Main projects of petrochemical industry development of Kazakhstan.

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- The report based on the following data:
- Ministry of Energy of the Republic of Kazakhstan
- «Kazakhstan Petrochemical Industries Inc.» LLP
The territory of SEZ is located 47 km far from Atyrau.
The constructed infrastructure facilities are:
Approach automotive road to SEZ – 5,26 km.
Access railway road of the Karabatan St. – Zavodskaya St. - 8,8 km.
Railway yard of the Karabatan St. of total length – 6,89 km.
Extension of the station Karabatan of total length – 6,65 km.
Gas pipeline from Makat-North Caucasus main gas pipeline to SEZ – 8 km.
### STATE SUPPORT MEASURES

<table>
<thead>
<tr>
<th>MEASURES</th>
<th>PREFERENCES (BENEFITS)</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>The decree of the President of the Republic of Kazakhstan dated December 19, 2007 No. 495 Special economic zone &quot;National Industrial Petrochemical Technology Park&quot; is created</td>
<td>Participants are exempted from taxes and the customs duties (0%)</td>
<td>CIT – 0%</td>
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<td>Investment warranties are provided</td>
<td>Conclusion of the investment contract providing measures of the state support and protection of investments</td>
<td>Land tax – 0%</td>
</tr>
<tr>
<td>Construction of infrastructure by the state</td>
<td>Ready infrastructure</td>
<td>Property tax – 0%</td>
</tr>
<tr>
<td>The projects are provided by feedstock</td>
<td>The feedstock support issue is resolved for a long-term outlook with a possibility of extension</td>
<td>VAT – 0%</td>
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**Total area of SEZ “NIPT”**
- 3,476 hectares which consists of 3 sections: Karabatan, Tengiz, Atyrau

**Number of shareholders of SEZ “NIPT”**
- 14

**Benefits**
- CIT – 0%
- Land tax – 0%
- Property tax – 0%
- VAT – 0%
Applicant: KPI LLP.
Shareholders: "UCC" LLP - 51% (JSC "Samruk-Kazyna"),
"ALMEKS PLUS" LLP - 49%.
Completion date: 2020.
Cost: $2 500 million.
Creation of work places: construction – 2945 people; operation – 550 persons.
Production capacity: 500 thous. tons/year of polypropylene.

CURRENT STATUS

- The feed stack support issue is resolved in volume - 550 thousand tons/year of propane.
- The state allocated funds for construction of infrastructure.
- On December 14, 2015 between "KPI" LLP and China National Chemical Engineering Co. (CNCEC) is signed EPC contract.
- The CNCEC company opened the branch in Atyrau, on August 9, 2016 obtained the state licenses for design and installation and construction works of the 1st category for construction of facilities in the territory of RoK of high complexity.
- On June 3, 2016 on the feasibility study project the positive decision from "State Expertize" RSE is received.
- On September 3, 2016 operator of the project ("KPI" LLP) signed General credit agreement with China National Development bank.
Flow Diagram

Tengiz

TCO

Propane Dehydration unit

Polypropylene

503 thous. t/year

Polymerization unit

Polypropylene

500 thous. t/year

Logistics

Natural gas

Raw water

Industrial gas unit

Nitrogen

Industrial air

Instrument air

GTPP

Water purification and treatment unit

Demin. water

Demin. Indust. water

Power

Steam

Waste water

Inds. t. wat.

Infrastructure facilities

TCO (Tengizchevroil)

Process units of IGCC (phase 1)

Infrastructure facilities
Propane Dehydration Unit CATOFIN®

Process flow diagram

- Feed heating
- Treatment reactor
- Reactor at flow
- Reactor at reheating
- Steam
- Heat exchanger
- Chiller
- Chiller
- Product compressor
- Air heater
- Fuel
- Flue gas
- Fuel gas
- Propylene
- Stabilization column
- Deethanizer
- Low temperature section
- Vaporizer
- Propane to recycle
Process lines of propylene polymerization unit are intended for production:
- homopolymer of propylene (Homopolymer);
- statistical copolymer of propylene and ethylene (Random copolymer);
- impact-proof copolymer of propylene and ethylene (Impact copolymer).
Applicant: JSC «KLPE» LLP.
Shareholders: “UCC” LLP (JSC “Samruk Kazyna”)
Completion date: 2020
Cost (to be determined): $ 5 000,0 mln.
Creation of work places: construction – 2900 persons; operation – 490 persons.
Production capacity: 800 thous.t/year of polyethylene.

CURRENT STATUS
- The issue of support with feed stock in volume - 6,3 billion cub/year dry gas is resolved.
- The state allocated funds for construction of infrastructure.
- Preliminary estimate calculation of the project is executed (OBE – Open Book Estimate).
- Search of the strategic partner is carried.
Integrated Gas Chemical Complex in Atyrau Province: Third Phase

PROJECT CONCEPT

Condensate 3 mln. tons/year
75% - Naphtha (C₅-C₁₂)

Petrochemical Complex

- Steam cracking
- Polymers
- Special Chemistry

LPG 850 thous. tons/year
70% - propane
30% - butane

Karachaganak

Kashagan

Production of final products in the territory of the Republic of Kazakhstan

EXPORT
Shareholder: “UCC” LLP (JSC «NWF Samruk-Kazyna»).

Completion date: approximately 2021 (depending on attraction of investments).

Cost (TBD): $ 1 644 млн.

Production capacity: 250 Kilo-Metric Tonnes per Annum of butadiene.

**CURRENT STATUS**

- Issue of providing with raw materials in volume – 380 thousand tons/year of butane is resolved.
- The state allocated funds for construction of infrastructure.
- The feasibility study on the project is developed;
- Search of the strategic partner is conducted.
Construction of infrastructure of SEZ "NIPT"

Current status:
1. **Ready infrastructure**
   - Access railroad (15.6 km)
   - Railway Zavodskaya St.
   - Access road and overbridge (5.2 km)
   - Power line (AL 110)

2. **Facility under construction: 310 MW GTPP**
   - EPC contract with Doosan (South Korea) is concluded.

   The beginning of construction and erection works is planned for October, 2016.

3. **Schedulable construction:**

   Water treatment unit and industrial gases
**Aromatics production complex**

**Applicant:** JSC "NC KazMunaiGas"

**Operator:** "Atyrau Refinery" LLP

**General contractor:** Sinopec Engineering

**Start up operation:** 2015.

**Total cost of the project:** $1 098 million.

**Creation of work places:** 177 people.

**Complex's capacity:** production of 133 thousand tons/year of bensole, 496 thousand tons/year of paraxylol.

Researches on further processing of the received paraxylol in p-phthalic acid and further in polyethylene terephthalate are conducted.
The project on production of polymeric production in the Atyrau region"

Applicant: "Polimer Production" LLP
The project is realized: 2012 – 2015;
Cost: 16,8 billion tenges (91,2 million USA dollars at the rate of 185 tenges).
Created work places: construction – 300 persons, operation 371 persons.
Project implementation effect:
- a three-layer polyethylene film – 4 125 thousand tons/year;
- The BOPP-film – 14 738 thousand tons/year;
- Polypropylene bags with a capacity of 25 and 50 kg – 48 million pieces/year
Current status:
Sales market arrangement is carried.
As of October 1 of the current year it is received:
- polypropylene bags (Starlinger, Austria) – 4 390 954 pieces;
- a three-layer polyethylene film (Kuhne, Germany) – 422 tons;
- BOPP-film (Andritz) – 603 tons.
**PETROCHEMICAL INDUSTRY:**
**KEY PROJECTS OF DEVELOPMENT**

- **Aromatics Production Complex at Atyrau Refinery plant**
  - Developed Projects
- **“Polypropylene” project**
  - Projects under development
- **“Butadiene” project**
  - 2019
- **“Polyethylene” project**
  - 2020

Modernization of polypropylene production in Pavlodar

- 2015
CONCLUSIONS

• Implementation of the listed projects will contribute the complex and accelerated development of petrochemical and chemical industry of the Republic of Kazakhstan
• will create a domestic basis of feed stock resources and operating technologies, productions on deep cleaning and processing of hydrocarbon and mineral feed stocks with production by chain of value added according to world achievements
• will create a basis for formation and development in the Republic of Kazakhstan of the vertically integrated complexes which activities can be carried out from cleaning of oil, gas before creation of operating technologies and productions on deep complex processing of hydrocarbon and mineral feed stock
• will allow to develop production infrastructure of domestic petrochemical sector, to create the full market of petrochemical products
• will reduce dependence of economy of Kazakhstan on an environment of the world prices for oil and gas
• will provide filling of domestic market with petrochemical products of domestic production.
THANK YOU FOR YOUR ATTENTION!