Gas and Petrochemical Complex of the Republic of Tatarstan: Current Situation and Development Prospects

OAO "Tatneftekhiminvest-holding"
Contents

Characteristics of Gas and Petrochemical Complex of the Republic of Tatarstan

Development potential of small and medium-sized businesses in Gas and Petrochemical Complex of the Republic of Tatarstan

Innovation development of Gas and Petrochemical Complex of the Republic of Tatarstan

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Priority investment projects of Gas and Petrochemical Complex of the Republic of Tatarstan (underway)

Perspective Investment Projects of Gas and Petrochemical Complex of the Republic of Tatarstan
Main types of activities of OAO "Tatneftekhiminvest-holding"

- Search, assessment and application of modern technologies and technologically advanced companies for project implementation and cooperation with enterprises of Gas and Petrochemical Complex of the Republic of Tatarstan
- Assistance in the implementation of investment and innovation projects in Gas and Petrochemical Complex of the Republic of Tatarstan
- Assistance in solving problems of raw materials supply for enterprises of Gas and Petrochemical Complex of the Republic of Tatarstan
- Promoting the development of cluster (inter-regional and international) relations of enterprises of Gas and Petrochemical Complex of the Republic of Tatarstan, including with scientific institutions, enterprises of related and final industries
- Assistance in the development of small and medium-sized businesses in Gas and Petrochemical Complex of the Republic of Tatarstan
- Monitoring and analysis of trends and results of the development of Gas and Petrochemical Complex of the Republic of Tatarstan
- Market research of products of oil and gas refining products, chemical and petrochemical products
Board of Directors of OAO "Tatneftekhiminvest-holding"

Rustam Minnikhanov
President of the Republic of Tatarstan
Chairman of the Board of Directors

Rafinat Yarullin
General Director
OAO "Tatneftekhiminvest-holding"

The members Board of Directors:

- Delegates of the Government of the Republic of Tatarstan
- Delegates of main companies (Tatneft group, TAIF group, Nefis group, Tatenergo, Grid Company, etc.), banks and special economic zones of the Republic of Tatarstan
We are searching for:

- **New ideas**
- **New solutions and technologies**
- **New partners and investors**

for the development of Gas & Petrochemical Complex of the Republic of Tatarstan
Characteristics of Gas and Petrochemical Complex of the Republic of Tatarstan
The role of Gas and Petrochemical Complex in the Economy as of the end of 2019

- 7% crude oil production
- 10% chemical products
- 20% rubber tyres, inlet tubes
- 6% crude oil processing
- 1% medical drugs
- 5% plastics articles

of Russian Federation

- 39% gross regional product*
- 91% export
- 7% employed

of the Republic of Tatarstan

*as of 2018
Key Companies of Gas and Petrochemical Complex of Tatarstan

- JSC Nizhnekamskshina
- Nizhnekamsk All Steel Tires Plant Ltd.
- JSC Nizhnekamsktechuglerod

Small oil production companies of the Republic of Tatarstan

- Ammoni
- KVART
- Zaryad
- Transneft Synthesis

Separate subdivision in Kamskiye Polyany

Tatkhimfarmpreparaty

to the table of contents
2019 results in crude-oil production

✓ Oil production in Tatarstan – 29.5 mln t
✓ Oil production outside of Tatarstan – 329 th.t
✓ Including highly viscous oil (HVO) production – 2,735 th.t

Strategy 2030

✓ Crude oil production – 38.4 mln. t
✓ Highly viscous oil (HVO) production – 2.1 mln. T
✓ Commercial development of oilfields in Nenets Autonomous District
✓ Increased production of light petroleum products and aromatic hydrocarbons on TANECO
✓ Development of petrochemicals production
✓ Increase the company`s share in the Russian market tires up to 22% due to development in promising segments
Small oil production companies of the Republic of Tatarstan

2019 results*

✓ oil production – 7,15 mln.t
✓ share of oil volume produced in Tatarstan – 19,5%
✓ sales revenue – 163 bln. rub.
✓ 270 new wellsites

Strategy

✓ analysis and development of unconventional hydrocarbons reservoir
✓ process improvement of high-viscosity oil development in carbonate reservoirs
✓ application of underground pressure potential to extract oil from carbonate and terrigenous reservoirs
✓ efficiency improvement of horizontal and multi-hole drilling technologies
✓ acid, alkaline treatments, use of polymers in case spontaneous emulsions, sediments occur in the bottom-hole formation zone when working on reagent well stimulation

*data of ZAO «Neftekonsorzium»
Main products
✓ diesel fuel
✓ jet fuel
✓ base, synthetic and semi-synthetic oil
✓ kerosene
✓ hydrocarbon gases
✓ petroleum coke

2019 results
✓ crude refining throughput – 10,1 mln t
✓ oil refining depth – 99%
✓ yield of light fuel products – 81%
✓ start of gasoline production
✓ commissioning of ELOU-AVT-6 unit

Strategy 2030
✓ TANECO Project completion
✓ crude refining – 15,3 mln t
✓ Yield of light fuel products – 89%
Main products

✓ tires of three brands:
  • KAMA – passenger, light truck, truck, all-steel tyre, agricultural and industrial tyres;
  • KAMA EURO – passenger cars and light trucks;
  • VIOTI – passenger cars and light trucks.
✓ carbon black
  • 4 semi-active grades
  • 10 active grades

2019 results

✓ tire sales – 10,3 mln. pcs.
✓ B-segment product ratio – 20%
✓ launch of the production of new models of SMC tires
✓ carbon black output – 112,4 th.t

Strategy 2030

✓ tire sales – 18,1 mln. pcs
✓ B-segment product ratio – 55%
✓ EBITDA margin – 16,3%
## TAIF group of companies

### Oil and Gas Processing, Chemicals, Petrochemicals, and Power Engineering
- 25 companies including
  - TAIF-NK
  - Nizhnekamsk Neftehim
  - KAZANORGSIINTEZ
  - TGK-16

### Investment and Financial Services
- 3 companies including
  - TAIF
  - TELECOM-MANAGEMENT
  - TAIF-INVEST

### Construction and Production of Construction Materials
- 5 companies including
  - TAIF-ST
  - NMU-3
  - KZSSSM
  - KERAMIKA-SINTEZ

### Telecommunications, Integrated and Other Services
- 14 companies including
  - THB Novyi Vek ("NEW AGE") TV & Radio Broadcasting Company
  - TAIF-NK AZS
  - KARSAR
  - TULPAR-AIR
Main products

✓ Diesel Fuel
✓ Gasoline
✓ Jet kerosene & Heating Kerosene
✓ Straight-Run gasoline & Stable Natural Gasoline

2019 results

✓ crude oil & gas condensate processing – 8,3 mln t
✓ depth of refining – 74,6%*

* as of 2018
Main products

✓ Plastics
  ▪ general purpose & high impact polystyrene
  ▪ polyethylene
  ▪ polypropylene
  ▪ ABS

✓ Rubbers
  ▪ isoprene (SKI)
  ▪ butyl (BK, HBK)
  ▪ butadiene (SKD)
  ▪ butadiene-styrene (DSSK)

✓ Glycols
✓ Polyesters (ethyleneglycol, laprol, polyether)
✓ Neonols
✓ Products of Organic Synthesis
✓ Alpha-olefins fractions

2019 results

✓ production of synthetic rubbers – 678 th.t
✓ production of plastics – 717 th.t

✓ reconstruction of biological treatment facilities
✓ commissioning of a benzol extraction plant

Strategy 2025

✓ Strengthening the position of a diversified manufacturer of synthetic rubber. Construction of methanol with a capacity of 500 th.t and DSSK with a capacity of 60 th.t.

✓ Construction of new Olefins Complex with Ethylene output of 0,6 mln.TPA including integrated plastics production facilities (PE, PP)
Main products

✓ polyethylene
  ▪ HDPE
  ▪ LDPE
✓ polyethylene pipes and fittings
✓ compositions for cable industry
✓ polycarbonate
✓ ethanolamines
✓ ethylene glycols

2019 results

✓ production of plastics – 821 th.t
✓ modernization of the polycarbonate plant (with an increase in production capacity up to 100 th.t. in 2020)

Strategy

✓ investment program is under development
**Nefis Cosmetics**
- Manufacture of chemical products: household chemicals and technical products

**Nefis-Bioproduct**
- Production and packaging of bottled oil, oil and fat products, sauces and ketchups
- Production of oil from oilseeds, refining capacity to 650 th.t of oilseeds per year

**Kazan Oil Extraction Plant**
- Processing of sunflower and rapeseed

**Kazanskiy Zhirovoy Kombinat**
- Production of oil and fat products

**Market position of "Nefis Cosmetics"**
- 3rd place on the Russian market of powdered detergents
- 2nd place in the Russian market of dishwashing detergents

**2019 results**
- Production growth rate of «Nefis Cosmetics» – 110%
- Production of detergents – 248 th.t
Main products

✓ nitrogen fertilizer
  ▪ urea
  ▪ ammonium nitrate
✓ ammonia
✓ methanol

2019 results

✓ production of ammonium nitrate – 392 th.t
✓ production of granular urea – 708 th.t
✓ increase in production of nitric acid for the production of ammonium nitrate
Main products

✓ water-swellable packers
✓ rubber sleeves for different purposes
✓ molded sheeting
✓ molded and non-molded rubber products
✓ adhesives
✓ sealants
✓ rubber mixtures
✓ rubber tubes
✓ dielectric carpets
✓ thermoelastoplast
✓ mastics
✓ soft fuel tanks
✓ conveyor belts

2019 results

✓ over 7 000 product lists
✓ production of sleeves – 17,1 th.km
✓ production of molded and non-molded rubber products – 2,8 th.t
✓ production of technical sheeting – 2,8 th.t
Main products

- Industrial chemistry
  - Catalyst for paraffin dehydrogenation
  - Calcium chloride
  - Reagents for water recycling system
  - Magnesium sulfate
  - Sodium sulfate, sodium sulphite, sodium bisulfite, sodium thiosulphate

- Reagents
  - Sodium sulphate, sodium sulphate
  - Magnesium sulphate

- Pharmaceuticals
  - Barium sulphate for x-ray examination
  - Calcium chloride substance
  - Magnesium sulphate substance
  - Sodium thiosulfate substance

- Construction materials
  - 2-aqueous industrial calcium chloride
  - Magnesium sulphate monohydrate
  - Industrial sodium sulphate (A grade)

2019 results

- Sodium salt production – 12,4 th.t
- Magnesium salt production – 6,9 th.t
- Calcium salts production – 2,3 th.t
- Pharmaceutical products production – 0,9 th.t
"Danaflex" Group

Main products

✓ Packaging for:
  ▪ Grocery products
  ▪ Frozen foods
  ▪ Confectionary
  ▪ Fat-and-oil products
  ▪ Household chemicals
  ▪ Beverages
  ▪ Snacks
  ▪ Diary products
  ▪ Hygiene products
  ▪ Pet goods
  ▪ Tubal lam

✓ Film for:
  ▪ Products requiring high puncture resistant
  ▪ Film with a "twist" memory effect
  ▪ Compressed bags
  ▪ Lamination
  ▪ Meat
  ▪ Protection of sheets of cellular and monolithic PC, PMMA, PET.

2019 results

✓ Grand opening Danaflex in Czech Republic (capacity – 15 th.t per annum)
✓ Launch of the production of In Mold Labeling for food and non-food products
Main products

✓ Engineering cellular polycarbonate Novattro
✓ Solid polycarbonate Novattro
✓ Cellular polycarbonate ACTUAL! Bio
✓ Polycarbonate Profiles Novattro
✓ Multi-wall polycarbonate panels with locking brackets Novattro PROF
✓ Accessories
✓ Acrylic glass
✓ Polycarbonate Kazan (TM Rational)
✓ PET Sheets
✓ Polystyrene sheets Novattro
✓ Diffusers

✓ 15 high-tech lines for main & auxiliary facilities incl. extrusion lines OMIPA S.p.A. (Italy)
✓ Production capacity -18 th. TPA
Main products

✓ plastic crates
✓ garbage containers
✓ pallets
✓ polymer sheet
✓ storage and shelf containers
✓ non-separable plastic containers
  iBox
✓ collapsible plastic containers
  PolyBox

✓ The largest Russian enterprise producing industrial large-sized plastic containers and packages
✓ 3 production sites
✓ 50 thousand tons is the annual volume of plastics materials processing

2019 results

✓ Production of folding boxes for everyday goods
✓ Start of production of piling box and mushroom box, as well as overlap pallet 1200x800
Kamsky Plant of Polymeric materials

Main products

✓ Industrial packaging
  ▪ FFS-packaging
  ▪ stretch hood packaging
  ▪ Shrink packaging

✓ Polymeric films
  ▪ protective films
  ▪ laminated films
  ▪ adhesive engineering films for ACP panels
  ▪ Films for general purpose

✓ Polymeric compounds

✓ 4 production sites
✓ 25 high-tech equipment units
✓ more than 30 th.t of products per year

2019 results

✓ launch of Russia's first 5-layer sleeve film extrusion line at a site in Kazan
Main products

✓ Stretch films
✓ Multifilament yarn
✓ Non-oriented polypropylene film (CPP film)

2019 results**

✓ Stretch film – 55.5 th.t
✓ Multifilament yarn – 2 th.t

Fields of Applications

✓ Packaging materials
✓ Textile industry
✓ Construction
✓ Agriculture
✓ Moto industry

*In December 2019, ООО "UK “Industrial Park “Kamshiye Polyany “ joined ООО “Nova Roll-stretch”

**Data for the period from 01.01.2019 to 12.09.2019
Main products (over 500 products)

✓ plastic pipes
✓ PE fittings and accessories
✓ equipment for PE pipes welding
✓ shutoff & control valves
✓ PE wells and reservoirs

✓ one of the leaders in polymer pipes production in Russia
✓ the first plant in Russia to launch the production of polyethylene pipes with a diameter of 1600 mm
✓ 4 plants (Republic of Tatarstan and Ingushetia, Sverdlovsk region)
✓ plans to increase the production capacity up to 90 thousand tons of pipes per year

2019 results

✓ modernization of the production of multilayer pipes MultiTEX II and III for water supply, gas transmission networks with the possibility to manufacture pipes with a diameter of up to 800 mm.
JSC "Tatkhimfarmpreparaty"

Activities

- Drug manufacturing
- Brand Chemists shops
- Production of surgical suture materials
  - Synthetic (lavsan, fluoroest, polypropylene, polyglycolide, polyamide, polydioxanone, polycaproamide)
  - Natural (catgut suture, silk)
- Provision of services for licensed and contract manufacturing of full-cycle pharmaceutical products

- Production capacity
  - 1.5 bln. tablets
  - 20 mln. packages of sterile and non-sterile ointments and drops

- More than 130 names of finished pharmaceutical products in the form of tablets, tinctures, ointments, syrups, solutions and pastes of 30 pharmacological groups
Egida Group

Main products

✓ Furniture PU foam:
  ▪ standard
  ▪ extra rigid
  ▪ rigid
  ▪ flexible
  ▪ extra flexible
  ▪ high elastic
✓ Exterior and interior furniture fittings
✓ UF glue
✓ Finishing fabric:
  ▪ flock
  ▪ chenille fabric
  ▪ velour
  ▪ synthetic leather
  ▪ chamois
  ▪ jacquard fabric
✓ 2 polyurethane foam plant in Russia and in Kazakhstan
✓ own production of finishing fabric and furniture glue
✓ one of the three leaders among Russian suppliers of furniture fabrics
✓ fabrics are made on the Italian equipment of MONTI ANTONIO company, there is own design studio
Main products

✓ Autolen –
Filled (including glass-filled) and modified compounds based on polypropylene

✓ Autostyrene –
Compound for the production of TV/ screen backs and other components in any color solution

✓ Avtomid –
Filled and modified compound based on impact-resistant polyamide (PA-06)

✓ 50 types of products
✓ Production capacity 15 th. TPA

2019 results

✓ The 3rd KraussMaffei Berstorff extrusion line was delivered, which will increase productivity to 25 th.t. of compounds per year
Main Products

✓ Hockey sticks:
  ▪ adult
  ▪ transitional
  ▪ junior

✓ Sportswear:
  ▪ male
  ▪ children

✓ Russia's first factory to produce a full range of hockey sticks for all ages and levels of the game

✓ Russian-made carbon fiber is used in production
**Main products**

- Large-scale production of liquid preparative forms of pesticides
- Polymer packaging

- 50 million liters of finished products and 8 million canisters of polymer packaging per year
- Up to 40 types of plant protection products of all formulations, except granules and wettable powders
- The plant was built according to the unique project “all under one roof” (saltbox)
- Formulation, “clean” production, similar to pharmaceutical and cosmetic companies
Main products

- Anti-turbulent additives:
  - PTFLYDE-H и PTFLYDE-L (suspension of high molecular weight polyalphaolefins in a mixture of aliphatic alcohols)
  - PTFLYDE-S (a solution of high molecular weight polyalphaolefins in high boiling hydrocarbons)

- up to 3 thousand tons of additives, considering the possible capacity increase up to 10 thousand tons per year

- Innovative technology of additive production that includes a full cycle: from the production of catalyst for high molecular weight polyalphaolefin polymerization to the creation of a marketable product

- Substitution of imported additives for the needs of oil transportation industry
Cooperation links of Kamskiy innovative regional industrial cluster - INNOKAM
# Production of main products in Tatarstan

<table>
<thead>
<tr>
<th>Product</th>
<th>2019</th>
<th>% by 2018</th>
<th>% by 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produced oil</td>
<td>36,630 th. t</td>
<td>101%</td>
<td>114%</td>
</tr>
<tr>
<td>Co-produced gas (associated)</td>
<td>1,024 mln m³</td>
<td>101%</td>
<td>135%</td>
</tr>
<tr>
<td>Crude oil for refining</td>
<td>18,612 th. t</td>
<td>109%</td>
<td>growth by 2.2 times</td>
</tr>
<tr>
<td>Diesel fuel</td>
<td>6,182 th. t</td>
<td>124%</td>
<td>growth by 3.2 times</td>
</tr>
<tr>
<td>Motor gasoline</td>
<td>1,702 th. t</td>
<td>growth by 2.4 times</td>
<td>growth by 2.5 times</td>
</tr>
<tr>
<td>Fuel oil (mazut)</td>
<td>n/a</td>
<td>103%</td>
<td>119%</td>
</tr>
<tr>
<td>Nitrogen fertilizer (in terms of 100% of nutrients)</td>
<td>n/a</td>
<td>101%</td>
<td>growth by 7.1 times</td>
</tr>
<tr>
<td>Plastics in primary forms</td>
<td>1,720 th. t</td>
<td>102%</td>
<td>166%</td>
</tr>
<tr>
<td>incl. ethylene polymers in primary forms</td>
<td>952 th. t</td>
<td>102%</td>
<td>164%</td>
</tr>
<tr>
<td>polypropylene in primary forms</td>
<td>212 th. t</td>
<td>98%</td>
<td>123%</td>
</tr>
<tr>
<td>styrene polymer</td>
<td>298 th. t</td>
<td>99%</td>
<td>growth by 2.1 times</td>
</tr>
<tr>
<td>Paints and varnishes</td>
<td>29 th. t</td>
<td>104%</td>
<td>124%</td>
</tr>
<tr>
<td>Synthetic rubber</td>
<td>678 th. t</td>
<td>94%</td>
<td>157%</td>
</tr>
<tr>
<td>Carbon black</td>
<td>212 th. t</td>
<td>84%</td>
<td>103%</td>
</tr>
<tr>
<td>Industrial sulphur</td>
<td>183 th. t</td>
<td>105%</td>
<td>growth by 4.7 times</td>
</tr>
<tr>
<td>Detergents</td>
<td>n/a</td>
<td>111%</td>
<td>186%</td>
</tr>
<tr>
<td>Tires and new rubber inner tubes, total</td>
<td>n/a</td>
<td>70%</td>
<td>95%</td>
</tr>
</tbody>
</table>
Development of Gas and Petrochemical Complex in the Republic of Tatarstan

**Investments**

> 1,5 trn.rub.

**Production Index**

<table>
<thead>
<tr>
<th>Product</th>
<th>2019/1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude oil and natural gas production</td>
<td>139%</td>
</tr>
<tr>
<td>Coke and refined products</td>
<td>growth by 4,5 times</td>
</tr>
<tr>
<td>Chemicals and chemical products (incl. pharmaceuticals)</td>
<td>growth by 3,7 times</td>
</tr>
<tr>
<td>Rubber and plastic goods</td>
<td>growth by 3,3 times</td>
</tr>
<tr>
<td>Rubbers goods</td>
<td>growth by 2,9 times</td>
</tr>
<tr>
<td>Plastic goods</td>
<td>growth by 5,2 times</td>
</tr>
</tbody>
</table>
Structure of Gas and Petrochemical Complex of the Republic of Tatarstan

- **Crude Oil and natural gas production**
- **Refined products production**
- **Manufacture of Plastic products**
- **Manufacture of Rubber goods**
- **Chemical Products (including drugs)**

*in 1998-2014 including service provision in the field of extraction of mineral resources*
### Main results for 2019

#### Crude Oil and natural gas production
- **Crude oil production**: 36.6 mln.t
- **Shipping**: 9.32 bln.USD
- **Sales profit***: 4.7 bln.USD

#### Oil Processing
- **Crude oil distillation (incl. gas condensate)**: 18.6 mln.tonn
- **Loss on sales***: 100.4 mln.USD
- **Shipping**: 9.85 bln.USD

#### Manufacture of Chemical Products (excluding medicines)
- **Growth rate, in % to 2018**: 86.3%
- **Shipping**: 5.1 bln.USD
- **Sales profit***: 801.8 mln.USD

#### Manufacture of Rubber & Plastic Products
- **Growth rate, in % to 2018**: 108.1%
- **Shipping**: 256.5 mln.USD
- **Sales profit***: 72.6 mln.USD

*By large and medium-sized enterprises*
### Share of Tatarstan enterprises in Russian output of products in 2019

<table>
<thead>
<tr>
<th>Product</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLDPE</td>
<td>100%</td>
</tr>
<tr>
<td>Polycarbonate</td>
<td>100%</td>
</tr>
<tr>
<td>Truck tyres</td>
<td>100%</td>
</tr>
<tr>
<td>Styrene polymers</td>
<td>57%</td>
</tr>
<tr>
<td>Synthetic rubbers</td>
<td>54%</td>
</tr>
<tr>
<td>Ethylene polymers, total</td>
<td>44%</td>
</tr>
<tr>
<td>Propylene polymers</td>
<td>40%</td>
</tr>
<tr>
<td>Passenger car tyres</td>
<td>15%</td>
</tr>
<tr>
<td>Detergents</td>
<td>14%</td>
</tr>
<tr>
<td>Non-reinforced polymeric films and sheets</td>
<td>13%</td>
</tr>
<tr>
<td>Agriculture &amp; other types of tyres</td>
<td>13%</td>
</tr>
<tr>
<td>Polymer pipes and hoses, fittings</td>
<td>12%</td>
</tr>
<tr>
<td>Carbon black</td>
<td>12%</td>
</tr>
<tr>
<td>Diesel fuel</td>
<td>12%</td>
</tr>
<tr>
<td>Coating materials</td>
<td>8%</td>
</tr>
<tr>
<td>Crude oil</td>
<td>7%</td>
</tr>
<tr>
<td>Crude oil processing</td>
<td>7%</td>
</tr>
<tr>
<td>Automobile gasoline</td>
<td>6%</td>
</tr>
<tr>
<td>Medical drugs</td>
<td>4%</td>
</tr>
<tr>
<td>Medical equipment</td>
<td>1%</td>
</tr>
</tbody>
</table>
Development potential of small and medium-sized businesses in Gas and Petrochemical Complex of the Republic of Tatarstan
Dynamics of Polymer Production in the Republic of Tatarstan

Polyethylene
Polypropylene
Polystyrene
Polycarbonates
ABS plastic

th.t

1720 th.t
Major Industrial Sites for Innovative Projects in the Republic of Tatarstan

✓ **Investment Sites**
  - Alabuga SEZ
  - Innopolis SEZ
  - Priority Social & Economic Development Area (PSEDA) «Chelny»
  - PSEDA "Nizhnekamsk"
  - PSEDA «Chistopol»
  - PSEDA «Zelenodolsk»
  - PSEDA «Mendelevsk»

✓ **Technopolis "Himgrad"**

✓ **Techno Parks (5)**

✓ **Business Incubators (7)**

✓ **Industrial Parks (20)**

✓ **Industrial sites at the municipal level (80)**
Residents of the SEZ "Alabuga" (Gas and Petrochemical Complex)

### Operating enterprises
- **P-D Tatneft-Alabuga Fiberglass**: glass fiber and derivative products
- **Air Liquide Alabuga**: technical gases
- **Polymatiz**: nonwoven fabric
- **Alabuga-Fiber**: carbon fiber
- **3M Volga**: corrosion protection agents
- **Dizayn-Rus**: polyethylene and polypropylene plastic pipes
- **DANAFLEX-ALABUGA**: flexible packaging materials
- **Russkij vosk**: polyethylene wax
- **August-Alabuga**: crop protection agents and polymer containers for packaging
- **TN – Alabuga**: polyurethane foams
- **Transneft Synthesis**: anti-turbulence additives
- **Rostoner**: toners and cartridges

### Under construction
- **KNT-Plast**: PVC compounds and PVC film
- **INKO-TEK AGRO ALABUGA**: complex granular NPK fertilizers
- **Agruskhim-Alabuga**: plant protection products
- **Alabuga-Fiber**: PAN-precursor
Opportunities of PSEDA for project implementation in the field of GPCC

<table>
<thead>
<tr>
<th>Sectors of GPCC:</th>
<th>Zelenodolsk</th>
<th>Nab. Chelny</th>
<th>Nizhnekamsk</th>
<th>Chistopol</th>
<th>Mendelevsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical substances</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Drugs and medical materials</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rubber and plastic goods</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

| Capital investments                      | min 10 mln. rub. | min 20 mln. rub. | min 15 mln. rub. | -         | -          |
| Incl. for the 1-st year after residency status acquisition | min 2,5 mln. rub. | min 2,5 mln. rub. | min 2,5 mln. rub. | min 2,5 mln. rub. | min 2,5 mln. rub. |

| Job creation                             | min 20        | min 15        | min 20        | -         | -          |
| Incl. for the 1-st year after residency status acquisition | min 10        | min 10        | min 10        | min 10    | min 10     |
Comparison of conditions for project realization in PSEDA and SEZ

<table>
<thead>
<tr>
<th>Procedure for VAT reimbursement</th>
<th>Regular taxation regime</th>
<th>Priority Social and Economic Development Area (PSEDA)</th>
<th>Special Economic Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard (after cameral tax audit)</td>
<td>Declarative (before cameral tax audit completion)</td>
<td>Standard (after cameral tax audit)</td>
</tr>
<tr>
<td><strong>Profit Tax Rate (Federal part)</strong></td>
<td>2017-2020 – 3%</td>
<td>0%</td>
<td>2%(^1)</td>
</tr>
<tr>
<td><strong>Profit Tax Rate (regional part)</strong></td>
<td>2017-2020 – 17% (may be reduced to 12,5%)</td>
<td>for 1-5 yrs. – max. 5%(^1) 6-10 yrs. – max. 10%</td>
<td>1-5 yrs. – 0%(^1) 6-10 yrs. – 5% up to 2055 – 13,5%</td>
</tr>
<tr>
<td><strong>Land Tax</strong></td>
<td>1,5% (may be reduced)</td>
<td>0%(^2)</td>
<td>0%(^2)</td>
</tr>
<tr>
<td><strong>Property Tax</strong></td>
<td>2,2% (may be reduced)</td>
<td>for 1-10 yrs. – 0%(^3)</td>
<td>0%(^2)</td>
</tr>
<tr>
<td><strong>Insurance payments to state non-budgetary funds</strong></td>
<td>2016-2018 – 30% Since 2019 – 30,8%</td>
<td>for 1-10 yrs. – 7,6%(^4),(^5)</td>
<td>2018 – 21% since 2019 – 28%</td>
</tr>
</tbody>
</table>

\(^1\) upon realization of profit  
\(^2\) within 10 years from the formation of taxation base  
\(^3\) for the Republic of Tatarstan; for newly created or acquired not before than 1.01.2014 г.; from the 1-st day of the month next to the month of property registration  
\(^4\) for residents who received the residency status no later than within 3 years from the date of establishment of PSEDA  
\(^5\) not valid since February 11, 2019 for new residents of PSEDA “Naberezhnye Chelny”
# Investment Preferences in PSEDA and SEZ

## Custom regulations

<table>
<thead>
<tr>
<th>For non-residents</th>
<th>For residents of PSEDA</th>
<th>For residents of SEZ (industrial -production type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General terms</td>
<td>Import VAT – 0%,</td>
<td>Free custom zone:</td>
</tr>
<tr>
<td></td>
<td>Import custom duties –</td>
<td>Import VAT – 0%,</td>
</tr>
<tr>
<td></td>
<td>0%*</td>
<td>Import custom duties – 0%,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>without using non-tariff regulation measures</td>
</tr>
</tbody>
</table>

## Minimal investments in capital projects

<table>
<thead>
<tr>
<th>For non-residents</th>
<th>For residents of PSEDA</th>
<th>For residents of SEZ (industrial -production type)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Determined individually</td>
<td>120 mln. rub. (except intangible rub.,</td>
</tr>
<tr>
<td></td>
<td>for each PSEDA,</td>
<td>including 40 mlnруб.-</td>
</tr>
<tr>
<td></td>
<td>according to the decision</td>
<td>during first 3 years after resident status acquisition)</td>
</tr>
<tr>
<td></td>
<td>of RF Government</td>
<td></td>
</tr>
</tbody>
</table>

*for technological equipment (including components and spare parts), equivalents of which are not manufactured in the Russian Federation*
2019 results

- Market product
  602,5 mln.USD
- Residents’ tax payments
  74 mln.USD
- Number of employees
  8 683

Service companies, infrastructure companies, consulting services
16,0%

Chemistry, polymer processing, pulp and paper industry
36,2%

Metalworking, instrument making, mechanical engineering
16,3%

Engineering, metrology, laboratory research
10,3%

Medical products, pharmaceuticals, biotechnology
7,4%

Other production
13,8%

292 companies
Kama Industrial Park "Master"

Benefits

✓ Benefits
✓ Availability of finished space
✓ Developed infrastructure
✓ Convenient location
✓ Free network connectivity
✓ The principle of "one window"
✓ Low price

2019 results

✓ Number of residents
  338
✓ Number of employees
  9 th. people
✓ Resident revenue
  more than 1,2 bln. USD
✓ Total area: 39.5 ha
✓ 6 km of engineering networks and roads are laid
✓ It is planned to create 2.5 thousand jobs (by 2020)
✓ It is planned to build 111 thousand m² of production areas (by 2020)

Turn-key plant construction
✓ Formation of sites for individual requirements from 35 Are to 5 hectares
✓ Issuance of specifications and conclusion of power supply contracts
✓ Securing local approvals
✓ Assistance in attracting financing
✓ Project development
✓ Construction

30 Companies
- Polymer processing 40%
- Machine building 18%
- Woodworking 16%
- Metalworking 12%
- Construction materials 9%
- Other production 5%
Innovation development of Gas and Petrochemical Complex of the Republic of Tatarstan
Expenditures for innovation in GPCC and in industry of Tatarstan

Enterprises of GPCC provide 73% of industrial innovations in RT

Industry of RT
incl. GPCC of RT
Creation of scientific relations of GPCC of the Republic of Tatarstan

Arbuzov Academy of IOPC Science of RT VNIUS
Kazan State Technical University
Soyuzkhimpro mproject

Kazan State Power Engineering University

Kazan State University of Architecture & Engineering

TATARTAN

Kazan National Research Technological University
Kazan Federal University

Institute of Petrochemical Oil Refining & Synthesis n.a. Topchiev
Institute of Chemical Physics RAS
Institute of Chemical Physics n.a.A.N.Frumkin RAS

Institute of Hydrocarbon Processing SB RAS

Institute of Physical Chemistry & Electrochemistry n.a.A.N.Frumkin RAS

Institute of Biochemical Physics n.a. N.M.Emanuel RAS

Institute of Structural Macro kinetics & Material Science RAS

Boreskov Institute of Catalysis RAS
Institute of Petroleum Chemistry SB RAS
Institute of Solution Chemistry RAS
Novosibirsk Institute of Organic Chemistry n.a.N.N. Vorozhtsov SB RAS
Semenov Institute of Chemical Physics RAS
Institute of Industrial Chemistry Ural branch RAS

Institute of Chemical & Power Engineering Technology SB RAS
### Academic infrastructure of GPCC of Tatarstan

<table>
<thead>
<tr>
<th>Institution/Project</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academy of Science of RT</td>
<td>Coordination of scientific activity and international cooperation in Russia and in the world</td>
</tr>
<tr>
<td>VNIUS</td>
<td>Scientific work in the field of production &amp; consumption of hydrocarbons</td>
</tr>
<tr>
<td>Arbuzov IOPC KSC RAS</td>
<td>Physical-chemical and chemical–biological research</td>
</tr>
<tr>
<td>РЦИ ХИМТЕХ</td>
<td>Development of technologies in the field of production of low- and medium-tonnage chemistry</td>
</tr>
<tr>
<td>TATNIPINEFT</td>
<td>Scientific support of oil production sector of the Republic of Tatarstan</td>
</tr>
<tr>
<td>Soyuzkhimpromproject</td>
<td>Project development of chemical production</td>
</tr>
<tr>
<td>Kazan National Research Technological University</td>
<td>Scientific and educational activity in gas and petrochemical industry</td>
</tr>
<tr>
<td>Kazan Federal University</td>
<td>Scientific and educational activity in the field of oil production, chemistry and ecology</td>
</tr>
<tr>
<td>Kazan National Research Technical University</td>
<td>Development of composite materials and structures of petrochemical feedstock</td>
</tr>
<tr>
<td>Kazan State Power Engineering University</td>
<td>Optimization of chemical and technological processes, novels material characterization</td>
</tr>
<tr>
<td>Kazan State University of Architecture and Engineering</td>
<td>Development of application technologies of chemical materials in construction industry</td>
</tr>
</tbody>
</table>
Purpose:

• informing enterprises of GPCC of RT about new solutions in the field of oil production, oil refining, petrochemistry

Format:

• presentation of innovative solutions for GPCC of RT, approval of experts evaluation, presentation of the most advanced projects on board meeting of OAO “Tatneftekhiminvest-holding”

Participants:

• Representatives of science, State, industrial production, investors

Frequency:

• Every month
Expert Council of JSC "Tatneftekhiminvest-holding" on petrochemical products expansion

**Purpose:**

- Republican chemical and petrochemical products use expansion in the construction and road industries by the formation of priority investment projects list

**Participants of Council:**

- Ministry of Transport and Road of the Republic of Tatarstan
- Ministry of Construction, Architecture, Housing and Communal Services of the Republic of Tatarstan
- Executive Committee of Kazan city
- SPI "Glavtatdortrans"
Program development of Gas and Petrochemical Complex of the Republic of Tatarstan
## Integrated development of GPCC industries within the framework of the program-oriented & goal-oriented approach

<table>
<thead>
<tr>
<th>Program</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-st Program</td>
<td>Ensuring economic security and economic growth of the Republic by bringing a key sector of the economy to a competitive level</td>
</tr>
<tr>
<td>2-nd Program</td>
<td>Increasing the competitiveness of the Petrochemical Complex and ensuring, on this basis, the economic growth of the Republic</td>
</tr>
<tr>
<td>3-d Program</td>
<td>The most efficient use of competitive advantages, a stable increase of value-added production on this basis, strengthening positions in the Russian and world markets</td>
</tr>
<tr>
<td>4-th Program</td>
<td>Growth of competitiveness of Gas &amp; Petrochemical Complex, realization and expansion of competitive advantages</td>
</tr>
<tr>
<td>5-th Program</td>
<td>Formation of raw material base and scientific base for the development of production of functional materials and other types of products of medium and low-tonnage chemistry</td>
</tr>
<tr>
<td>6-th Program</td>
<td>Creation of the industry of functional materials, medium- and small-tonnage chemistry in Tatarstan</td>
</tr>
<tr>
<td>7-th Program</td>
<td>Ensuring the leadership of Tatarstan among the EAEU countries in terms of production volume and quality of functional materials, products of medium and low-tonnage chemistry</td>
</tr>
</tbody>
</table>
Aims and objectives of the development of Gas and Petrochemical Complex of the Republic of Tatarstan

**Long term strategic goal** of the development of Gas and Petrochemical Complex up to 2034:

*To become a leader region among the countries of the Eurasian Economic Union in the field of production of functional materials (Performance Materials), medium and small-tonnage chemistry and products based on them (for the production of vehicles and electronics, engineering, pharmaceuticals, construction)*

**Tasks** for the development of Gas and Petrochemical Complex for 2020-2024:

1. Expanding the raw material base for the production of medium- and small-tonnage chemistry products in the Republic of Tatarstan.
2. Infrastructure improving to facilitate the implementation of priority projects in the field of Gas and Petrochemical Complex of the Republic of Tatarstan.
4. Positioning of the Republic of Tatarstan as the most effective platform (window of opportunity) for the development of new areas of the chemical industry in the EAEU countries.
5. The development of small and medium-sized businesses in Gas and Petrochemical Complex of the Republic of Tatarstan.
6. The development of promoting new products assistance system of Gas and Petrochemical Complex in the Republic of Tatarstan.
Key initiatives of the Development Program of GPCC of the RT for 2020-2024

- Determination and consolidation at regional level the priority areas for the development of chemistry and petrochemistry in the Republic of Tatarstan
- Implementation of investment projects of enterprises of Gas and Petrochemical Complex of the Republic of Tatarstan
- Creation of pilot production (small-tonnage) units for modeling and improving the product production processes of Gas and Petrochemical Complex
- Conducting strategic market research and long-term forecasting of gas and petrochemical industry sectors in order to search for new product niches and directions for the development of the chemical industry in the Republic of Tatarstan
- Creation of a world-class scientific and educational center in the Republic of Tatarstan
- Popularization of the Republic of Tatarstan as a place of endeavors for career growth and investment in the field of chemistry and petrochemistry
- Creation of pilot areas for testing innovative rubber and plastic products, chemical products in the Republic of Tatarstan
- Conclusion of cooperation agreements with state corporations and the largest companies in Russia in the field of development, creation of production and new materials application
Priority areas for the development of the chemical industry of Tatarstan in 2020-2024

- methylchlorosilanes and their processing
- polyurethanes, including:
  - polyethers
  - isocyanates
- epichlorohydrin and epoxies
- unsaturated polyester resins
- maleic anhydride and its processing
- linear alkylbenzenes
- natural gas –to - chemical products
- olefins and their derivatives
- carbon fiber and carbon fiber-based composites

- Products of fine chemical industry including:
  - products for the production and processing of rubbers and plastics
  - Super engineering plastics
  - chemical products production by the process of extraction and use of supercritical fluids;
  - ultra-high molecular weight polyethylene and its composites
- ethylene propylene rubber
- deep grain processing
- biodegradable polymers and composites
In 2019, the decline in production dynamics in Tatarstan is connected to a decrease in synthetic rubbers supplies from tire plants of PJSC Tatneft by PJSC Nizhnekamskneftekhim.
Implementation of Investment projects of the 1st Programme of GPCC 1999-2003

- **Nizhnekamskneftekhim**: unleaded petrol and components of hydrocarbon fractions, butadiene rubbers
- **Nefis Cosmetics**: toilet soap (revamp)
- **Tasma-holding**: resumption of production

1999

- **Nizhnekamskneftekhim**: polymeric petroleum resin, thermopolymeric oil
- **Kazanorgsintez**: high-pressure polyethylene (expansion)

2000

- **Nizhnekamskneftekhim**: polyetherpolyols
- **Kazanorgsintez**: high density polyethylene, low density polyethylene (reconstruction), polyethylene pipes (reconstruction), plastic containers (reconstruction)

2001

- **Nizhnekamskneftekhim**: methy tertiary butyl ether
- **Kazanorgsintez**: ethylene (expansion), high-pressure polyethylene (expansion), products for oilfields

2002

- **Tatneft**: Base Complex of Nizhnekamsk Refinery
- **TAIF-NK**: sulfur distillate hydrotreatment complex

2003

- **Nizhnekamskneftekhim**: methyl tertiary butyl ether
- **Kazanorgsintez**: ethylene (expansion), high-pressure polyethylene (expansion), products for oilfields
- **Tasma-holding**: aerospace films
Implementation of Investment projects of the 2nd Programme of GPCC 2004-2009

- **Nizhnekamskneftekhim**: polyether polyols, (expansion) halobutyl rubber, butadiene rubber on neodymium catalyst
- **Kazanorgsintez**: ethylene (expansion), composite materials
- **KVART**: dynamic thermo elastoplasts, metal-film hoses
- **Karpov Chemical Plant**: sodium sulphate
- **Tasma-holding**: radiographic films, mixed additives

- **Nizhnekamskneftekhim**: polypropylene
- **Kazanorgsintez**: low pressure polyethylene; (expansion), ethylene (reconstruction), phenol (reconstruction)
- **Khiton**: aerosol production (revamp)

- **Nizhnekamskneftekhim**: polystyrene (3-d stage),
- **Kazanorgsintez**: low pressure polyethylene (expansion), polycarbonate
- **Nizhnekamskstehuglerod**: carbon black (revamp)
- **Kazan Synthetic Rubber Plant**: thiokol (revamp), sealants (expansion)
- **SafPlast**: sheets of cellular and solid polycarbonate

- **Nizhnekamskneftekhim**: butyl rubbers (expansion), butadiene rubbers on lithium catalyst
- **Kazanorgsintez**: bisphenol-A
- **Nizhnekamskshina**: car tyres
- **Nefis Cosmetics**: detergents (expansion)
- **Technopolys "Himgrad"**: creation of Technopolis
- **Karpov Chemical Plant**: isobutane dehydrogenating catalyst

- **TAIF-NK**: natural gas liquid processing, bitumen unit
- **Nizhnekamskneftekhim**: butyl rubbers (expansion), butadiene rubbers on lithium catalyst
- **Kazanorgsintez**: bisphenol-A
- **Nizhnekamskshina**: car tyres
- **Nefis Cosmetics**: detergents (expansion)
- **Technopolys "Himgrad"**: creation of Technopolis
- **Karpov Chemical Plant**: isobutane dehydrogenating catalyst

- **Nizhnekamskneftekhim**: polyethylene
- **Kazanorgsintez**: ethylene (expansion)
- **Tatneft Tyre Complex**: all-steel tyre plant
- **Nefis-Cosmetics**: detergents (reconstruction), liquid detergents (revamp), dry cleaners, plant
- **KVART**: dynamic thermoplastic elastomer goods, EPDM unmolded products, low pressure hoses, "Kvart-Sidzhit"
Implementation of Investment projects of the 3rd Programme of GPCC 2010-2014

- P-D Tatneft-Alabyga-Steklovolokno: fiberglass & fiberglass based products
- IP "Kamskie Polyany": multifilament yarns, stretch film
- Danaflex-Nano: flexible packaging
- NPP "Tasma": photorecording materials

- TAIF-NK: diesel fuel of Euro-5 standard
- Air liquid-Alabuga: oxygen & nitrogen plant
- Safplast: polycarbonate connecting profiles, acrylic glass sheets, fluted surface polycarbonate and polymethyl methacrylate sheets
- KAPO –Komposit: high- lift devices units

- TANEKO: 1st commissioning & start-up complex, integrated hydrocracking unit
- Nizhnekamskneftekhim: polystyrene (4-th stage)
- Nizhnekamskneftekhim: catalysts
- I-Plast: pallets, plastic containers
- Tasma: thermo shrink and multilayer barrier film

- Tatneft: TANEKO
- Nuran-Plast: polyolefin composite material
- Polus-Plast: cellular polycarbonate
- Elastic Plant: nonwoven spunbond
- Nizhnekamskneftekhim: methyl-tret-butyl ether (revamp)

- Nizhnekamskneftekhim: ABC-plastic
- Delrus Chistopol: medical products
- Technpolis "Himgrad": one-component polyurethane foam, construction chemistry of BASF Concern
- Multiplast: construction material
- Egida: elastic expanded polyurethane (revamp)
- Techstroi: polyethylene pipes (pressure pipes for hot water supply with protective cover), double layer corrugated pipes
Implementation of Investment projects of the 4th Programme of GPCC 2015-2019

- **Ammonium**: ammonia, methanol, carbamide
- **TAIF-NK**: petrol "Euro-5" standard
- **Nizhnekamskneftekhim**: monoethyleneglycol (expansion), triisobutyl aluminum
- **Nefis Cosmetics**: hair care products
- **Kazanorgsintez**: HDPE line
- **KVART**: rubber mixing line
- **JV Tatneft Marangoni C.n.A.**: restoration of SMC truck tyres
- **IP Kamiskiy Polyany**: 2 stretch films lines
- **Alabuga-Fiber**: carbon fiber
- **3M VOLGA**: liquid corrosion-resistant coatings
- **PD-Tatneft-Alabuga Fiberglass**: twisted fiber glass filaments
- **TANEKO**: DCC Unit
- **Nizhnekamskneftekhim**: alfa-olefins (revamp)
- **Nanopharma Development**: laboratory industrial complex for drug development
- **RT Regional Center of Biotechnology Engineering**: engineering services
- **PTO Medtehnika**: resorbable suture material
- **ZaryaD**: carbon fiber hockey sticks
- **Kazan package plant**: PP bags
- **Aksolute**: PEX
- **НПП Fiberglass pipe plant**: high-pressure antistatic fiber glass pipes with single-walled carbon nanotubes

- **Nizhnekamskneftekhim**: isoprene rubber (expansion), highly concentrated formaldehyde
- **TAIF**: power unit with a capacity of 405 MW at Kazan CHPP-3
- **DANAFLEX-ALABUGA**: packaging materials
- **TAT-Advenira**: anti-corrosion coatings
- **TANEKO**: isomerization unit, naphtha, kerosene and diz. fuel hydrotreaters, cat. reformer
- **Nizhnekamskneftekhim**: isoprene (expansion)
- **Nizhnekamsk All Steel Tires Plant**: KAMA PRO tires
- **KVART**: lay-flat-PVC sleeves
- **Chiton-Plast 2**: Ford Transit bumpers
- **Russian wax**: polyethylene wax
- **PC Polygran**: composite materials 2-nd line
- **IP Kamskie Polyany**: hollow fiber

- **TANEKO**: ELOU AVT-6? Gasoline
- **Nizhnekamskneftekhim**: reconstruction of biological treatment facilities; benzol (modernization)
- **Kazanorgsintez**: polycarbonate (expansion)
- **Ammonium**: nitric acid (expansion)
- **Nizhnekamsk All Steel Tires Plant**: all-steel tyre (expansion)
- **Avgust-Alabuga**: plant protection products
- **Transneft Sintez**: anti-turbulent additives
- **TN – Alabuga**: construction foam
- **Kama Plant of Polymeric Materials**: FFS film

2015

2016

2017

2018

2019
Implementation of Investment projects of the 5th Programme of GPCC 2020-2024 (plans)

- **AO TANEKO**: pilot hydro-conversion unit; heavy coker gasoil hydrotreating; catalytic cracking; middle distillate hydrotreating
- **PJSC "Nizhnekamskshina"**: tires "Viatti" (expansion)
- **OOO "Nizhnekamsk SSC Tire Factory"**: SSC Tires (expansion)
- **PJSC "Nizhnekamskneftekhim"**: SSBR
- **PJSC "Kazanorgsintez"**: ethylene (modernization)
- **GC "Egida"**: PU foam plant in the SEZ PPT "Lipetsk"
- **GC "Danaflex"**: Recyclable Barrier Materials
- **OOO "Nizhnekamsk SSC Tire Factory"**: SSC Tires (expansion)
- **PJSC "Nizhnekamskneftekhim"**: olefin complex and polyolefins production (1 stage)
- **AO "TANEKO"**: Aromatics production Complex; diesel fuel isodewaxing; hydrogen production
- **OOO «P-D Tatneft-Alabuga Fiberglass»**: twisted fiberglass (expansion)
- **PJSC "Nizhnekamskneftekhim"**: methanol; co-generation station
- **PJSC "Kazanorgsintez"**: power generating unit
- **OOO "Karpov Concern"**: toners; diatomite (kieselguhr processing)
- **PC "Danaflex"**: oriented polyolefin films
- **PJSC Tatneft**: maleic anhydride; polysulfur
- **AO TANEKO**: gas fractionation unit; alkylation; MTBE; naphtha hydrotreating - 2
- **OOO "Nizhnekamsk All Steel Tires Plant"**: giant tyres
- **PJSC "Kazanorgsintez"**: isopropylbenzene (modernization with the introduction of cumene production technology); HDP (expansion); sevilen (exp.)
- **Technopolis "Himgrad"**: insulating glass units; solvent recovery plant
- **OOO "Nizhnekamsk All Steel Tires Plant"**: SSC Tires (expansion)
- **SC "Nefis"**: household chemicals and technical products, fat- and-oil products (expansion and technical re-equipment)
- **OOO "TacthimPlast"**: polymer compounds (expansion)
- **PJSC "Tatneft"**: GFP-4 to produce a fraction of gasolines and liquefied gases; maleic anhydride (expansion); acrylonitrile; carbon fiber; propylene; polypropylene
- **PJSC "Nizhnekamskneftekhim"**: olefin complex and polyolefins production (1 stage)
Significant Investment Projects of Gas and Petrochemical Complex of the Republic of Tatarstan (underway)
TANEKO: prospects of development

2020
- Catalytic cracking
- Heavy coker gas oil hydrotreater (launched)
- Pilot hydroconversion plant
- Middle distillates hydrotreating

2021
- Aromatics production complex
- Isodewaxing of diesel fuel
- Hydrogen production

2022
- Gas fractionating plant
- Alkylation
- MTBE production
- Naphtahydrotreating - 2

2026
- Hydroconversion
- Hydrocracking – 2

Key indicators

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed capacity, mln.t</td>
<td>10,1</td>
<td>14,8</td>
</tr>
<tr>
<td>Main refined products basket, mln.t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diesel fuel</td>
<td>3,7</td>
<td>7,4</td>
</tr>
<tr>
<td>Gasoline</td>
<td>1,1</td>
<td>1,7</td>
</tr>
<tr>
<td>Jet kerosene</td>
<td>0,5</td>
<td>1,1</td>
</tr>
</tbody>
</table>
### Volume of raw material processing – 390 th TPA

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ammonia</td>
<td>14</td>
</tr>
<tr>
<td>propane (2)</td>
<td>76</td>
</tr>
<tr>
<td>propane</td>
<td>250</td>
</tr>
<tr>
<td>n-butane</td>
<td>50</td>
</tr>
</tbody>
</table>

### Production output – 317 th TPA

<table>
<thead>
<tr>
<th>Product</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon fibre</td>
<td>10</td>
</tr>
<tr>
<td>acrylonitrile</td>
<td>10</td>
</tr>
<tr>
<td>polypropylene</td>
<td>247</td>
</tr>
<tr>
<td>maleic anhydride</td>
<td>50</td>
</tr>
</tbody>
</table>
**Fresh feed rate:**
3,7 mln.t

**Technology:**
Vebo Combi-Cracking
(licensor – BP)

**Basic engineering:**
Kellogg Brown and Root
(Engineering company, USA)

### Key indicators

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>After project realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil conversion ratio</td>
<td>74,6% (2018)</td>
<td>98,6%</td>
</tr>
<tr>
<td>Main refined products, mln t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diesel fuel</td>
<td>2,4</td>
<td>4,0</td>
</tr>
<tr>
<td>Raw gasoline &amp; Stable Gas Naphtha</td>
<td>1,6</td>
<td>2,2</td>
</tr>
<tr>
<td>Gasoline</td>
<td>0,5</td>
<td>0,7</td>
</tr>
<tr>
<td>Jet kerosene &amp; Heating Kerosene</td>
<td>0,4</td>
<td>0,6</td>
</tr>
<tr>
<td>Fuel Oil</td>
<td>2,1</td>
<td>0</td>
</tr>
</tbody>
</table>
Nizhnekamskneftekhim: Development Strategy

MAIN PROJECTS

SSBR production by batch method
- SSBR- 60 th.t

Construction of CCGT unit
- Total capacity 495 MW
- EPC contract with Siemens (Germany)

New Olefins Complex and its facilities
- Ethylene – 600 thTPA
- Polyethylene - 300 thTPA
- Polypropylene - 250 thTPA
- EP Contract with Linde (Germany)

Construction of methanol plant
- Methanol – 500 thTPA
- Contract with Haldor Topsoe (Denmark)

OTHER BUSINESS PRIORITIES

- Implementation of Energy Saving and Environmental Protection Programs
- Development of technology for production of import-substituting components
- Modernization and efficiency improvement of existing equipment
Kazanorgsintez: Strategic vision

until 2020
- modernization of ethylene production for the possibility of processing propane raw materials

until 2022
- modernization of isopropylbenzene production with the introduction of cumene production technology using a zeolite catalyst
- reconstruction of HDPE production with capacity increase
- construction of an autoclave plant for the production of sevilen
- Construction of power generating unit PGU-250
Perspective Investment Projects of Gas and Petrochemical Complex of the Republic of Tatarstan
“Tatarstan- 2030” Strategy: Cluster activation

Key clusters

**SCIENCE AND EDUCATION**
- European hub (transport and logistics)
- Light Industry (smart textile)
- Smart education
- Smart materials (new plastic materials and composites)
- Smart equipment (robots, machine building, 3D-printing)

**ENERGY**
- Sustainable energy
- Smart infrastructur e
- Gas & Petrochemical cluster
- Smart machines (transport and equipment)
- Ship building
- Motor vehicle industry
- Aircraft industry
- Composite material industry

**Innovative clusters**
- Eco nutrition (innovative food processing)
- Biosystems
- Wood processing and furniture production
- Fusion of civilizations (culture, tourism and recreation)
- Health care

**Modern economic clusters**
- Construction and advanced materials
- Finance and professional services
- Smart IT
- Agro-Industrial cluster
- 24/7 trade and consumer services
- Smart machines (transport and equipment)
- Healthy lifestyle
- 24/7 trade and consumer services
- Eco nutrition (innovative food processing)
- Sustainable energy
- Smart education
- European hub (transport and logistics)
- Light Industry (smart textile)
Transportation and Processing of Valanginian Gas

2016

• Cooperation Agreement
  Republic of Tatarstan

2017

• Cost-effectiveness analysis of separate transportation and processing of ethane containing gas by OOO “NIIgaseconomica”
• Search for solutions to recover ethane in order to reduce the cost of the project.

2019

• Roadmap for joint project implementation

• Technical and economic analysis for the transportation of ethane-containing gas and the construction of a gas treatment plant in the Republic of Tatarstan
Construction of Terephthalic acid, Polyethyleneterephthalate and Linear alkylbenzene plants

Terephthalic acid & polyethyleneterephthalate

**Project Executor**
OOO "SafPet"

**Raw material base**
Paraxylene and hydrogen
AO "TANEKO"

**Capacity**
terephthalic acid – 210 th.t
polyethyleneterephthalate – 250 th.t

**Licensor**
La Seda de Barcelona SA

**Basic engineering:**
Chemtex International INC

Linear alkylbenzene

**Commercial offer**
LG Chem

**Capacity**
65 th.t
**Gaprin** – is a bacterial biomass produced from natural gas with a protein content of 70-79%. It is a complete protein product with a high content of B vitamins (especially B12), amino acids and micronutrients. Intended for use as a component of mixed feed and protein-vitamin additives in livestock sector, poultry breeding and fish farming.

*Now there are no working plants in Russia.*

- **Production:** OOO «Protelyuks Alabuga»
- **Location:** SEZ «Alabuga»
- **Capacity:** 100 th.t
- **Processing of natural gas:** 635,7 million cubic feet
- **Investment volume:** 0,3 bln.USD
Construction of Deep Grain Processing Complex

Capacity: **500 th. tons** of wheat per year (with a further increase to 1 million tons)

Location area: Sviyazhsk or Chelninsk zones

Diagram:

- GRAIN → STARCH → GLUCOSE SYRUP → FRUCTOSE SYRUP → BIOPRODUCTS
Cluster Scheme of Perspective Trends of Development of GPCC of RT

to the table of contents
Radar of innovative research and development of RAS institutes for petrochemical cluster development.

- Biodegradable materials
- New plastics
- Composites
- Functional coatings
- Plastics material processing
- Smart polymers
- Fine chemical industry
- Renewable power generation
- Deep oil and gas processing
- New catalyst system for oil and gas processing
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