



**rompetrol**

KazMunayGas  
International  
Group Member

2024

# Rompetrol Rafinare S.A.

INVESTMENT BUDGET 2024

## Investment program 2024

The investment activity in 2024 will be focused, according to the program, on the following:

- Acquisition of spare parts for strategic equipment;
- Continuing Fire Fighting program, to create assumptions for providing the necessary operating conditions for firefighting system;
- Replacing necessary catalysts;
- Detailed inspections and obtaining the functioning authorization for the pressurized equipment, pipes and lifting equipment as per Technical Prescription.
- The alignment with the requirements of the environmental standards in force, and with the aim of reducing emissions.

Total investments planned value for 2024 is 147.9 millions USD, following splitting per programs according below table:

USD amount	Budget 2024
<b>Petromidia, from which:</b>	<b>141,187,058</b>
Development	6,085,467
Operational Support	12,613,716
Compliance	28,786,110
Capital maintenance	93,701,765
<b>Vega, from which:</b>	<b>6,742,409</b>
Compliance	2,644,908
Capital maintenance	4,097,501
<b>Refinery Total Investments</b>	<b>147,929,467</b>

The main projects which have planned impact on year 2024 in Rompetrol Refinery:

### Petromidia Refinery, Petrochemicals and Vega Refinery 2024 General Turnaround

Refinery Board of Directors adopted in May 15, 2018 a new strategy for planning the General Turnarounds and Shutdowns between 2018-2026 by reducing the actual cycle of 5 years to 4 years for General Turnaround, respectively to establish a Shutdown between 2 General Turnarounds, every 2 years

The main works packages consist of:

- Catalyst Replacement / Regeneration and Catalyst Services - all work related to the replacement of end-of-life catalysts with new or regenerated catalysts - to obtain products with high economic value.
- Operational works - The other activities, which do not refer to maintenance repairs or modernization, but which are required in order to achieve good energy efficiency in the refinery (exchangers washing, column checking, other equipment)
- Maintenance – Usual repairs and inspection necessary for equipment static/dynamics and pipes that cannot be performed during units operation;
- Capital Maintenance – equipment that will be replaced only in shutdown period.

- Capex or Improvement project – implementation of CAPEX projects that can be done only with units shutdown.
- Unexpected/found works – works that appear after the equipment opening.

Within this project, the benefits are as follows:

- Safety–zero incidents (human accidents or damage to equipment)
- Maintain Refinery at its nominal monthly capacity.
- Maintain the refinery mechanical availability at 97%;
- Increase reliability / availability of equipment during operation.

### **Replace Refinery static equipment Program - 2024 Package**

The „Refinery static equipment rehabilitation” program was started to create conditions for operating of the Refinery at maximum capacity of crude oil processed, by improvement of the technological process with higher energy efficiency.

- 313V S3: New subassemblies for heat exchanger (shell, distribution chamber)
- 220-E302: New air preheater
- 138-FV14: New ventilation vessel
- 130-S16: New heat exchanger
- 135-S12A: New tubular
- 147-S5 147-S6: New tubular bundles for 147-S5 and 147-S6
- 138F-V16, 138F-NV17A, 138F-NV17B, 138F-NV18: New equipment
- Economizer Eco640: 10 new tubular bundles. Mounting activity not included into project scope, which will be managed separately on 2024 Refinery General Turnaround.
- 121-V7: New vessel

Besides economizer, the rest of all equipment were delivered and will be installed through this project in Turnaround 2024.

### **Firefighting Water Main Replacement Program – 2023 and 2024 Packages**

Main part of existing fire-fighting system represents water network, with a length of 41,211m of pipes and associated infrastructure.

The water network will be permanently rehabilitated through specific works, such as: replacement of pipes, hydrants and water cannons, wells for valves, under-crossings of the existing infrastructure.

The following packages are part of the 2024 investment plan as follows:

- Replacement of fire water pipes Package 2023 - 6 sections will be replaced T065, T069, T072, T079, T077, T061 with a total of 2,405 linear meter for which the estimated completion deadline is December 2024;
- The Firefighting Water Main Replacement Program continues with Replacement of fire water pipes Package 2024 – 4 sections T012, T067, T055, T064 with a total length of 2,111 linear meter with an estimated execution completion deadline December 2025.
- Total length water pipe to be rehabilitated within the Firefighting Water Main Replacement Program is 38,311 meters, out of which 6,756 meters was rehabilitated between 2010-2022.

### **Refinery Catalyst Change**

During 2024 Refinery General Turnaround will be performed:

- Catalyst replacement 352- HPP
- Catalyst replacement 220-MHC Unit;
- Catalyst Replacement 125 DHT;
- Catalyst Replacement 120 NHT;
- Catalyst replacement 147-MTBE Unit;
- Catalyst replacement 130-Platforming Unit;
- Replacement of adsorbent from 120-V101 Guard vessel;
- Replacement of molecular sieve and ceramic balls D214 and D707 in PP unit;
- Replacement of molecular sieve and ceramic balls for dryers F211 in Steam Cracker;
- POSORB catalyst replacement for the R229 reactor in Steam Cracker;

The procurement process was completed, and the purchase contracts was signed in 2023. The catalyst delivery procedure are ongoing with delivery terms as per contracts assumptions by the end of February 2024. Mild Hydrocracking unit catalyst was completely delivered in October 2023, and the Prosorb catalyst for the R229 reactor, Steam Cracker unit, to be delivered at the beginning of April 2024

#### **Expire authorization ISCIR for static equipment (ISCIR 2023-2024)**

Project consists in aligning to legislation requirements in terms of safety functionality of the refinery equipment.

- Detailed verifications which will be performed during this project will have as a result the technical evaluation of the equipment after specified years of service, as well as repair or elimination of the faults which will appear after the inspections;
- Obtaining the functioning authorization for the pressurized equipment, pipes and lifting equipment as per Technical Prescriptions

#### **Tanks rehabilitation program**

The scope for 2024 is to rehabilitate or total reconstruction the following tanks:

- A vacuum hydrotreated distillate tank, with a capacity of 5,000 cubic meters will be totally reconstructed
- A diesel tank with a capacity of 10,000 cubic meters with design and execution related activities planned to be performed during 2024 (C101 tank) scheduled to be finalized in November 2024.
- A naphtha tank with a capacity of 5,000 cubic meters

#### **Replace coke drilling-cutting system in the DCU unit**

Project Scope of Work consist in design stage execution, materials purchasing and installing a new coke cut/drilling system for Delayed Coker Unit from Refinery. Project is correlated with 2024 Refinery General Turnaround.

- In 2024, following activities are planned to be performed:
  - New coke cut/drilling system delivering in order to be replaced during Refinery General Turnaround 2024;
  - calibration of new system, scheduled for a period of 6 months after start-up;
  - Project will be finalized in November 2024.

### **Replace subassembly of reformer heater 352-H201**

The project scope of work consist in acquisition and replacement of 352-H201 reformer subassemblies (outlet subleaders – 3 pieces, catalyst tubes – 114 pieces, distributors – 3 pieces and inlet pigtails – 114 pieces, S2103 preheater, etc.)

- In 2024, all subassemblies will be delivered in Refinery in order to be replaced during Refinery General Turnaround 2024;
- Project will be finalized in May 2024.

### **Acquisition and install of 2 new Reactors -125-DHT unit**

The project scope of work consist in replacement of the actual reactors 125R1, R2 from Diesel Hydrotreater Unit with new ones, designed and manufactured in accordance with current date standards.

- In 2024, following activities will be performed:
  - Mechanical, civil, electrical and instrumentation works to install new reactors and related infrastructure.
  - Commissioning and start-up with technical assistance from unit licensor
  - Project will be finalized in May 2024.

### **Flue gas pipe support system expertise and replacement of the flue gas pipe N-PG-138F-030**

Project is corelated with 2024 Refinery General Turnaround, with set scope of work to replace flue gas pipe, together with lenticular expansion compensator Reducing maintenance costs;

In 2024, following activities will be performed:

- construction and installing activities to replace the pipeline during Refinery General Turnaround 2024;
- Project will be finalized in April 2024,

### **New Traveling crane with clamshell bucket**

Delayed Coker Unit is equipped with two portal cranes. These have the role of loading the coke resulting from the production process from the storage to railcars.

In 2024, following activities will be performed:

- construction and installing activities planned to be executed during Refinery General Turnaround 2024;
- Project will be finalized in June 2024.

### **Safety measures package for Petromidia Refinery hydrotreaters units**

Project objectives consist in development and implementation of a safety measures package for separation points between high-pressure and low-pressure sections for Refinery hydrotreaters units.

In 2024, following activities will be performed:

- construction and mounting works, commissioning, and start-up activities, correlated with Refinery General Turnaround 2024;

- Project will be finalized in May 2024.

**Safety package - phase II (sampling systems) - Up-grade sample points in Petromidia Refinery units**

Project consist in acquisition and installing of new sampling points (96) in Refinery units, with following activities planned to be performed during 2024:

- Acquisition of bulk materials and mechanical works related to tie-in's execution, correlated with 2024 Refinery General Turnaround.
- Project will be finalized in July 2025.

The investment plan for 2024 and the list of abbreviations of the Refinery units are listed in the supporting annexes (annex 1 and annex 2) below:

**THE BOARD OF DIRECTORS:**

**Chairman**

**Batyrzhan TERGEUSSIZOV**

**Member**

**Adrian TOHĂNEAN**

**Member**

**Bogdan-Catalin STERIOPOL**

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**Nicolae Bogdan Codruț STĂNESCU**

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**Zhamilya MESHITBAY**

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**Projects and Investment Director**

**Bolohan Raul Cristian**