Year 2 onwards



Strong Debt Repayment Capacity

Average LLCR of 1.85x exceeds lender requirement.



Healthy Repayment Buffer

Cumulative LLCR of 1.84x by Year 10 provides strong cushion.



Resilient Under Stress

LLCR remains above 1.20x under most stress scenarios.



Supports Long-Term Stability

Consistent cash flows ensure sustainable debt servicing throughout the loan life.



Enhances Lender Confidence

Robust LLCR profile supports favorable financing terms and long-term partnership.

STRONG FINANCIALS. SUSTAINABLE RETURNS. DELIVERING VALUE FOR GENERATIONS.



25. PLCR ANALYSIS

The Principal Loan Coverage Ratio (PLCR) measures the project's ability to repay the principal amount of debt from available cash flows. Lenders typically require a minimum PLCR of 1.20x.



NPV (10%)
USD 428.4 M



IRR (Project)
18.6%



Payback Period
6.0 Years

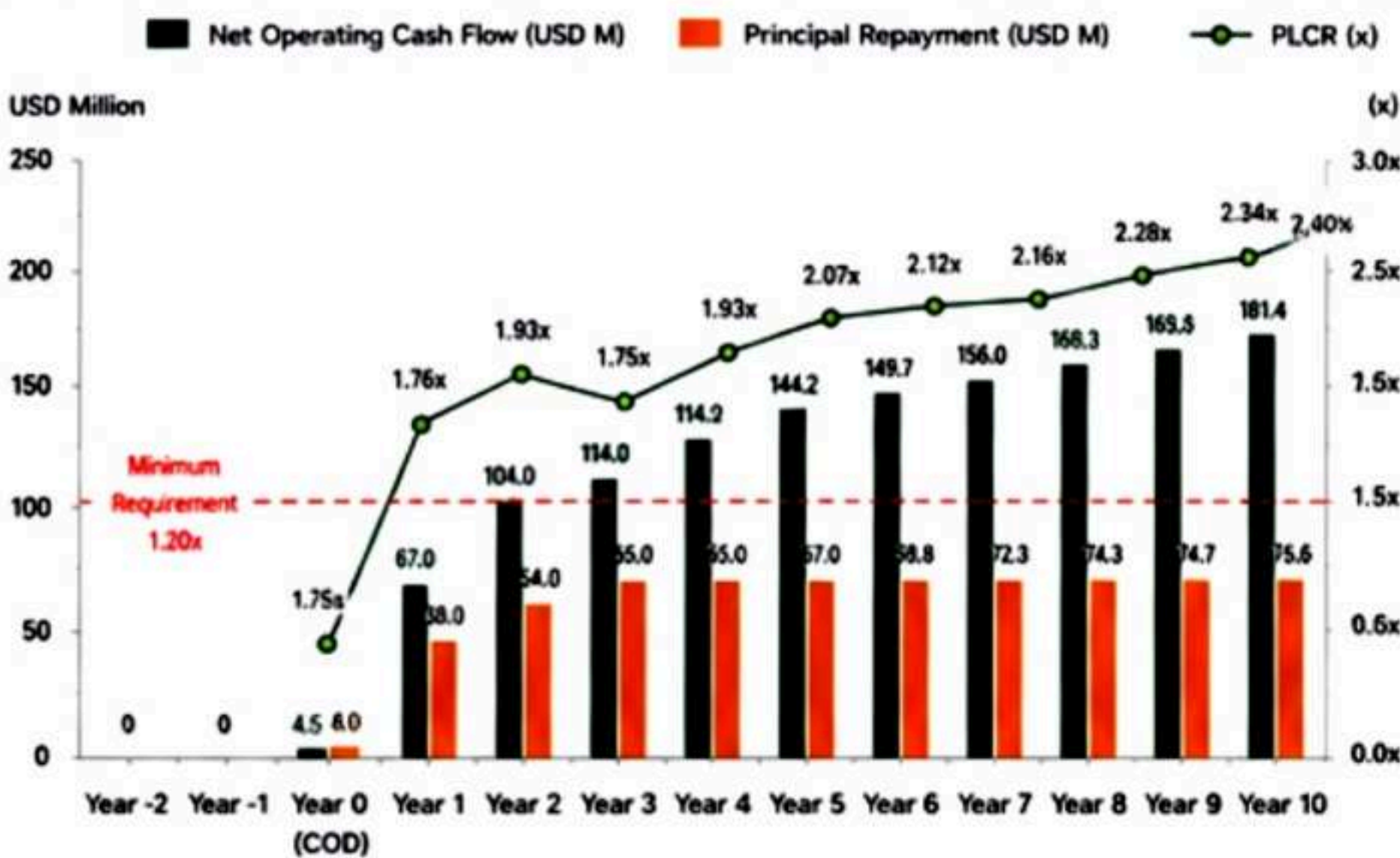


Average PLCR
(Years 1–10)
2.26x

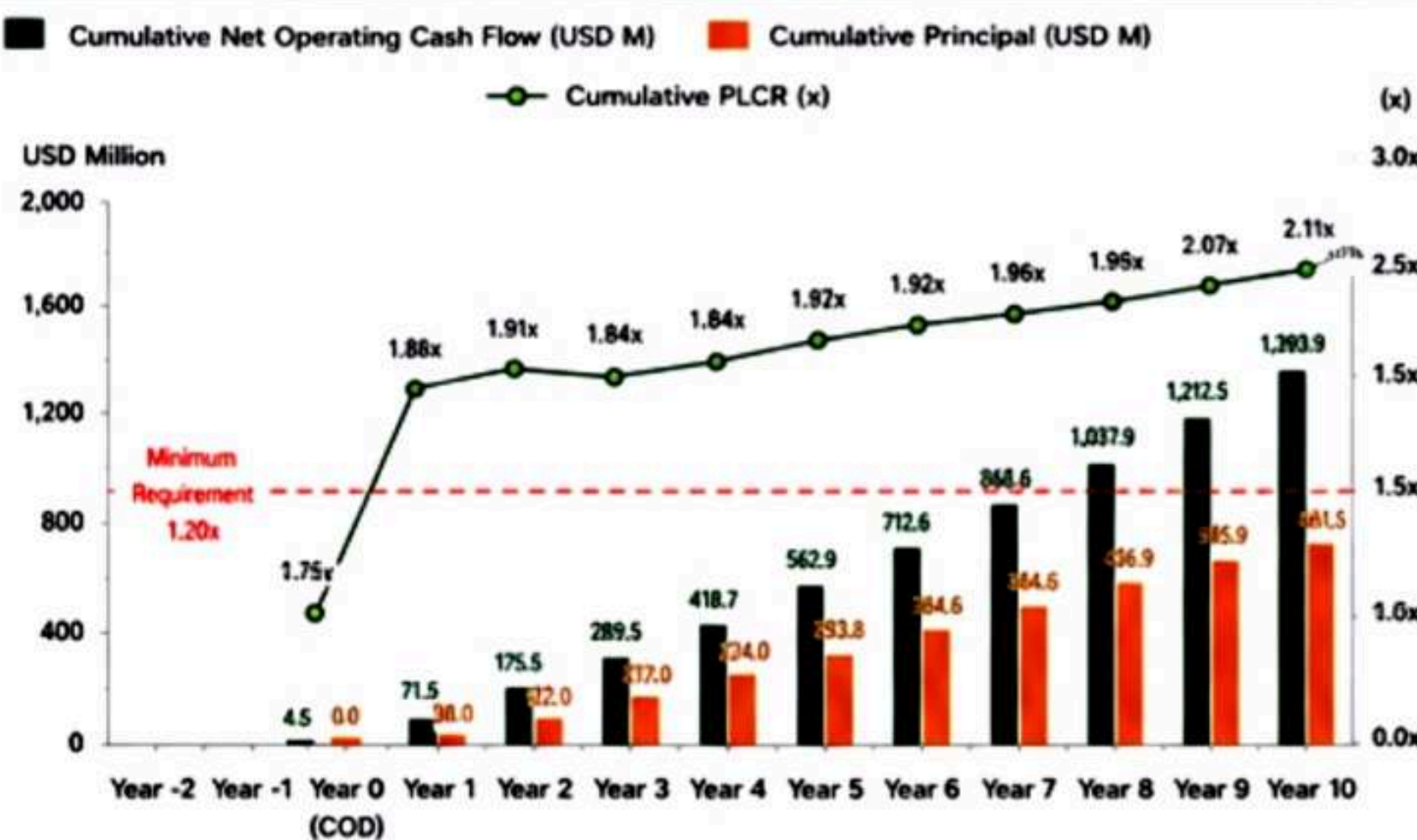
PLCR CALCULATION (USD MILLION)

DESCRIPTION	PRE-OPS		COD	OPERATIONAL YEARS									
	Year -2	Year -1		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Operating Cash Flow (A)	-	-	4.5	67.0	104.0	114.0	129.2	144.2	149.7	156.0	169.3	174.6	181.4
Total Debt Service (B)	-	-	6.0	53.0	68.0	78.0	78.0	78.8	78.8	79.3	79.0	78.7	78.6
Principal Repayment (C)	-	-	-	38.0	54.0	65.0	67.0	69.8	70.8	72.3	74.3	74.7	75.6
PLCR (A / C)	-	-	-	1.76x	1.93x	1.75x	1.93x	2.07x	2.12x	2.16x	2.28x	2.34x	2.40x
Cumulative Principal (Cumulative C)	-	-	-	38.0	92.0	157.0	224.0	293.8	364.6	436.9	511.2	585.9	661.5
Cumulative Net Operating Cash Flow (Cumulative A)	-	-	4.5	71.5	175.5	289.5	418.7	562.9	712.6	868.6	1,037.9	1,212.5	1,393.9
PLCR (Cumulative A / Cumulative C)	-	-	-	1.88x	1.91x	1.84x	1.87x	1.92x	1.96x	1.99x	2.03x	2.07x	2.11x

PLCR TREND OVER TIME



CUMULATIVE PLCR ANALYSIS



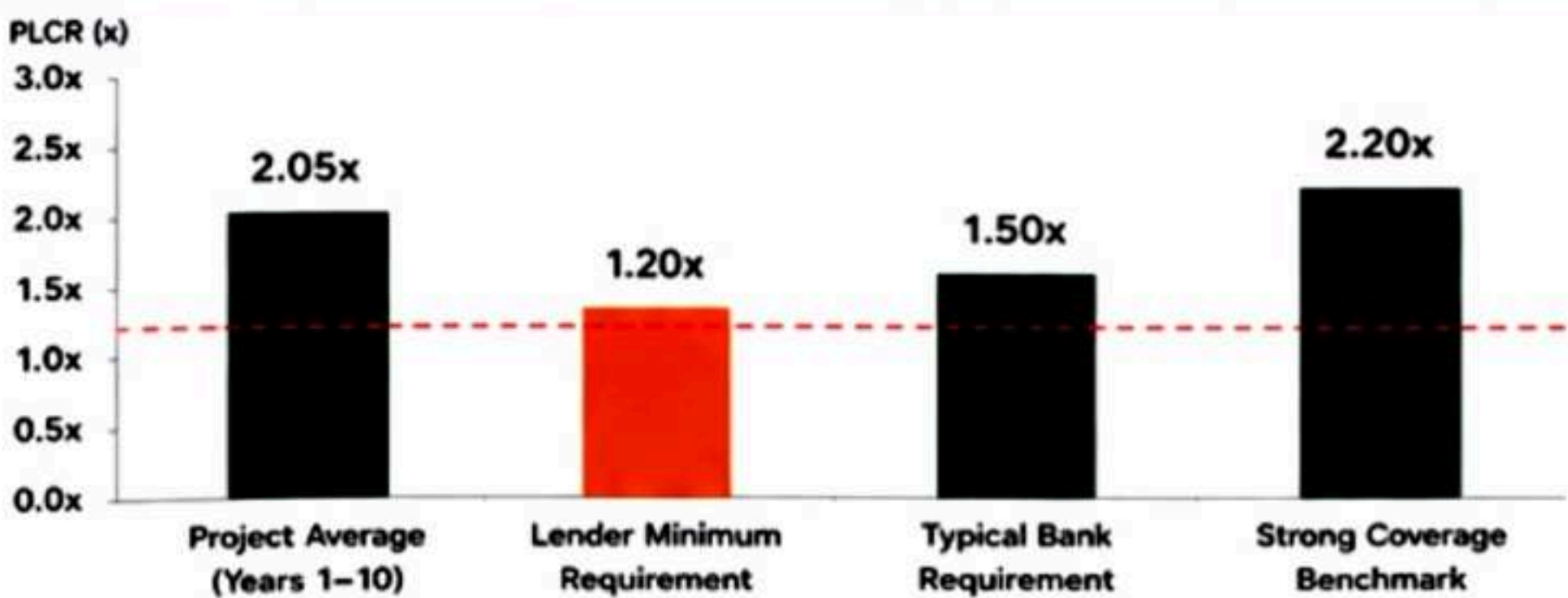
ANNUAL PLCR SUMMARY

Year	Net Operating Cash Flow (A) USD M	Principal Repayment (C) USD M	PLCR (A/C)	Compliance
Year 0 (COD)	4.5	-	-	N/A
Year 1	67.0	38.0	1.76x	Meets
Year 2	104.0	54.0	1.93x	Meets
Year 3	114.0	65.0	1.75x	Meets
Year 4	129.2	67.0	1.93x	Meets
Year 5	144.2	69.8	2.07x	Meets
Year 6	149.7	70.8	2.12x	Meets
Year 7	156.0	72.3	2.16x	Meets
Year 8	169.3	74.3	2.28x	Meets
Year 9	174.6	74.7	2.34x	Meets
Year 10	181.4	75.6	2.40x	Meets
Average (Years 1–10)	128.6	65.1	2.05x	Meets

KEY HIGHLIGHTS

- Project PLCR at COD (Year 0) is not applicable as no principal is due.
- PLCR exceeds the minimum requirement of 1.20x from Year 1 onwards.
- Average PLCR for Years 1–10 is 2.05x, indicating strong principal repayment capacity.
- Cumulative PLCR reaches 2.11x by Year 10, demonstrating robust long-term coverage.
- The project maintains healthy cash flow generation to repay principal obligations.

PLCR COMPARISON



PLCR SENSITIVITY ANALYSIS
(Average PLCR: Years 1–10)

Scenario	Revenue Change	OPEX Change	Average PLCR (Years 1–10)	Impact
Base Case	-	-	2.05x	-
Revenue -10%	-10%	-	1.71x	-16.6%
Revenue +10%	+10%	-	2.39x	+16.6%
OPEX -10%	-	-10%	2.27x	+10.7%
OPEX +10%	-	+10%	1.87x	-8.8%
Combined (-10% Rev, +10% OPEX)	-10%	+10%	1.54x	-24.9%
Combined (+10% Rev, -10% OPEX)	+10%	-10%	2.68x	+30.7%

KEY ASSUMPTIONS

Debt tenor	10 Years (incl. 1 Year Grace)
Repayment profile	Semi-annual, Equal Principal
Interest rate	8.0% p.a.
PLCR covenant (Minimum)	1.20x
Cash flows	Post-tax, After CAPEX & Working Capital
Figures in	USD Million
Inflation	2.0% p.a. from Year 2 onwards

FINANCIAL TAKEAWAYS



Strong Principal Repayment Capacity
Average PLCR of 2.05x exceeds lender requirement.



Robust Cash Flow Supports Principal Repayment
Ensures timely and consistent debt amortization.



Low Financial Risk
PLCR remains above 1.20x under most stress scenarios.



Supports Long-Term Viability
Strong principal coverage strengthens lender confidence and refinancing ability.



Enhances Project Bankability
Healthy PLCR profile supports favorable financing terms and long-term partnership.



26. SENSITIVITY ANALYSIS

Sensitivity analysis evaluates the impact of key variables on project NPV (after tax) and project IRR. The analysis is performed on one variable at a time while other variables remain constant.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%



Base Case Payback
6.0 Years

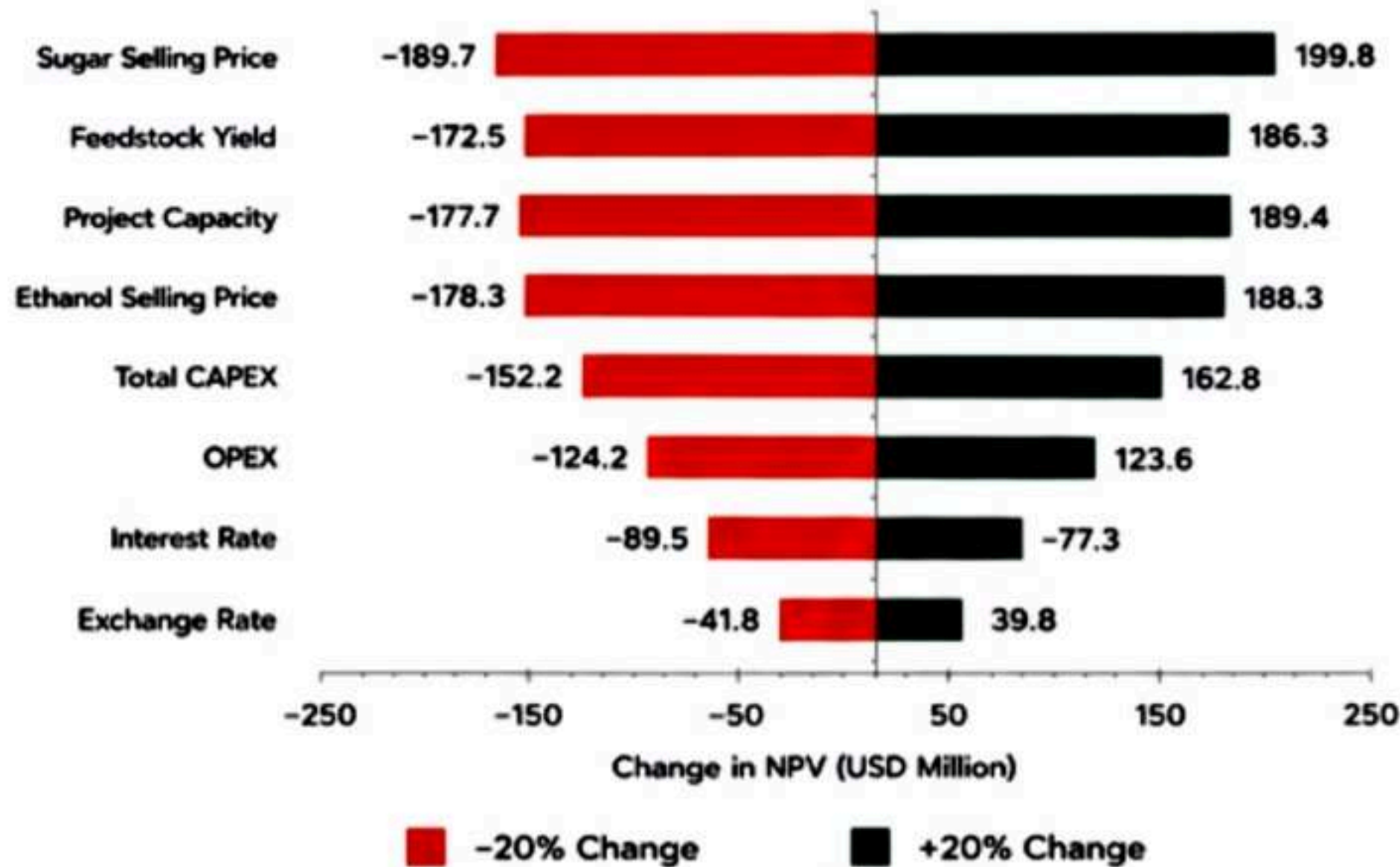


Base Case PLCR
2.26x

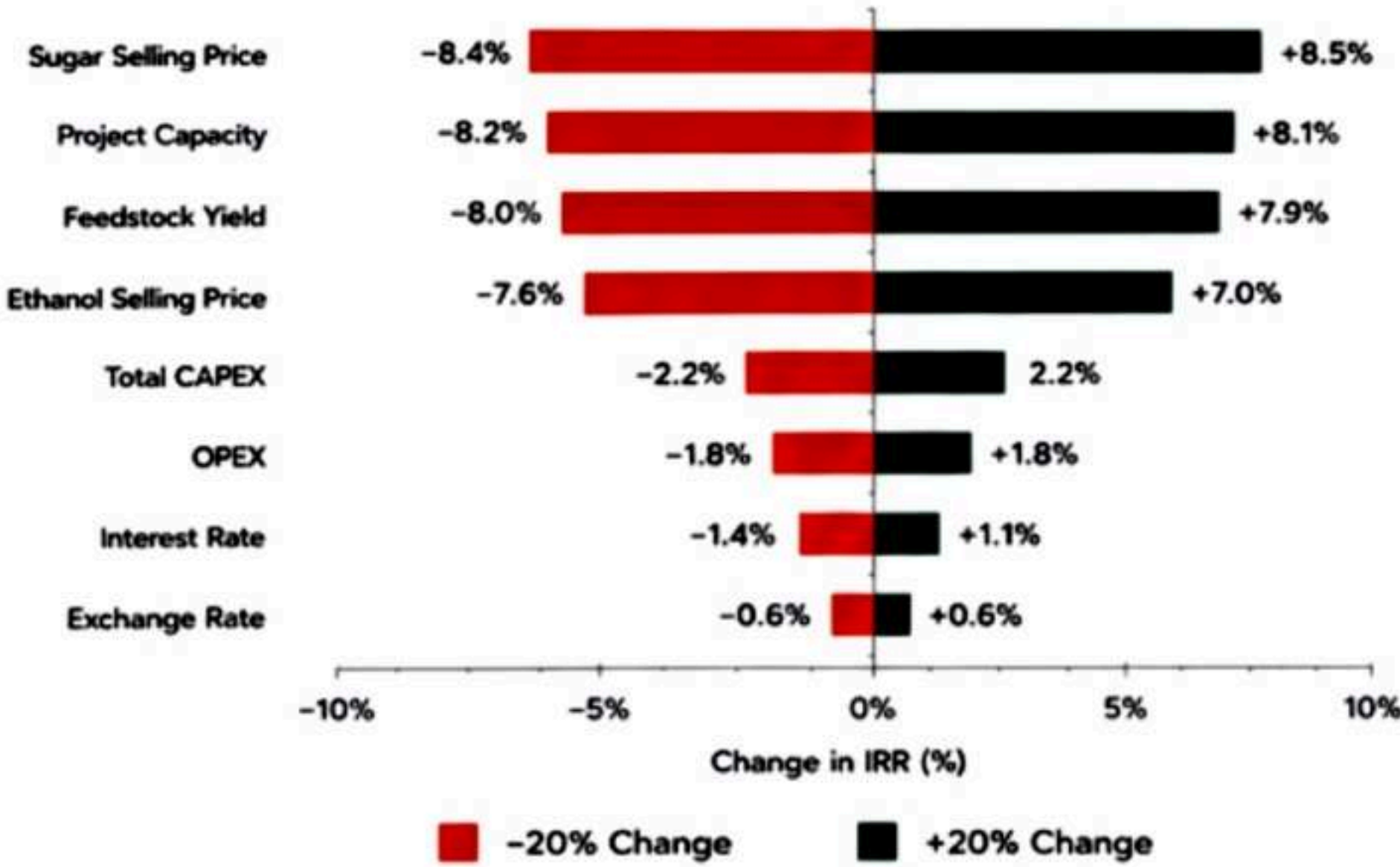
SENSITIVITY RESULTS – NPV (AFTER TAX) AND IRR
(One Variable at a Time)

No.	Variable (Change from Base Case)	Unit	Base Case Value	IMPACT ON NPV (USD MILLION)					IMPACT ON IRR (%)				
				-20%	-10%	Base Case	+10%	+20%	-20%	-10%	Base Case	+10%	+20%
1	Sugar Selling Price	%	USD 540 /ton	238.7	333.9	428.4	525.3	628.2	10.2%	14.6%	18.6%	22.7%	27.1%
2	Ethanol Selling Price	%	USD 720 /m³	250.1	336.5	428.4	522.8	616.7	11.0%	15.1%	18.6%	21.8%	25.6%
3	Total CAPEX	%	USD 412.6 M	591.5	509.1	428.4	349.6	276.2	21.3%	19.6%	18.6%	17.5%	16.4%
4	OPEX	%	USD 89.2 M/yr	561.8	496.0	428.4	364.2	304.8	20.3%	19.3%	18.6%	17.8%	16.8%
5	Feedstock Yield	%	85 ton/ha	255.9	340.3	428.4	517.3	614.7	10.6%	14.8%	18.6%	22.2%	26.5%
6	Interest Rate	%	8.0% p.a.	517.4	468.9	428.4	388.0	351.1	20.1%	19.2%	18.6%	18.1%	17.5%
7	Exchange Rate (USD/IDR)	%	16,000	471.3	449.4	428.4	408.2	388.6	19.2%	18.8%	18.6%	18.3%	18.0%
8	Project Capacity (Sugar & Ethanol)	%	100%	250.7	338.8	428.4	519.6	617.8	10.4%	14.7%	18.6%	22.4%	26.7%

NPV SENSITIVITY TORNADO CHART (USD MILLION)



IRR SENSITIVITY TORNADO CHART (%)



SCENARIO ANALYSIS (COMBINED IMPACT)

Scenario	Description	NPV (USD Million)		IRR (%)		PLCR (x)
		Value	Change vs Base	Value	Change vs Base	
Base Case	All variables at base case	428.4	-	18.6%	-	2.26x
Best Case	Prices +10%, Yield +10%, OPEX -10%, CAPEX -10%	832.6	+94.4%	27.8%	+9.2 pp	3.38x
Optimistic Case	Prices +10%, Yield +5%, OPEX -5%, CAPEX -5%	632.3	+47.6%	22.9%	+4.3 pp	2.70x
Pessimistic Case	Prices -10%, Yield -10%, OPEX +10%, CAPEX +10%	124.6	-71.0%	9.2%	-9.4 pp	1.32x
Worst Case	Prices -20%, Yield -20%, OPEX +20%, CAPEX +20%	-152.3	-135.6%	4.6%	-14.0 pp	0.82x

Note: pp = percentage points

BREAK-EVEN ANALYSIS

Variable	Break-Even Level	Comment
Sugar Selling Price	USD 381 /ton	Minimum price to achieve NPV = 0
Ethanol Selling Price	USD 531 /m³	Minimum price to achieve NPV = 0
Feedstock Yield	61 ton/ha	Minimum yield to achieve NPV = 0
Total CAPEX	USD 553 M	Maximum CAPEX with NPV = 0
OPEX	USD 125 M/yr	Maximum OPEX with NPV = 0

KEY TAKEAWAYS

- Project is most sensitive to Sugar Price, Feedstock Yield and Project Capacity.
- Even under pessimistic scenario, project maintains positive cash flow and DSCR > 1.20x throughout operations.
- Strong upside potential with favorable market and operational performance.
- Robust financials with comfortable buffer under downside scenarios.

FINANCIAL TAKEAWAYS



Strong Upside Potential
Attractive returns under favorable scenarios.



Resilient to Downside
Remains viable even under adverse market and cost conditions.



Robust Coverage
Healthy PLCR and DSCR across all tested scenarios.



Well Diversified Revenue Base
Multiple revenue streams improve stability.



Sustainable & Future Ready
Strong fundamentals support long-term value creation.

27. RISK MATRIX

The risk matrix identifies and evaluates key project risks based on the likelihood of occurrence and potential impact on project objectives. Mitigation strategies are defined to reduce risk exposure.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%



Base Case Payback
6.0 Years







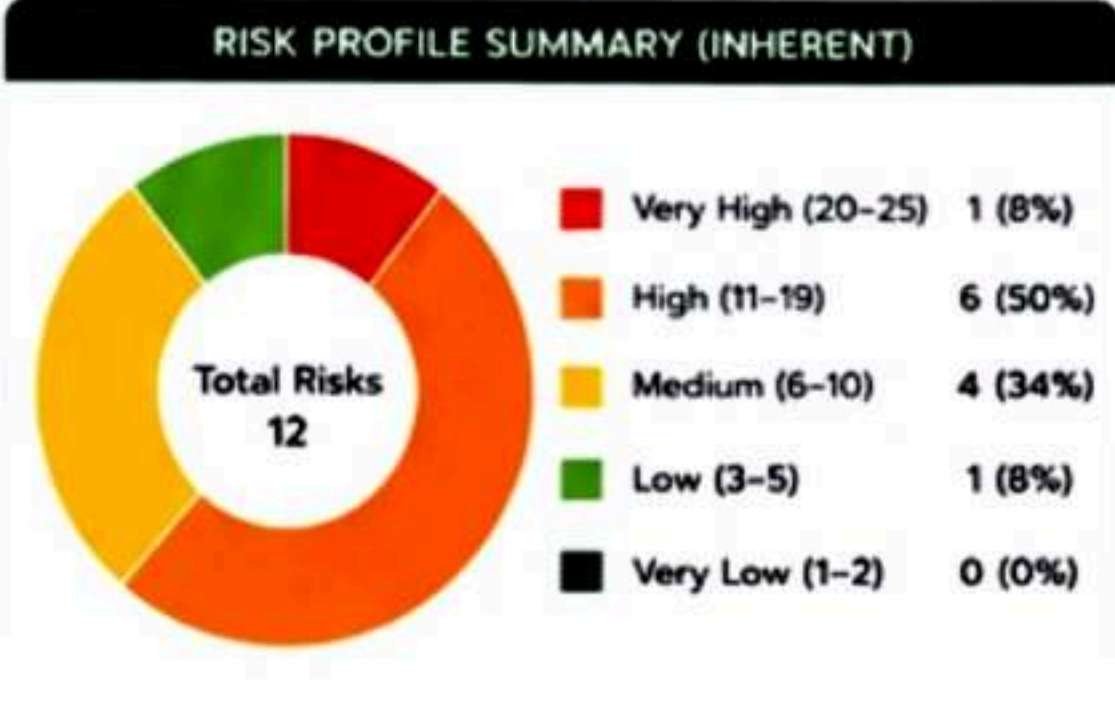
Base Case PLCR
2.26x

RISK MATRIX (INHERENT RISK)						RISK LEVEL DEFINITIONS							
LIKELIHOOD							RISK LEVEL	SCORE RANGE	DESCRIPTION	ACTION REQUIRED			
5 Almost Certain (>80%)	4 Likely (60% – 80%)	3 Possible (30% – 60%)	2 Unlikely (10% – 30%)	1 Rare (<10%)	5	10	15	20	25	VERY HIGH	20 – 25	Critical risk that could seriously affect project viability or objectives.	Immediate action required. Escalate to top management.
					4	8	12	16	20				
					3	6	9	12	15	HIGH	11 – 19	High risk with significant impact on cost, schedule or performance.	Active management and mitigation required.
					2	4	6	8	10				
					1	2	3	4	5	MEDIUM	6 – 10	Moderate risk with manageable impact.	Monitor closely and implement mitigation.
					LOW	3 – 5	Low risk with minor impact.	Monitor and manage as needed.					
									VERY LOW	1 – 2	Minimal risk with negligible impact.	No immediate action required.	
					1	2	3	4	5				
					Insignificant	Minor	Moderate	Major	Catastrophic				
					IMPACT								

Risk Score = Likelihood (1-5) x Impact (1-5)

RISK REGISTER AND EVALUATION												
No.	Risk Category	Risk Description	INHERENT RISK				Key Mitigation Measures	RESIDUAL RISK (AFTER MITIGATION)				Risk Owner
			Likelihood (1-5)	Impact (1-5)	Score	Level		Likelihood (1-5)	Impact (1-5)	Score	Level	
1	Market	Fluctuation in sugar and ethanol prices	4	4	16	High	<ul style="list-style-type: none">Long-term off-take agreementsProduct diversificationFlexible production planning	2	3	6	Medium	Commercial Director
2	Market	Changes in government policy or trade regulations	3	4	12	High	<ul style="list-style-type: none">Continuous policy monitoringEngage with regulatorsScenario planning	2	3	6	Medium	Government Relations
3	Operational	Lower-than-expected crop yield	4	4	16	High	<ul style="list-style-type: none">Best agronomy practicesHigh-quality seedlingsRegular field monitoring	2	3	6	Medium	Plantation Manager
4	Operational	Equipment breakdown and plant downtime	3	4	12	High	<ul style="list-style-type: none">Preventive maintenanceCritical spare parts inventoryReliable suppliers	2	3	6	Medium	Mill Manager
5	Financial	Interest rate increase	3	3	9	Medium	<ul style="list-style-type: none">Fixed-rate loans where possibleInterest rate hedgingMaintain DSCR > 1.20x	2	2	4	Low	CFO
6	Financial	Foreign exchange rate volatility	3	3	9	Medium	<ul style="list-style-type: none">Natural hedge through USD revenueFX hedging instrumentsDiversified currency accounts	2	2	4	Low	CFO
7	Financial	Cost overrun during construction	4	4	16	High	<ul style="list-style-type: none">Detailed cost estimationStrong contractor managementContingency provision (10-15%)	2	3	6	Medium	Project Director
8	Environmental	Extreme weather / flood / drought	3	4	12	High	<ul style="list-style-type: none">Climate-resilient designDrainage and irrigation systemsInsurance coverage	2	3	6	Medium	HSE Manager
9	Environmental	Environmental compliance and permitting delays	3	3	9	Medium	<ul style="list-style-type: none">Early stakeholder engagementCompliance monitoringAllocate sufficient time	2	2	4	Low	HSE Manager
10	Social	Community opposition or land issues	2	4	8	Medium	<ul style="list-style-type: none">Community engagement programFair compensationCSR initiatives	1	2	2	Very Low	CSR Manager
11	Supply Chain	Delay in raw material or chemical supply	3	3	9	Medium	<ul style="list-style-type: none">Multiple suppliersStrategic inventoryLong-term supply contracts	2	2	4	Low	Supply Chain Manager
12	Strategic	Technology underperformance	2	3	6	Medium	<ul style="list-style-type: none">Proven technology selectionVendor performance guaranteesOperator training	1	2	2	Very Low	Technical Director
Overall Project Risk Exposure			Average Score		10.3	High	Average Score		4.5	Low		

RISK RESPONSE STRATEGY		
	Avoid	Eliminate the risk by changing the plan or approach. Example: Avoid regulatory sanction by ensuring full compliance.
	Mitigate	Reduce the likelihood or impact through controls and actions. Example: Preventive maintenance to reduce equipment breakdown.
	Transfer	Shift the risk to a third party. Example: Insurance for property and business interruption.
	Accept	Accept the risk when cost of mitigation exceeds the benefit. Example: Accept minor weather disruptions within tolerance.



- KEY TAKEAWAYS
- ✓ The project has a predominantly Medium to High inherent risk profile.
 - ✓ After mitigation, residual risks are reduced to Low levels with average score of 4.5.
 - ✓ Proactive risk management will support project objectives, financial performance and long-term sustainability.



Strong Risk Management
Protects project value and improves investor confidence.



Maintaining DSCR > 1.20x and LLCR > 1.20x ensures financial resilience.



Continuous monitoring and mitigation safeguard cash flows and returns.



Sustainable operations and compliance reduce long-term operational and reputational risk.



Robust governance and clear accountability drive successful project delivery.

28. SECURITY PACKAGE

The Security Package provides lenders with a robust and enforceable security structure over the project assets, receivables, accounts and key project rights to support all financing facilities.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%

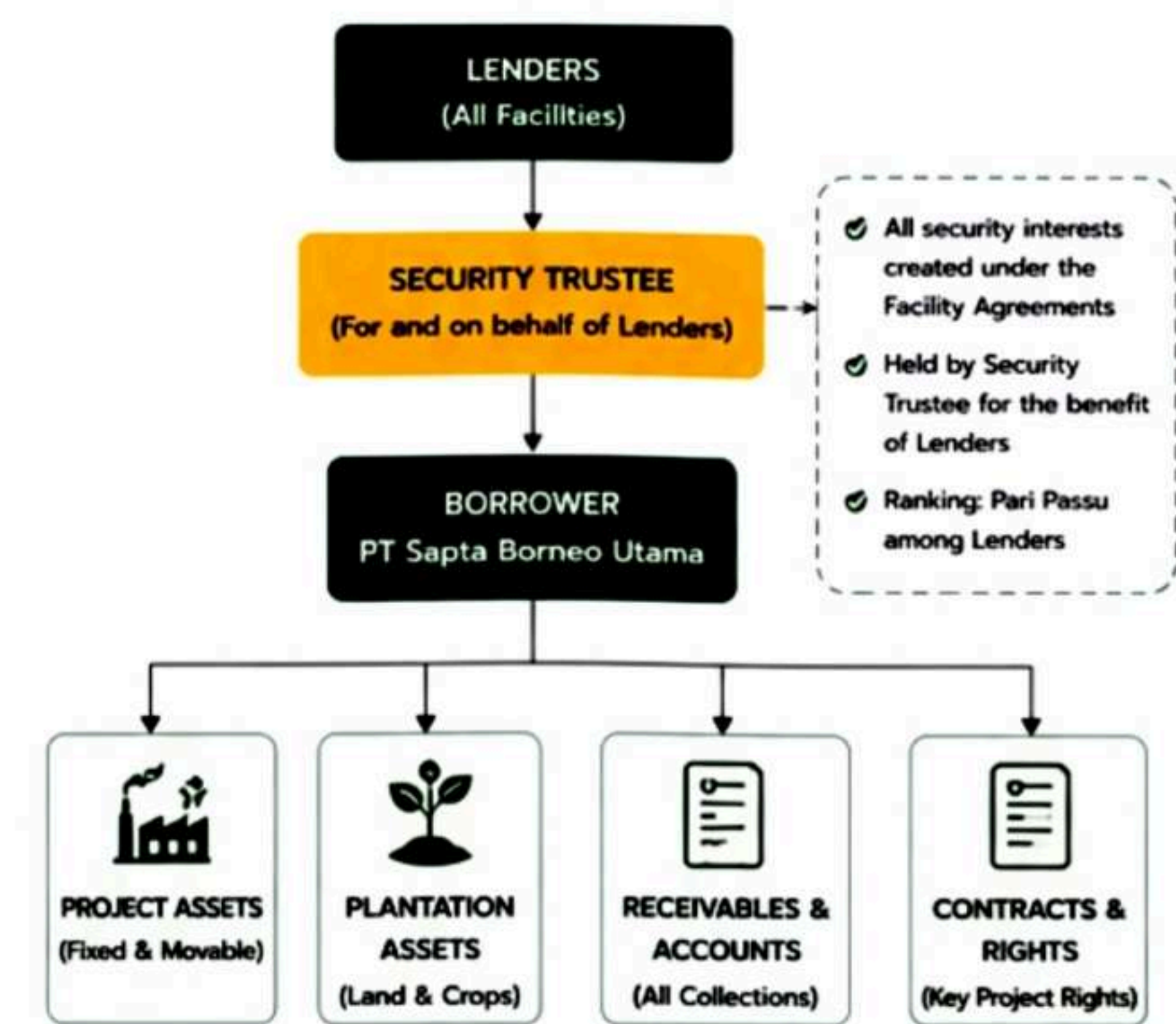


Base Case Payback
6.0 Years



Base Case PLCR
2.26x

1. SECURITY STRUCTURE OVERVIEW



2. SECURITY ASSETS COVERED

Asset Category	Details / Examples
1 Fixed Assets	All plant & machinery, equipment, buildings, infrastructure, utilities, tanks, civil works and improvements.
2 Plantation Assets	Plantation land, crops, immature plantations, roads, drains, irrigation, and related improvements.
3 Movable Assets	Vehicles, spares, tools, office & IT equipment, inventory, and other movable property.
4 Receivables	All receivables from sale of sugar, ethanol, electricity, bagasse, CO ₂ , and other by-products.
5 Accounts	All project bank accounts including collection accounts, DSRA, O&M accounts and other cash accounts.
6 Intellectual Property	All permits, licenses, trademarks, know-how, software, manuals and technical documentation.
7 Contracts	All material contracts including EPC, O&M, offtake, fuel supply, insurance and service agreements.
8 Insurance Proceeds	All proceeds from insurance policies relating to the project assets and business interruption.
9 Project Rights	All rights under permits, concessions, land titles, water rights, ESG approvals and other governmental approvals.
10 Proceeds	All proceeds of any of the above assets (primary and substitute proceeds).

3. KEY SECURITY DOCUMENTS

- Deed of Mortgage over all immovable assets (land, buildings, plantations).
- Deed of Fiduciary Security over all movable assets and equipment.
- Debenture (Fixed & Floating Charge) over all assets and undertaking.
- Assignment of Receivables and Accounts Receivable.
- Assignment of Insurance Policies and Proceeds.
- Assignment of Contracts and Project Rights.
- Pledge over Project Shares (if applicable).
- Negative Pledge and Restricted Payments Undertaking.
- Account Control Agreement and Cashflow Waterfall Mechanism.
- Intercreditor Agreement (if multiple facilities).

4. SECURITY COVERAGE SUMMARY

Coverage Item	Total Value (USD Million)	% of Total Project Cost*
Fixed Assets	392.5	49.6%
Plantation Assets	152.3	19.2%
Movable Assets	48.6	6.1%
Receivables (Annual Average)	156.8	19.8%
Cash & Accounts (Incl. DSRA)	38.2	4.8%
Intangible Assets & Rights	5.6	0.7%
Total Security Value	793.9	100.0%

5. SECURITY ENFORCEMENT MECHANISMS

- Upon an Event of Default, Lenders may enforce security through the Security Trustee.
- Enforcement options include possession, sale, lease or appointment of a receiver.
- Proceeds will be applied in accordance with the Intercreditor Agreement waterfall.
- All enforcement actions are governed under Indonesian law and relevant regulations.

6. PRIORITY OF SECURITY (RANKING)

Ranking	Secured Parties
1	Senior Lenders – Secured (Pari Passu)
2	Government / Statutory Liens (if any)
3	Subordinated Lenders (if any)
4	Shareholders / Unsecured Creditors

7. FACILITY-WISE SECURITY COVERAGE

Facility	Currency	Amount (USD Million)	Security Coverage (% of Facility)	Key Security Documents
Senior Term Loan	USD	280.0	>150%	All Documents
Working Capital Facility	USD	60.0	>125%	Debenture, AR Assignment, ACA
LC / BG Facility	USD	30.0	>120%	Debenture, AR Assignment, ACA
Total Facilities	USD	370.0	>140% (Average)	Comprehensive Security Package

8. KEY TAKEAWAYS

- Comprehensive security package provides strong collateral coverage over all project assets and cash flows.
- Pari passu ranking among senior lenders ensures equal treatment and protection.
- Robust enforcement framework enables timely recovery in case of default.
- Security coverage significantly exceeds facility requirements, enhancing lender confidence and bankability.

FINANCIAL TAKEAWAYS



Strong Security Coverage
Average coverage of >140% across all facilities.



Enhanced Lender Protection
Multiple layers of security over assets, accounts and cash flows.



Robust Enforcement
Clear enforcement rights and trustee mechanism for rapid recovery.



Sustainable Value
Protects project value and supports long-term debt servicing capability.



Bankable Structure
Aligned with best practices and lender requirements for project financing.

* Total Project Cost (Pre-Contingency) assumed at USD 793.9 Million

29. FUNDING STRUCTURE

The funding structure outlines the mix of debt and equity sources to finance the project capital cost and associated pre-operating expenses. The structure is designed to optimize capital cost while maintaining a strong financial profile and lender comfort.



Base Case NPV (10%)

USD 428.4 M



Base Case IRR

18.6%



Base Case Payback

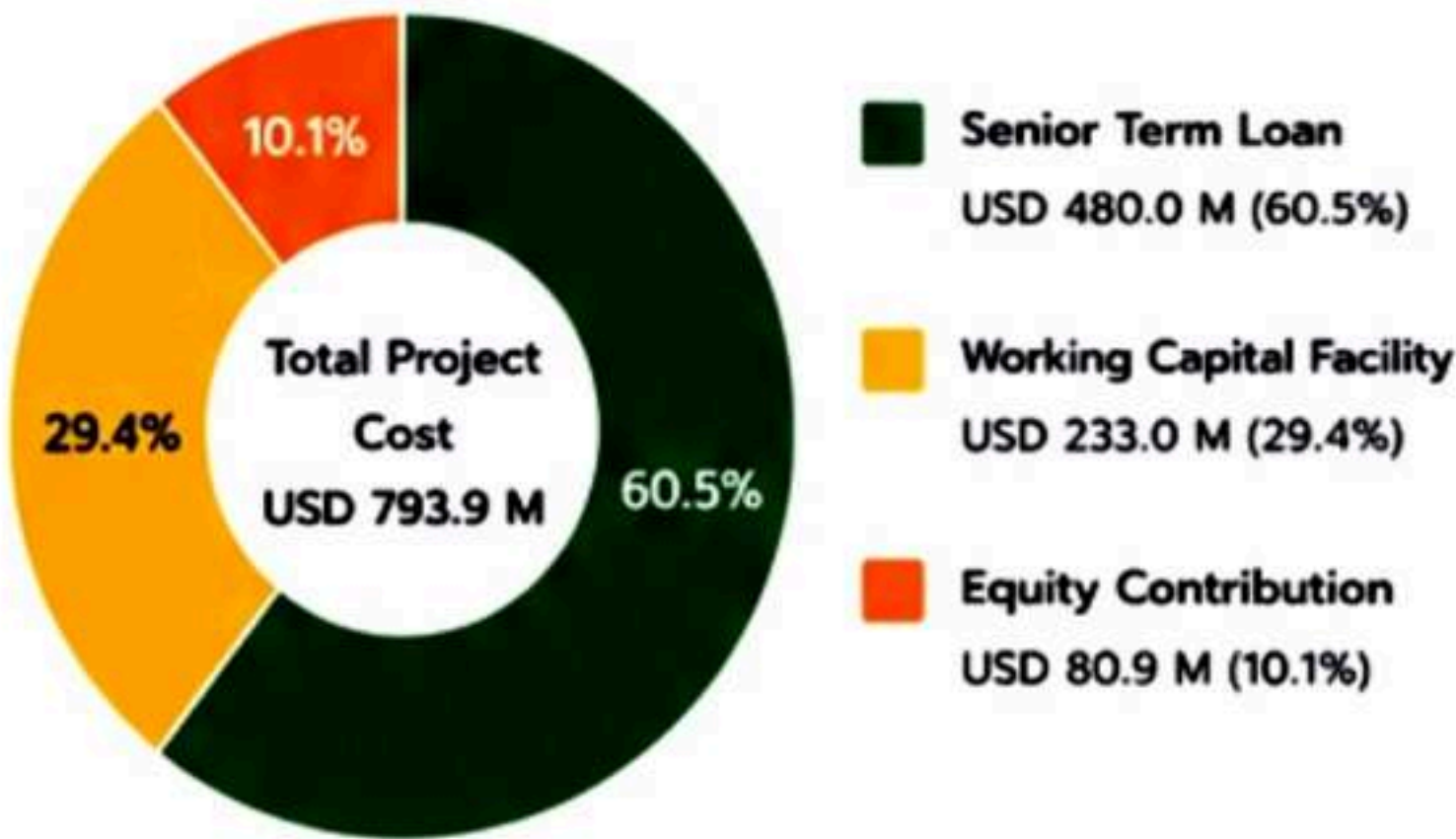
6.0 Years



Base Case PLCR

2.26x

1. SOURCES OF FUNDING (FINANCING MIX)



Total Project Cost (Pre-Contingency): USD 793.9 Million
Includes land, plant & equipment, infrastructure, pre-operating expenses, IDC during construction, and other costs.

2. SUMMARY OF FUNDING STRUCTURE

Funding Source	Amount (USD Million)	% of Total Project Cost	Tenor	Key Terms
Senior Term Loan	480.0	60.5%	10 Years (1 Yr Grace)	<ul style="list-style-type: none">SecuredSemi-annual amortizationInterest rate 8.0% p.a.
Working Capital Facility	233.0	29.4%	3 Years (1 Yr Grace)	<ul style="list-style-type: none">Revolving facilityInterest rate 8.5% p.a.Utilized as needed
Equity Contribution	80.9	10.1%	Perpetual	<ul style="list-style-type: none">Ordinary sharesSubordinated to debt
TOTAL FUNDING	793.9	100.0%	-	-

3. EQUITY CONTRIBUTION DETAILS

Shareholder / Investor	Amount (USD Million)	% of Equity
PT Sapta Borneo Utama (Sponsor)	40.5	50.1%
Strategic Investor 1	20.2	25.0%
Strategic Investor 2	12.1	15.0%
Strategic Investor 3	8.1	9.9%
Total Equity	80.9	100.0%



Strong and committed sponsors with track record in plantation and sugar/ethanol industry ensure alignment of interest and long-term project success.

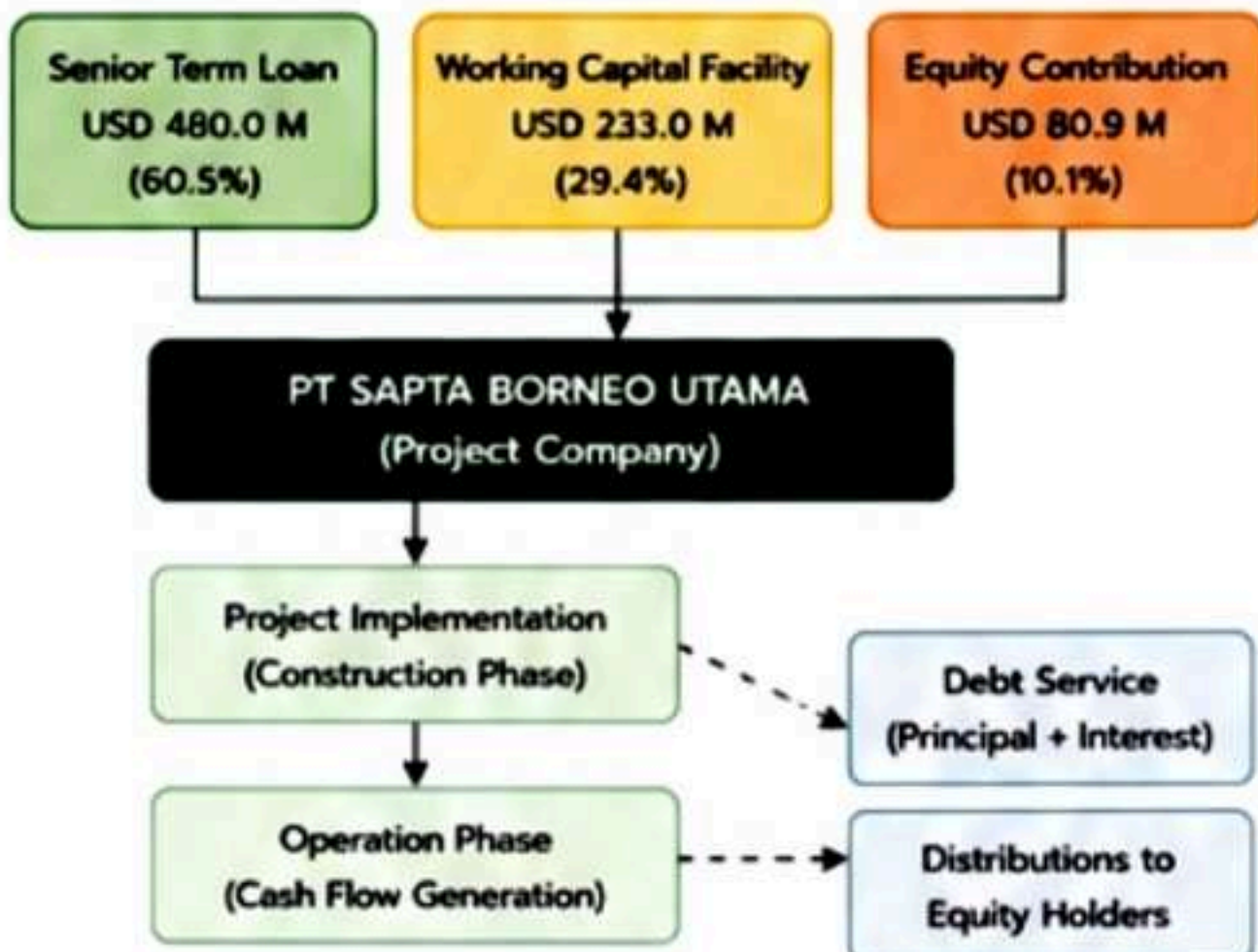
4. INDICATIVE TERM SHEET – SENIOR TERM LOAN

Facility Amount	USD 480.0 Million
Purpose	Financing of project cost and pre-operating expenses
Tenor	10 Years
Grace Period	1 Year on principal
Repayment	Semi-annual amortization (Years 2–10)
Interest Rate	8.0% p.a. (Fixed / Floating)
Fees	Arrangement Fee: 1.0% Commitment Fee: 0.5% p.a.
Security	First ranking security over all project assets, accounts and rights
Covenants	DSCR ≥ 1.20x LLCR ≥ 1.20x PLCR ≥ 1.20x Maximum Total Debt / EBITDA ≤ 4.0x
Prepayment	Allowed after Year 3 with prepayment premium
Governing Law	Indonesian Law

5. USE OF FUNDS

Use of Funds	Amount (USD Million)	% of Total Project Cost
Plant & Machinery	512.0	64.5%
Buildings & Infrastructure	132.0	16.6%
Land & Plantation Development	59.0	7.4%
Pre-Operating Expenses	28.0	3.5%
Interest During Construction (IDC)	42.7	5.4%
Contingency (5%)	20.2	2.6%
TOTAL USE OF FUNDS	793.9	100.0%

6. FUNDING FLOW DIAGRAM



7. KEY FUNDING RATIOS (AT COD – YEAR 0)

Ratio	Calculation	Result
Debt to Equity	Total Debt / Equity	8.81x
Total Debt / Total Capital	Total Debt / (Debt + Equity)	89.9%
Interest Coverage Ratio	EBITDA / Interest	3.21x
DSCR (Year 1)	Cash Flow / Debt Service	1.45x
LLCR (Year 1)	Liquidity / Debt Service	1.52x
PLCR (Year 1)	Cash Flow / Principal	2.05x



The funding structure is optimized to ensure strong cash flow coverage, adequate liquidity and long-term debt sustainability while maintaining flexibility for future growth.

8. KEY TAKEAWAYS



Balanced Capital Structure
Optimal mix of debt and equity minimizes WACC while maintaining financial strength.



Strong Lender Comfort
Robust security package, conservative covenants and healthy coverage ratios ensure lender confidence.



Liquidity Support
Working capital facility provides flexibility to manage operating cash flow needs.



Sponsor Commitment
Sponsors contribute 10.1% equity, ensuring alignment of interest and strong project ownership.



Sustainable Growth
Sound funding platform supports stable operations and future expansion opportunities.

30. DEBT FINANCING TERMS

The debt financing terms outline the key conditions and parameters of the senior term loan facility that will be used to finance the project's capital cost and pre-operating expenses.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%



Base Case Payback
6.0 Years



Base Case PLCR
2.26x

1. OVERVIEW OF DEBT FACILITY

Facility Type	Senior Term Loan Facility
Facility Amount	USD 480.0 Million
Purpose	Financing of project cost and pre-operating expenses
Availability	Upon Financial Close
Tenor	10 Years (1 Year Grace)
Repayment	Semi-annual amortization (Years 2–10)
Interest Rate	8.0% p.a. (Fixed / Floating Option)
Currency	USD
Security	First ranking security over project assets, accounts and rights
Covenants	DSCR ≥ 1.20x LLCR ≥ 1.20x PLCR ≥ 1.20x Maximum Total Debt / EBITDA ≤ 4.0x
Governing Law	Indonesian Law
Documentation	As per market standard for project finance loans

2. INTEREST TERMS

Interest Rate Type	Fixed / Floating Option
Base Rate (Floating)	SOFR / USD LIBOR (as applicable)
Margin	400 bps over Base Rate
Interest Rate Cap	Available upon request
Interest Payment	Quarterly in arrears
Commitment Fee	0.50% p.a. on undrawn amount
Arrangement Fee	1.00% of facility amount (payable at Financial Close)
Upfront Fee	0.25% of facility amount
Amendment Fee	As per lender agreement
Prepayment	Allowed after Year 3 with prepayment premium



Fixed rate provides certainty of cash flows. Lenders may offer a swap option to convert floating to fixed based on market conditions.

3. REPAYMENT SCHEDULE (USD MILLION)

Year	Principal Repayment	Opening Principal Balance	Closing Principal Balance	% of Facility
0 (Disbursement)	–	480.0	480.0	100.0%
1 (Grace Year)	–	480.0	480.0	100.0%
2	40.0	480.0	440.0	91.7%
3	48.0	440.0	392.0	81.7%
4	56.0	392.0	336.0	70.0%
5	64.0	336.0	272.0	56.7%
6	72.0	272.0	200.0	41.7%
7	72.0	200.0	128.0	26.7%
8	64.0	128.0	64.0	13.3%
9	40.0	64.0	24.0	5.0%
10	24.0	24.0	–	0.0%
TOTAL	480.0	–	–	100.0%

Note: Repayment made semi-annually in equal installments within each year.

4. KEY COVENANTS

Covenant	Description	Minimum / Maximum Level	Test Frequency
DSCR	Debt Service Coverage Ratio	≥ 1.20x	Quarterly
LLCR	Liquidity Loan Coverage Ratio	≥ 1.20x	Quarterly
PLCR	Principal Loan Coverage Ratio	≥ 1.20x	Annually
Total Debt / EBITDA	Leverage Ratio	≤ 4.00x	Quarterly
Interest Coverage Ratio	EBITDA / Interest	≥ 3.00x	Quarterly
Capex Limit	Annual Capex within budget	≤ Approved Budget	Quarterly
Dividend Restriction	Restricted until DSCR ≥ 1.30x on a sustained basis	–	Ongoing
Related Party Transactions	Limited to market terms	–	Ongoing
Change of Control	Requires lender consent	–	Ongoing



Breach of financial covenants requires cure within 60 days or as agreed with lenders.

5. DISBURSEMENT SCHEDULE (USD MILLION)

Milestone	Conditions Precedent	Amount (USD Million)	% of Facility
At Financial Close	All conditions precedent satisfied	192.0	40.0%
After Land & Site Development	Civil works progress ≥ 25%	144.0	30.0%
After Mechanical Completion	Civil works progress ≥ 70%	96.0	20.0%
At COD	Commercial Operation Date achieved	48.0	10.0%
TOTAL	–	480.0	100.0%

6. PREPAYMENT TERMS

Prepayment Window	Allowed after third anniversary of the First Drawdown
Prepayment Amount	Minimum USD 10.0 Million or integral multiple thereof
Prepayment Premium	• Year 4–5: 2.00% of prepaid amount • Year 6–7: 1.50% of prepaid amount • Year 8 onwards: 1.00% of prepaid amount
Notice Period	30 days prior written notice
Use of Prepayment	Applied pari passu to outstanding principal

7. SECURITY PACKAGE (FIRST RANKING)

- ✓ Mortgage over all immovable assets (land, buildings, plantations, infrastructure).
- ✓ Fixed and floating charge over all movable assets and equipment.
- ✓ Assignment of receivables, contracts, insurance proceeds and accounts.
- ✓ Assignment of all project rights, permits, licenses and concessions.
- ✓ Pledge over project shares (if applicable).
- ✓ Cashflow waterfall and account control mechanism in favor of lenders.

8. KEY LENDER RIGHTS

- ✓ Right to step-in and cure upon event of default.
- ✓ Right to appoint/add lenders or invite new lenders.
- ✓ Right to change the interest rate type (subject to agreement).
- ✓ Right to require additional security or covenants if leverage increases.
- ✓ Right to scrutinize project records and audit.

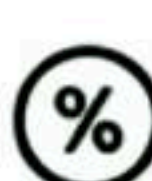
9. SUMMARY OF DEBT FINANCING



Facility Amount
USD 480.0 M



Tenor
10 Years
(1 Year Grace)



Interest Rate
8.0% p.a.
(Fixed / Floating)



Repayment
Semi-annual
Years 2–10



Security
First Ranking over
Project Assets



Key Covenant
DSCR, LLCR, PLCR ≥ 1.20x
Total Debt / EBITDA ≤ 4.0x



The debt financing terms are structured to ensure strong lender protection, adequate debt service coverage, and long-term sustainability of the project.

31. CONCLUSION & RECOMMENDATION

The integrated sugar, ethanol, biomass and plantation project demonstrates strong technical, financial and commercial viability with the ability to generate sustainable returns and provide long-term value to all stakeholders.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%



Base Case Payback
6.0 Years



Base Case PLCR
2.26x

1. KEY CONCLUSIONS



Strong Financial Viability

The project delivers a robust NPV of USD 428.4 million, IRR of 18.6% and PLCR of 2.26x, well above the minimum investment requirements.



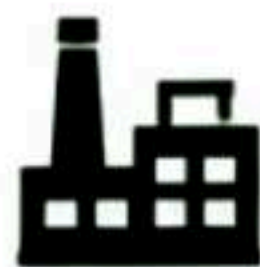
Attractive Returns

The project provides healthy returns with a payback period of 6.0 years and strong cash flow generation throughout the operational life.



Resilient to Risks

Sensitivity analysis indicates the project maintains positive NPV under downside scenarios. DSCR, LLCR and PLCR ratios are all above lender minimums.



Integrated & Efficient Operation

Vertical integration of sugar, ethanol, biomass and plantation operations enhances operational efficiency, reduces costs and maximizes by-product value.



Sustainable & ESG Aligned

The project supports renewable energy, waste utilization, emission reduction and local economic development in line with ESG principles.



Strong Market Outlook

Growing demand for sugar, ethanol and renewable energy, supported by favorable government policies and sustainable market fundamentals.

2. RECOMMENDATION

Based on the detailed analysis, the project is financially sound, commercially attractive and operationally feasible. It is recommended to:



Proceed to Financial Close

Initiate the process to achieve financial close and secure long-term funding from senior lenders and investors.



Implement Risk Mitigation Plan

Continue to monitor key risks and implement mitigation measures to ensure project objectives and financial covenants are achieved.



Optimize Operations

Focus on operational excellence, cost control and integration synergies to maximize efficiency and profitability.



Secure Offtake Agreements

Finalize long-term offtake agreements for sugar, ethanol, electricity and biomass to ensure stable revenue streams.



Strengthen ESG & Community Engagement

Maintain strong ESG practices and community engagement to support long-term sustainability and social license to operate.



Continuous Monitoring

Establish a robust monitoring framework for financial performance, project milestones and market conditions.



OVERALL CONCLUSION

The project is bankable, commercially viable and strategically aligned with market demand and sustainability goals. It is expected to deliver strong financial returns, create value for stakeholders and contribute to the growth of the renewable energy and agro-industrial sector in Indonesia.

3. KEY SUCCESS FACTORS

- Secure and competitive financing structure
- Strong management and execution capability
- Reliable supply of raw materials
- Efficient integration and cost management
- Supportive government policies
- Commitment to sustainability and ESG

4. POTENTIAL IMPACT



Economic Impact

Job creation, local procurement, and contribution to regional GDP



Environmental Impact

Renewable energy generation, waste utilization and emission reduction



Social Impact

Community development, education, and improved living standards

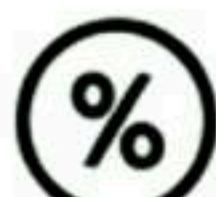
5. NEXT STEPS

- Finalize financing documentation
- Obtain remaining permits and approvals
- Complete detailed engineering and procurement
- Commence construction and project execution
- Start commissioning and commercial operation

FINANCIAL TAKEAWAYS



USD 428.4 M
NPV (10%)
Strong value creation



18.6%
IRR
Attractive returns



6.0 Years
Payback Period
Fast payback



2.26x
PLCR
Strong debt coverage



Bankable Project
Meets all lender requirements



32. APPENDICES

The appendices provide supporting data, detailed calculations, technical studies and reference documents that underpin the analysis and conclusions of this feasibility study.



Base Case NPV (10%)
USD 428.4 M



Base Case IRR
18.6%



Base Case Payback
6.0 Years



Base Case PLCR
2.26x

APPENDIX A
MARKET STUDY



- Global and Domestic Sugar Market Analysis
- Ethanol Market Analysis
- Electricity Market Analysis
- Biomass & By-product Market Analysis
- Supply & Demand Forecast
- Price Assumptions and Projections
- Key Market Sources and References

APPENDIX B
TECHNICAL STUDY



- Process Description & Flow Diagrams
- Mass & Energy Balance
- Plant Layout & Plot Plan
- Equipment List & Specifications
- Utility Consumption Summary
- Technology Providers Information
- Technical Data Sheets

APPENDIX C
LAND & PLANTATION STUDY



- Land Availability & Ownership Documents
- Soil Survey & Land Suitability Analysis
- Plantation Development Plan
- Crop Yield Assumptions
- Planting & Harvesting Schedule
- Irrigation & Drainage Plan
- Environmental & Social Assessment

APPENDIX D
FINANCIAL MODEL OUTPUT



- Project Cost Summary
- Revenue & Operating Cost Schedule
- Depreciation & Amortization Schedule
- Cash Flow Statement
- Project Income Statement
- Project Balance Sheet
- Free Cash Flow to Equity (FCFE)
- Free Cash Flow to Firm (FCFF)

APPENDIX E
FINANCIAL ANALYSIS



- NPV Calculation Details
- IRR Calculation Details
- Payback Period Analysis
- Profitability Index (PI)
- DSCR, LLCR & PLCR Calculations
- Breakeven Analysis
- Sensitivity Analysis Tables
- Scenario Analysis Results

APPENDIX F
FUNDING & FINANCING DOCUMENTS



- Term Sheet – Senior Loan Facility
- Indicative Term Sheet – Working Capital
- Equity Contribution Letters
- Funding Structure Diagram
- Debt Amortization Schedule
- Interest Calculation Schedule
- Key Financing Assumptions

APPENDIX G
LEGAL & REGULATORY DOCUMENTS



- Business License (NIB)
- Land Title Documents
- Environmental Permits (AMDAL/UKL-UPL)
- Plantation & Forest Permits
- Location Permit
- Power Purchase Agreement (PPA)
- Offtake Agreements (Sugar, Ethanol, Biomass)
- Government Incentives & Taxation Summary

APPENDIX H
RISK MANAGEMENT



- Risk Register
- Risk Assessment Details
- Risk Matrix
- Mitigation Plans
- Probability & Impact Criteria
- Risk Ownership & Responsibility

APPENDIX I
ENVIRONMENTAL & SOCIAL



- Environmental Impact Assessment
- Emission & Effluent Management Plan
- Waste Management Plan
- Occupational Health & Safety Plan
- Social Impact Assessment
- Community Development Plan
- ESG Framework & Targets

APPENDIX J
CONTRACTS & AGREEMENTS (SAMPLES)



- Engineering, Procurement & Construction (EPC) Contract
- Operation & Maintenance (O&M) Contract
- Sugar Offtake Agreement
- Ethanol Offtake Agreement
- Biomass Supply Agreement
- Power Purchase Agreement (PPA)
- Logistics & Transportation Agreement

APPENDIX K
TAX & INCENTIVE ANALYSIS



- Corporate Income Tax Calculation
- VAT & Import Duty Analysis
- Tax Holiday & Allowances
- Investment Allowance Calculation
- Effective Tax Rate Summary
- Government Incentives Summary

APPENDIX L
SUPPORTING DATA & REFERENCES



- Key Data Sources
- Industry Reports
- Price Indices & Assumptions
- Exchange Rate Assumptions
- Inflation & Escalation Rates
- Bibliography & References

APPENDIX M
DRAWINGS & DIAGRAMS

- Process Flow Diagram (PFD)
- Piping & Instrumentation Diagram (P&ID)
- Electrical Single Line Diagram (SLD)
- Plant Layout Plan
- Utility Flow Diagrams
- Site Access & Logistics Plan
- Drainage & Water Management Plan
- Fire Protection System Diagram



These appendices contain detailed supporting information and are an integral part of this feasibility study. They are available upon request in electronic format.