



**PT PERTAMINA ROSNEFT**  
**PENGOLAHAN & PETROKIMIA**

# PROJECT BROCHURE

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## GRe@T Project

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📍 @PT.PERTAMINA.ROSNEFT

📱 @PT\_PRPP



# PROJECT BACKGROUND

The favorable market environment and the consumption growth prospects in Indonesia allowed PT Pertamina (Persero) and PJSC Rosneft Oil Company to establish in 2016 the joint venture **PT Pertamina Rosneft Pengolahan dan Petrokimia (PRPP)**, to develop a competitive conception of a new grass root refinery/petrochemical Complex, located in Tuban (East Java), Indonesia.

With a Nelson's Complexity Index of 13,3, the Complex is expected to become one of the most advanced globally and a regional reference for the South East Asia market for its design, considering the latest environmental and energy efficiency trends. With a crude distillation design capacity of 15 mmta, integrated with an olefin plant with a capacity of 1,1 mmta for ethylene and 1,3 mmta of p-xylene aromatic plant, the facility will supply to the local market fuels and petrochemical products that meet the highest specifications of quality.

Following the development of the Complex configuration and the Feasibility Study done by **Technip Italy**, and the selection of the different Licensed refinery and petrochemical technologies, in 2019 PRPP awarded a contract to **Tecnicas Reunidas SA** to carry out the Basic Engineering Design (BED) and the Front-End Engineering Design (FEED) project for the construction of the Complex, including the Marine Terminal, that has been completed in May 2022. The BED and the FEED have been supervised by the IPMT formed between PRPP and **Worley Europe**.

Considered a strategic national project, the Grass Root Refinery at Tuban (GRe@T) Project will receive the full support of the Indonesian authorities, both in terms of the necessary conditions and the provision of the required infrastructure. The expected start-up of the refinery and petrochemical Complex is planned for 2028. Due to the implementation of the project, a large new petrochemical cluster in the region of the city of Tuban can be created in the future, leading to a new industrial pole in East Java.

The land of 840 Ha where the Complex will be implemented is now under preparation with clearing and fencing activities, and it is expected that the site early works will commence in 2023.

For PT Pertamina, this project it's part of its Refining Masterplan with the goal of achieving National Self Sufficiency in Energy. For Rosneft, the project is a significant element of strategy to strengthen its presence in the high-margin market for petroleum-based products in the Asia-Pacific Region. The construction of the plant will strengthen the Company's position in the Indonesian consumer market and confirm its status as a reliable partner in oil and gas production and refining projects in the region.

**PT Pertamina Rosneft Pengolahan dan Petrokimia** stakeholders are *PT Kilang Pertamina Internasional* with 55% of shares and *Rosneft Singapore Pte. Ltd.* with 45% of shares.

## OVERALL SCHEDULE

PHASE	START	FINISH	2022	2023	2024	2025	2026	2027	2028
EPC Tender	Feb 2023	Feb 2024		█					
FID	Aug 2022	Dec 2023	█	█					
EPC	Feb 2024	Jun 2028			█	█	█	█	█
Site Development	Feb 2023	Dec 2024		█	█				



Image: Drone view over the site

# LOCATION

The project is located near the city of Tuban, in the Jenu District of the East Java province in Indonesia. The closest major town is Tuban, and, further away, the cities of Surabaya and Semarang. The first one is the capital of the West Java region, the third most populated urban agglomeration in Indonesia and the country's second port in importance. Considering the whole Surabaya metropolitan area, its population is close to 10 million and the Port of Tanjung Perak accounts for the movement of more than 3.5 million TEUs per year, being among the most solicited container ports in the world.

Semarang is at its time the capital city of the Central Java region. With its almost 2 million inhabitants, it is the fifth largest urban agglomeration of Indonesia, and a transit city for traffic connecting Jakarta with East Java.

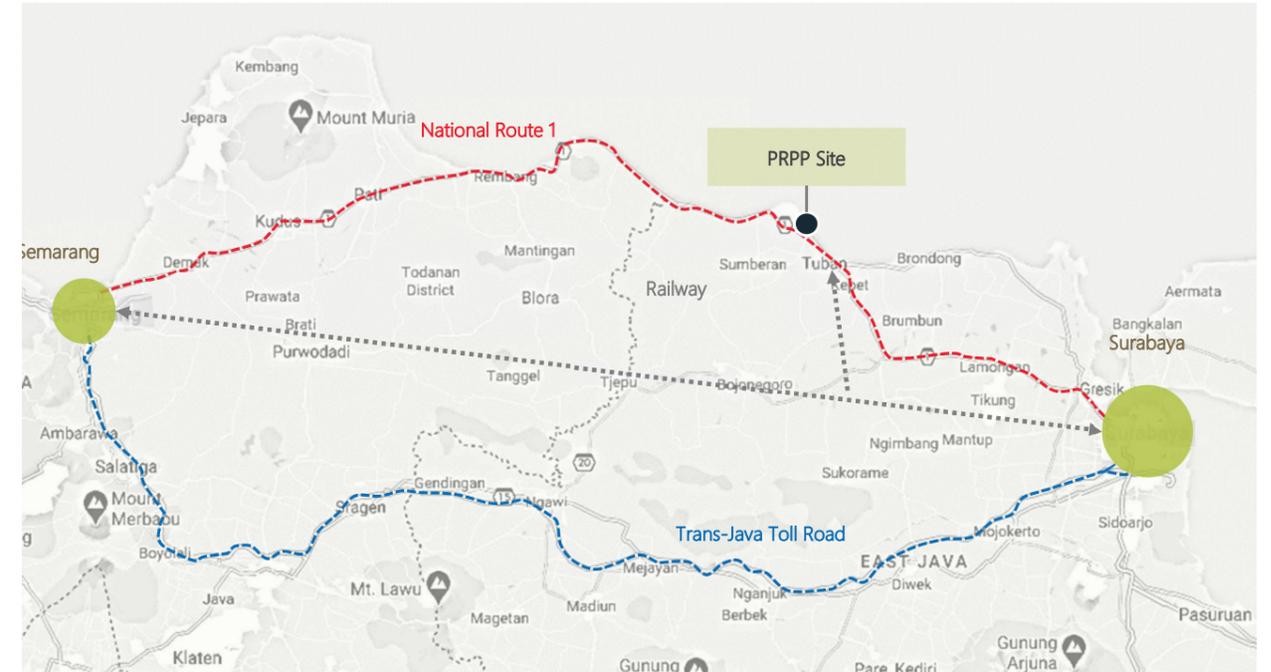
This generates a big vehicle flow between the two cities, of both freight and passengers. Part of it is taken by the rail services and lesser by shipment, leaving the remaining to road transport.

Between these two cities there are also several minor cities and small towns, from which Tuban is the closest to the location of the site. Tuban is a regional urban center and a trip attractor in the area.

These road traffics are allocated in the main two road connections currently available:

- **Trans-Java Toll Road:** completed during the last decade, it is a toll road that serves regional movements as it is the shortest and fastest connection for long trips.
- **National Route 1:** surrounded by small settlements along its path, it mainly serves local movements. This is the road connecting the plant with the road network and the surrounding cities.

The National Route 1 is adjacent to the site, so it is expected to serve as main connection for the Plant and the Campus.



# CLIMATE

Tuban area climate can be classified as Tropical Monsoon Climate (or tropical wet climate), corresponding with the "Am" Köppen climate classification. This climate's characteristics are mild temperatures above 18 °C throughout the year and a dry season, intermediate between the humid "tropical rainforest" and dry "tropical savanna" climates.

The following climate information is based on Tecnicas Reunidas' document titled Basic Engineering Data (Ref. 2208-BED-TRI-000-PRO-DBD-0001)

## Dry Bulb air temperature

- Highest maximum: 42 °C
- Average maximum: 32.2 °C
- Lowest minimum: 17 °C
- Average minimum: 24.2 °C
- Average Dry Bulb: Oct-Apr (Wet Season) 30.0 °C Apr-Oct (Dry Season) 25.4 °C

## Relative humidity

- Wet Season average mean: 86%
- Dry Season average mean: 62%

## Solar Radiation

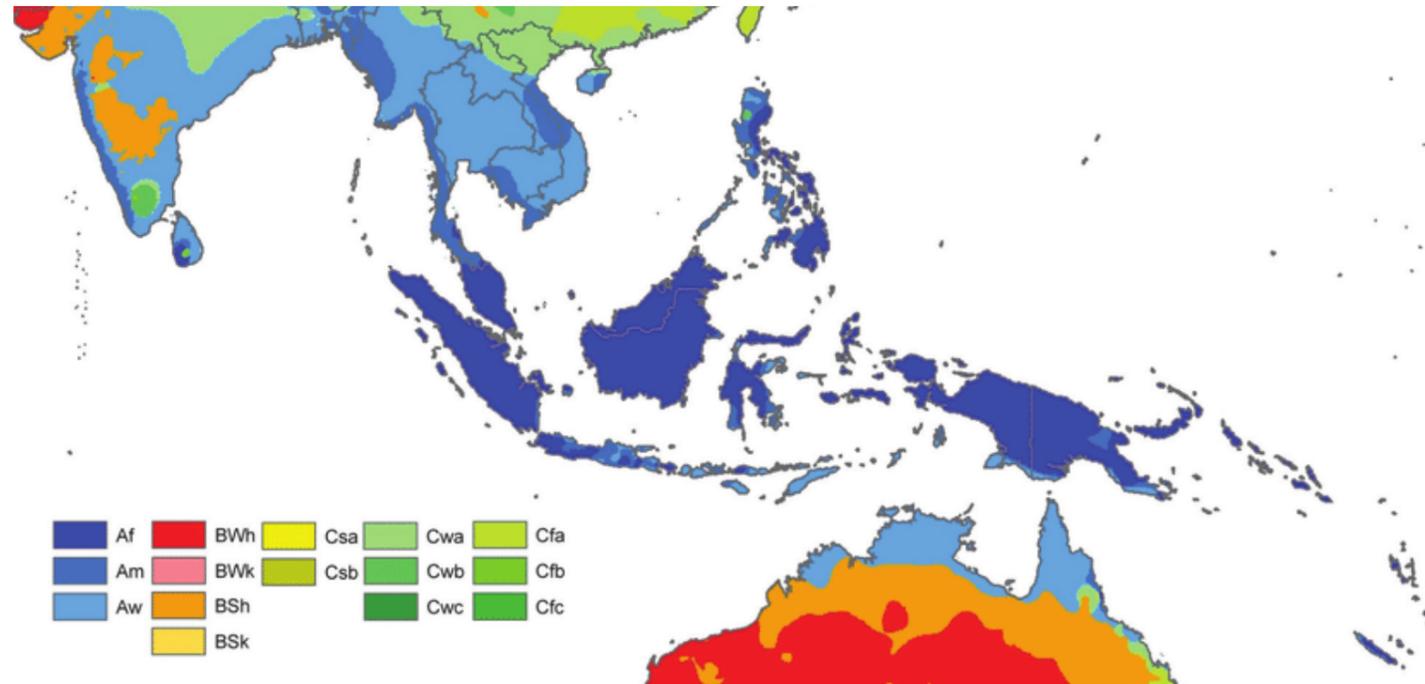
- Maximum average: 0.6 kW/m<sup>2</sup>

## Wind

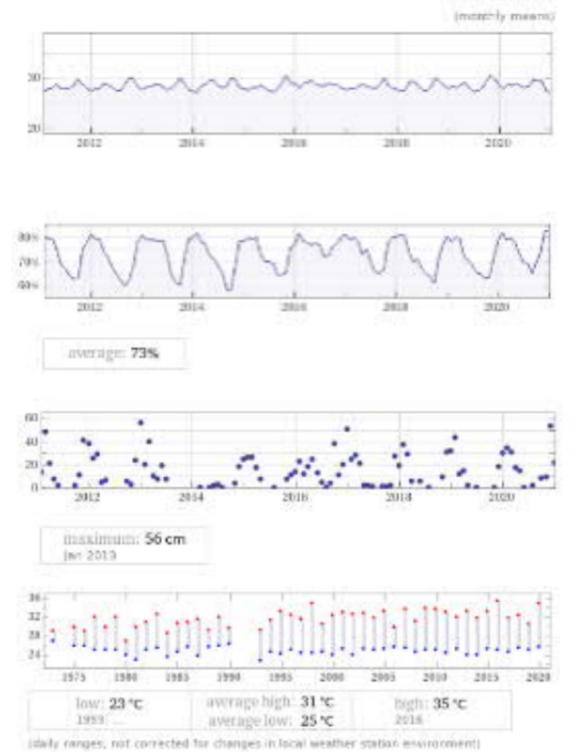
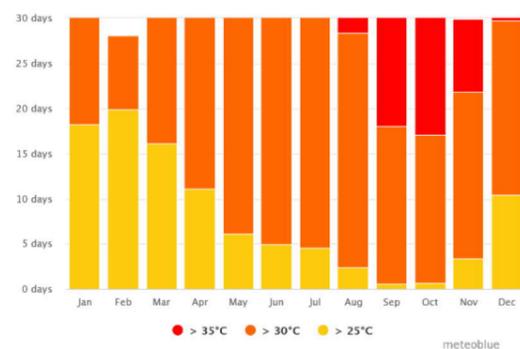
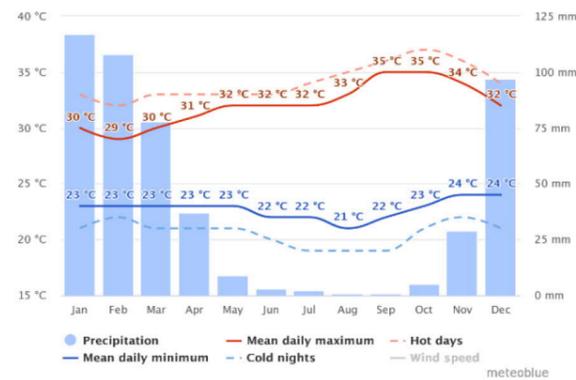
- Exposure category (ASCE 7 – 16): C
- Velocity– Basic Wind Speed – 3-second gust at 10 m a.g. 39 m/s
- Direction of prevailing wind: East for months from Apr to Nov West / Northwest for month Dec to Mar

## Rain

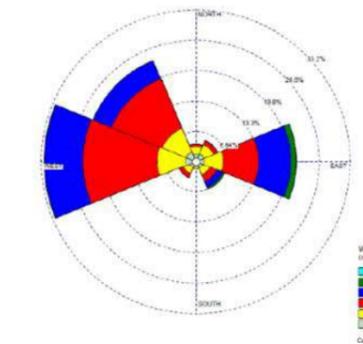
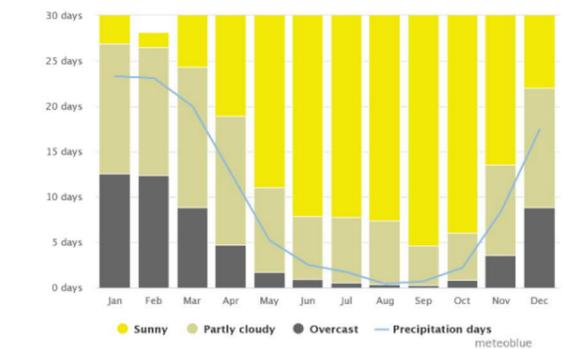
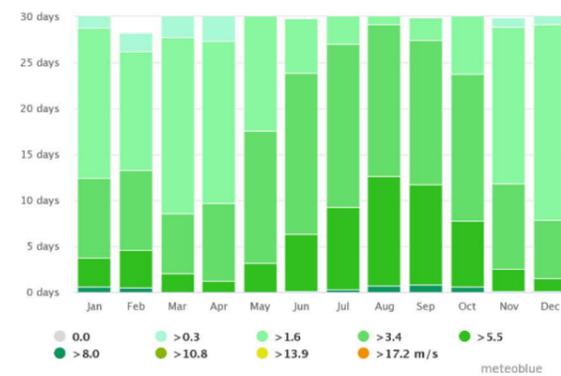
- Rainy season: from October to April.
- Maximum rainfall recorded in one hour: 75 mm
- Maximum rainfall recorded in 24 hours: 120 mm exceeded in 5 years 140 mm exceeded in 10 years
- Average annual rainfall: 1531 mm
- Snowfall data Not applicable for this site.
- December through March, northerly winds contain abundant water vapor causing monsoon



Köppen climate classification



Ten-year weather record for Tuban



# Gre@T Project Location



National Road to Dumping Area  
Distance +/- 8 km

Gre@T Project  
± 840 Ha

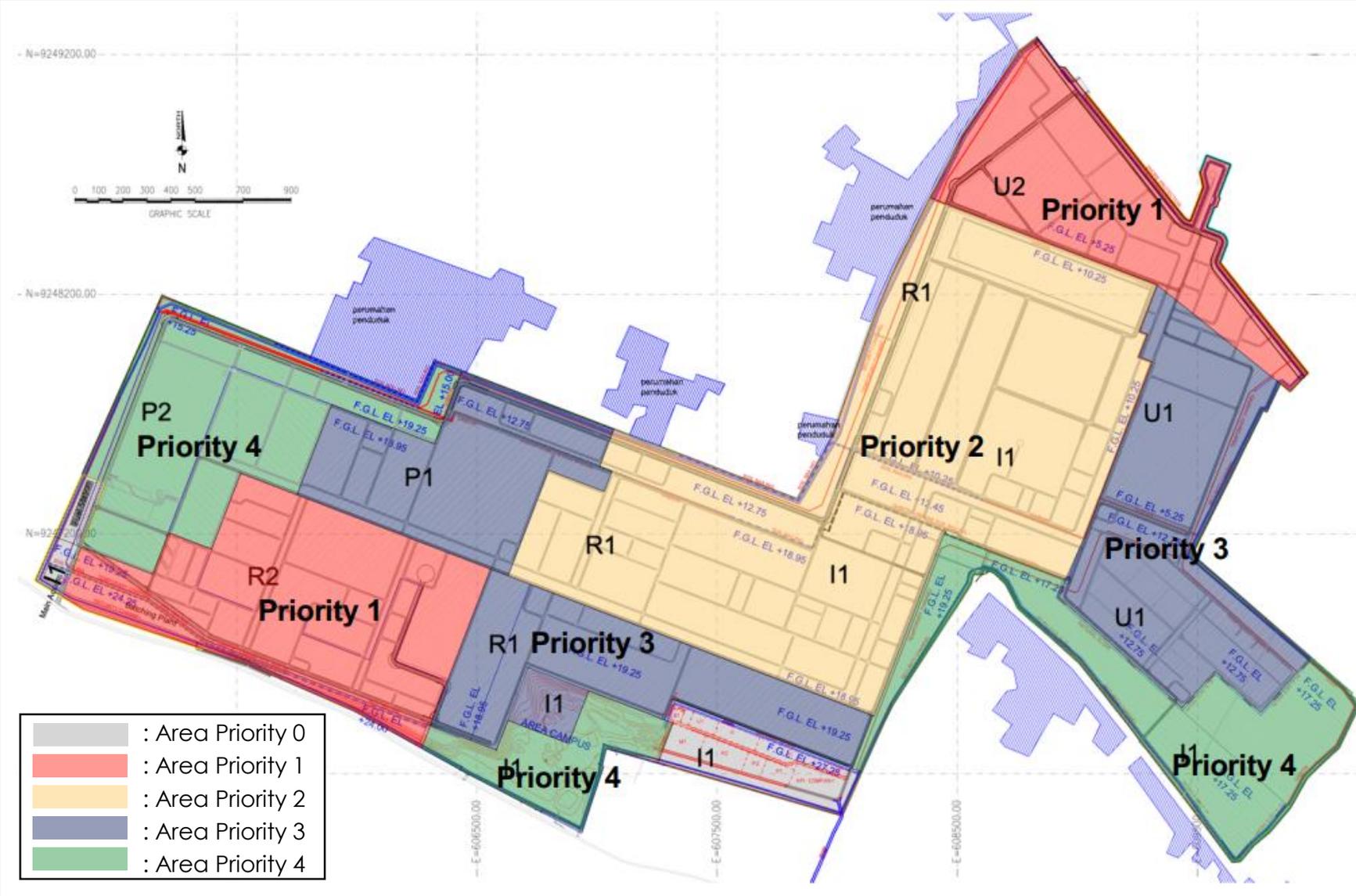
Dumping Area  
KIT

Dumping Area  
SIG

Perhutani Road to Dumping Area  
Distance +/- 8 km

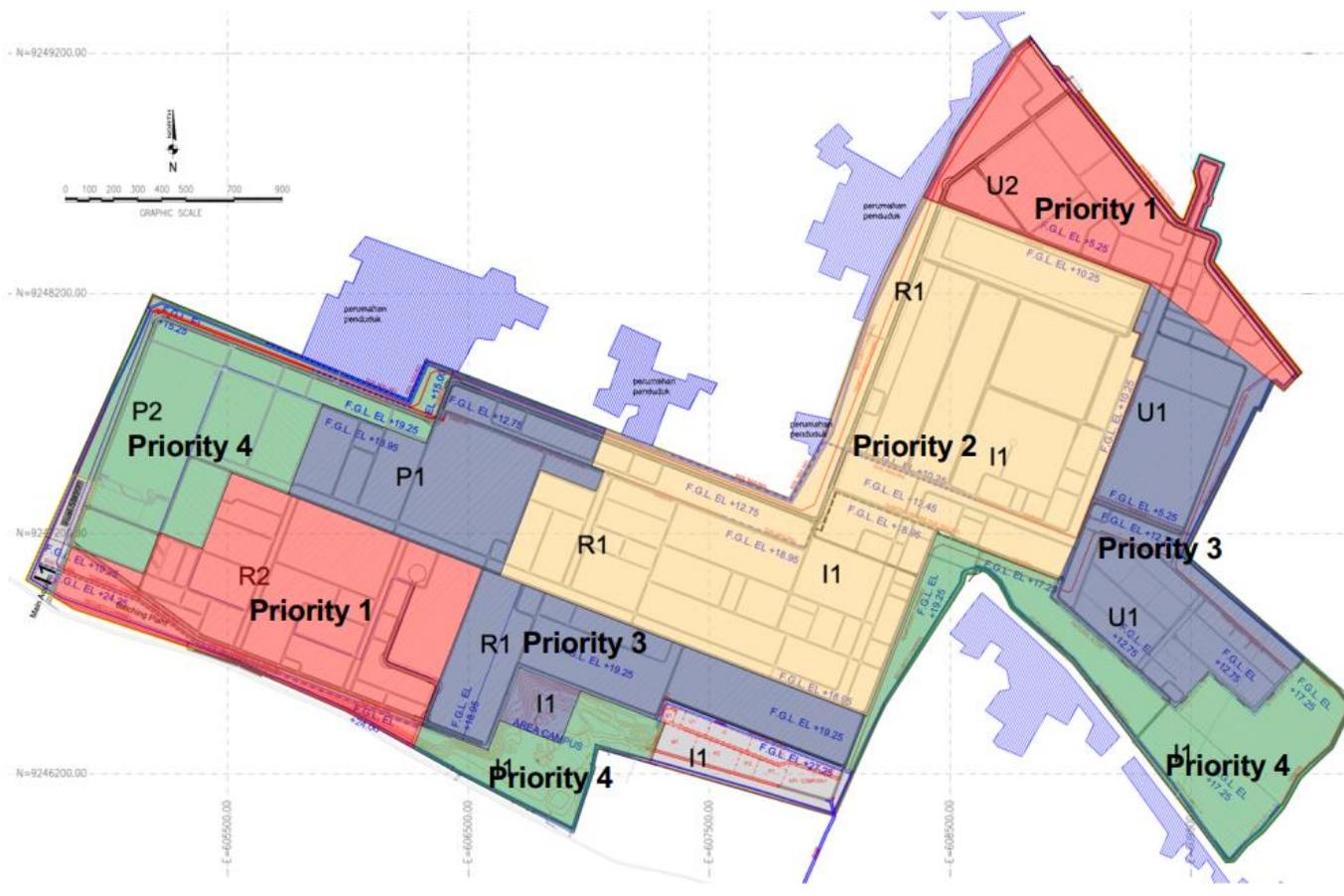
# Main Scope Gre@T Project Site Development

Total Area for Site Development +/- 840 Ha and total earth work (cut, fill, dumping, stripping soil) more than 30 mio m3



No	Description
1	Earthworks (Cut & Fill)
2	Patrol Road
3	Security Channel
4	Fence & Gate
5	Construction Road
6	Site Office
7	Soil Nailing, Gabion Wall, Shore protection

# Priority For Section Hand Over Site Development



No	Zone or Area of WORK	Period of work	Warranty Period
1	Preparatory WORK	Effective date +5 Months	12 Months
2	Priority 0	Effective date +8 Months	12 Months
3	Priority 1	Effective date +14 Months	12 Months
4	Priority 2	Effective date +20 Months	12 Months
5	Priority 3	Effective date +26 Months	12 Months
6	Priority 4	Effective date +31 Months	12 Months
7	Completion All Scope	Effective date +32 Months	12 Months
8	Patrol Road	According to each priority respectively	12 Months after latest finish last period
9	Security Channel	According to each priority respectively	12 Months latest finish last period
10	Fence & Gate	Effective date +28 Months	12 Months
11	Construction Road	According to each priority respectively	12 Months
12	Site Office	Effective date +10 Months	12 Months

# Cross section National Road



# Dumping Area SIG

Grubbing and clearing of natural land (non-usable material) to dumping area location in SIG ± 12,7 Mio m3



# ABOUT THE SHAREHOLDERS\*

## PERTAMINA

As a state-owned company with 100% ownership by Government of Republic of Indonesia, Pertamina has a strong commitment to sustain the national energy security and self-sufficiency. This is achieved by ensuring the continued provision of conventional energy and the development of new and renewable energy. On June 12th, 2020, the Ministry of State Enterprises announced Pertamina would become a holding company in the energy sector, playing a strategic role in the market through five sub-holdings:

- PT Kilang Pertamina Internasional - Refinery & Petrochemical.
- PT Pertamina Hulu Energi - Upstream
- PT Perusahaan Gas Negara - Gas
- PT Pertamina Power Indonesia - Power & NRE
- PT Patra Niaga - Commercial & Trading

In addition, Pertamina also operates in the shipping industry through PT Pertamina International Shipping.

This new role is indeed a landmark in the Pertamina's six-decade long history, which has energized every sector of life in Indonesia and many places abroad.

Pertamina participates in the GRR Tuban project through PT Kilang Pertamina Internasional (PT KPI), which is responsible for all Refinery & Petrochemical endeavours.

## ROSNEFT

The Company's core activities include hydrocarbon prospecting and exploration, production of oil, gas and gas condensate, implementation of offshore field development projects, refining, sales of oil, gas, and refined products in Russia and abroad.

- One of the largest oil producers in the world
- Has the largest hydrocarbon reserves in the world
- The leader of Russian oil refinery market
- Russian largest taxpayer
- Provides over 350,000 jobs

of indicators. Rosneft's technological leadership is maintained by its own scientific base, the largest in Europe.

Rosneft is the leader of the Environmental, Social and Governance (ESG) agenda in Russia. The Company is a member of the United Nations Global Compact thus confirming its commitment to the highest principles of sustainable development. Rosneft annually publishes detailed information about its ESG activities in its sustainable development reports.

Key components of the Company's long-term environmental agenda include the Rosneft-2030 Strategy: Reliable Energy and Global Energy Transition. One of the top priorities of the new strategy is carbon footprint reduction. The Company set a goal to achieve net carbon neutrality (Scope 1 and 2) by 2050. The Rosneft-2030 Strategy also sets out short- and mid-term horizons for the climate agenda: 5% reduction in absolute greenhouse gas emissions by 2025; methane intensity reduction to less than 0.2% by 2030; over 25% reduction in absolute greenhouse gas emissions (versus 2020 level) by 2035.

Rosneft owns 13 large refineries in the Russian Federation, providing the domestic market with high-quality petroleum products. In 2021, oil refining throughput at the Company's refineries in Russia amounted to 95.1 mln tones. Rosneft is implementing an extensive investment program aimed at modernizing and improving the operating efficiency of the refinery. The Company introduces at its plants and brings to the market its own catalysts, which are not inferior in quality to foreign peers, and surpass them in a number

6%

Share in  
Global Oil  
Production

78

Regions of  
Operation  
in Russia

40%

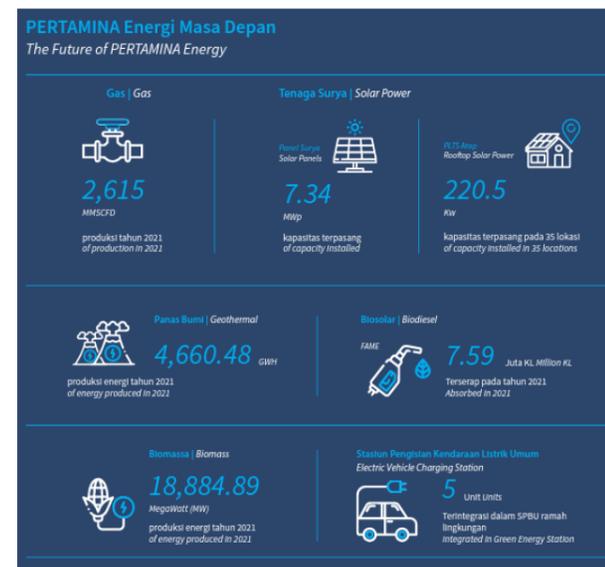
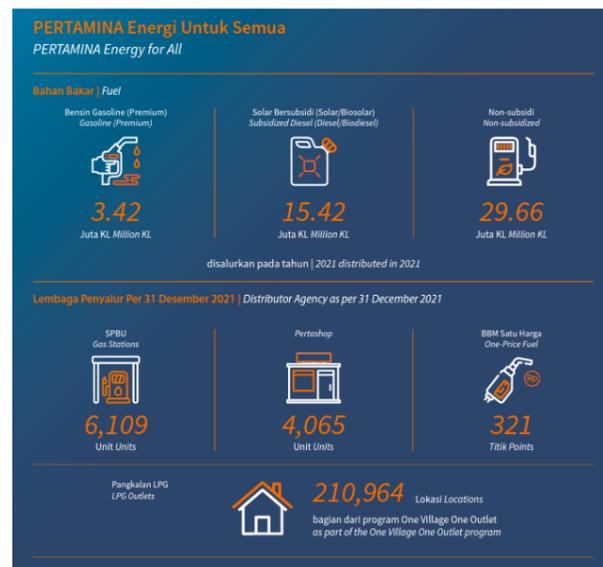
Share in  
Russian Oil  
Production

35%

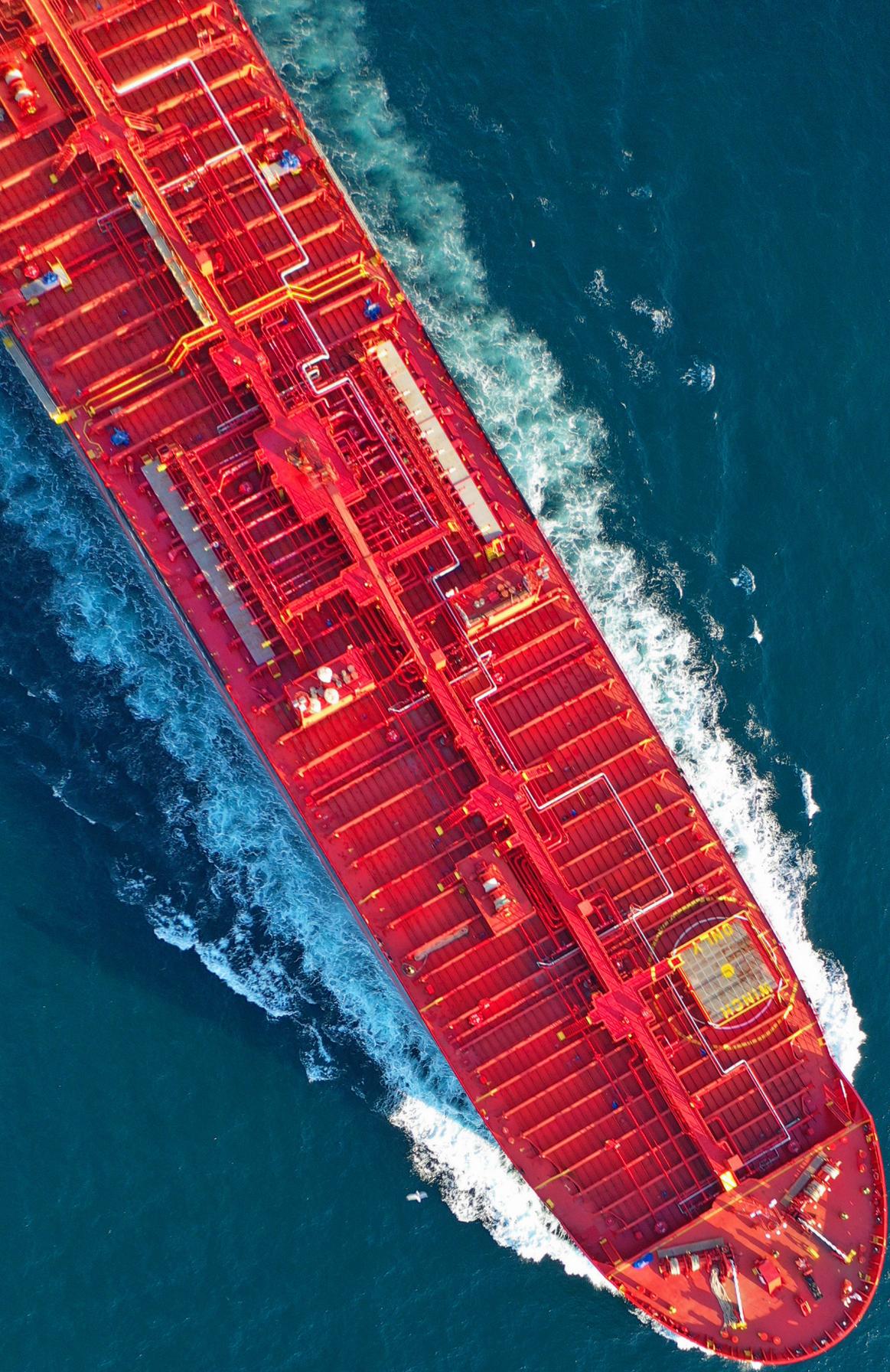
Share in  
Russian Refinery  
Market

3,000

Gas Stations  
Largest retail network  
in the country



\*based on Pertamina annual report - 2021



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