



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



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



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"



- 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





Tatneftekhiminvest-holding



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





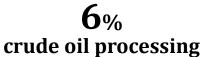
<u>Characteristics of</u> <u>Gas and Petrochemical Complex</u> <u>of the Republic of Tatarstan</u>

The role of Gas and Petrochemical Complex in the Economy as of the end of 2019



7‰ crude oil production



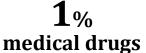


10% chemical products



20% rubber tyres, inlet tubes







5% plastics articles

of Russian Federation

39% gross regional product*



91% export



7% employed



of the Republic of Tatarstan

Key Companies of Gas and Petrochemical Complex of Tatarstan





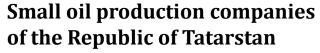




- JSC Nizhnekamskshina
- Nizhnekamsk All Steel Tires Plant Ltd.



JSC Nizhnekamsktechuglerod

















Transneft Synthesis















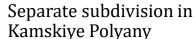
















2019 results in crude-oil production

- ✓ 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 highviscosity 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





- ✓ 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%





TATNEFT Petrochemical Complex



Main products

- ✓ tires of three brands:
 - passenger, light truck, truck, all-steel tyre, agricultural and industrial tyres;
 - passenger cars and light trucks;
 - **Ditte** 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 <u>Strategy 2030</u>
- ✓ tire sales 18,1 mln. pcs
- ✓ B-segment product ratio 55%
- ✓ EBITDA margin 16,3%







TAIF group of companies













TAIF-NK





including





























- ✓ 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%*







- ✓ 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)





- ✓ 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





Ammoni



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







- ✓ 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







JSC "Chemical Plant n.a. L.Y. Karpov"



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 z-ray examination
- Calcium chloride substance
- Magnesium sulphate substance
- Sodium thiosulfate substance

✓ Construction materials

- 2-aqeous 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 "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







- 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







- ✓ 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





Separate subdivision in **TNOVA ROLL** Kamskiye Polyany

(previously - 000 "UK" IP "Kamskiye Polyany)*



Main products

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

Fields of Applications

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

2019 results**

✓ Stretch film –

55,5 th.t

✓ Multifilament yarn – 2 th.t







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







- ✓ 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 impactresistant 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









- ✓ 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





000 "Avgust-Alabuga"



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









Transneft Synthesis



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)

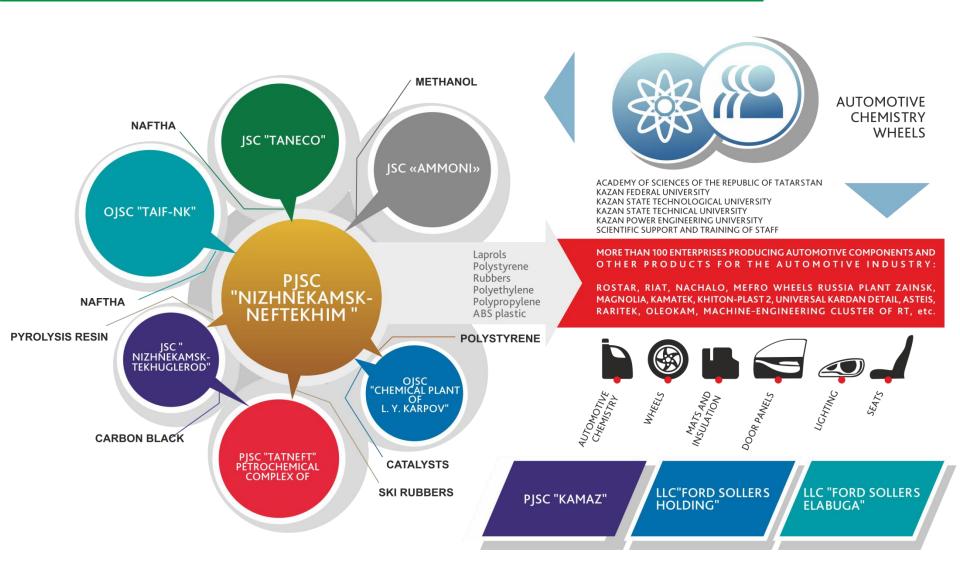
- ✓ up to 3 thousand tons of additives, considering the possible capacity increase up to 10 thousand tons per year
- ✓ Innovative technology of additive production that includes a full cycle: from the production of catalyst for high molecular weight polyalphaolefin polymerization to the creation of a 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

Tires and new rubber inner tubes, total

95%

			to the table of content
	2019	% by 2018	% by 2008
Produced oil	36 630 th.t	101%	114%
Co-produced gas (associated)	1 024 mln m3	101%	135%
Crude oil for refining	18 612 th.t	109%	growth by 2,2 times
Diesel fuel	6 182 th.t	124%	growth by 3,2 times
Motor gasoline	1 702 th.t	growth by 2,4 times	growth by 2,5 times
Fuel oil (mazut)	n/a	103%	119%
Nitrogen fertilizer (in terms of 100% of nutrients)	n/a	101%	growth by 7,1 times
Plastics in primary forms	1 720 th.t	102%	166%
incl. ethylene polymers in primary forms	952 th.t	102%	164%
polypropylene in primary forms	212 th.t	98%	123%
styrene polymer	298 th.t	99%	growth by 2,1 times
Paints and varnishes	29 th.t	104%	124%
Synthetic rubber	678 th.t	94%	157%
Carbon black	212 th.t	84%	103%
Industrial sulphur	183 th.t	105%	growth by 4,7 times
Detergents	n/a	111%	186%

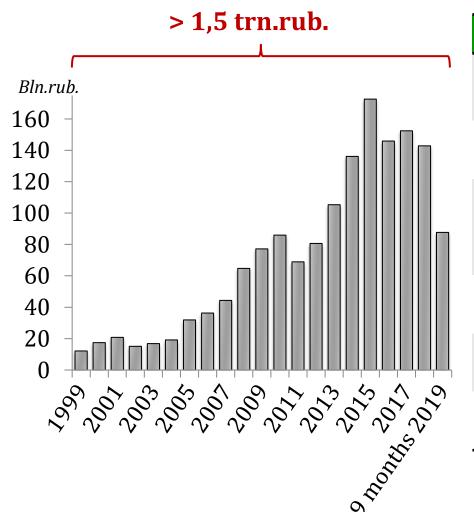
n/a

70%

Development of Gas and Petrochemical Complex in the Republic of Tatarstan



Investments

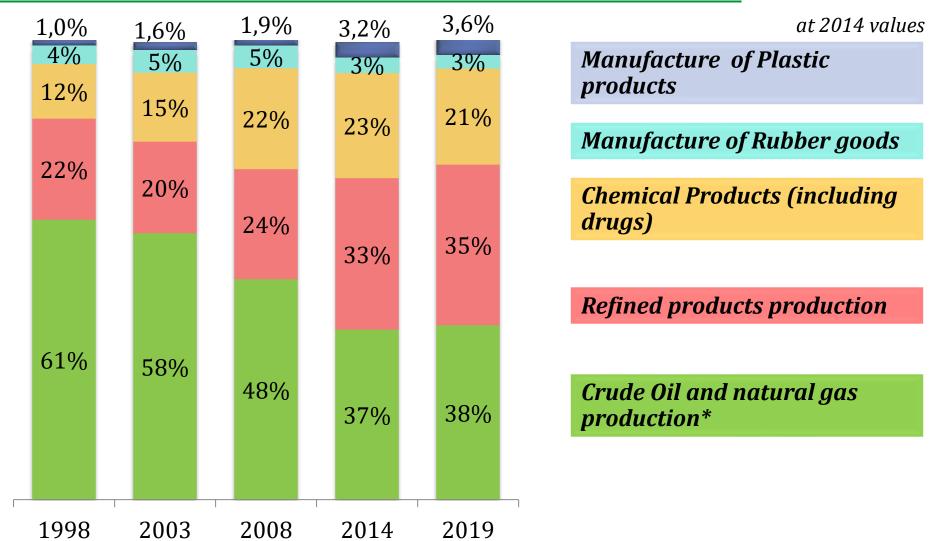


Production index

	2019/1999
Crude oil and natural gas production	139%
Coke and refined products	growth by 4,5 times
Chemicals and chemical products (incl. pharmaceuticals)	growth by 3,7 times
Rubber and plastic goods	growth by 3,3 times
Rubbers goods	growth by 2,9 times
Plastic goods	growth by 5,2 times

Structure of Gas and Petrochemical Complex of the Republic of Tatarstan





^{*} in 1998-2014 including service provision in the field of extraction of mineral resources

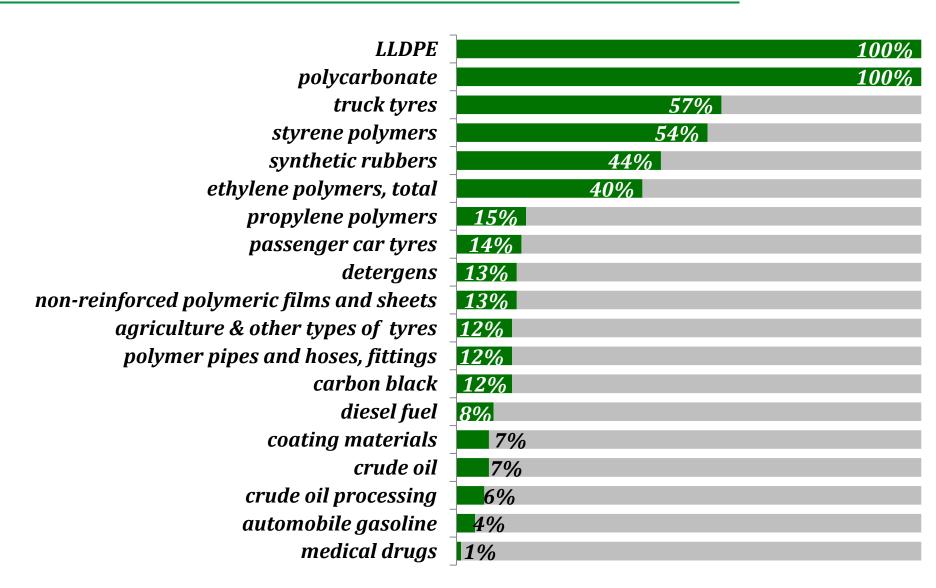
Main results for 2019



			to the table of contents
Crude Oil and natur	al gas production	Oil Proc	essing
Crude oil production	36,6 mln.t	Crude oil distillation (incl. gas condensate)	18,6 mln.tonn
Shipping	9,32 bln.USD	Shipping	9,85 bln.USD
Sales profit*	4,7 bln.USD	Loss on sales *	100,4 mln.USD
Manufacture of Che (excluding m		Manufacture of Rubbe	er & Plastic Products
Growth rate, in % to 2018	86,3%	Growth rate, in% to 2018	108,1%
Shipping	5,1 bln.USD	Shipping	256,5 mln.USD
Sales profit*	801,8 mln.USD	Sales profit*	72,6 mln.USD

Share of Tatarstan enterprises in Russian output of products in 2019





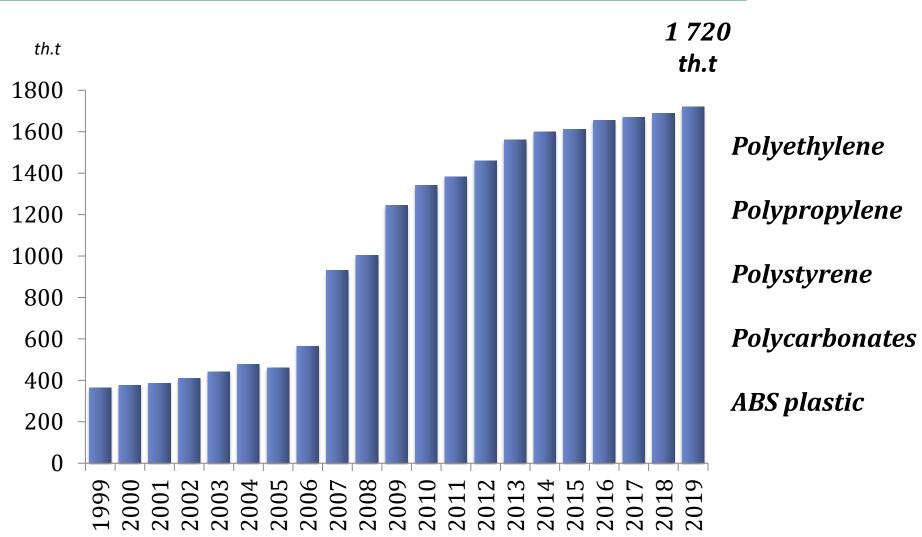




Development potential of small and medium-sized businesses in Gas and Petrochemical Complex of the Republic of Tatarstan

Dynamics of Polymer Production in the Republic of Tatarstan





Major Industrial Sites for Innovative Projects in the Republic of Tatarstan



Investment Sites

- Alabuga SEZ
- Innopolis SEZ
- Priority Social & Economic
 Development Area (PSEDA)
 «Chelny»

to the table of contents

- PSEDA "Nizhnekamsk"
- PSEDA «Chistopol»
- PSEDA «Zelenodolsk»
- PSEDA «Mendeleevsk»
- ✓ <u>Technopolis "Himgrad"</u>
- ✓ Techno Parks (5)
- **✓** Business Incubators (7)
- ✓ Industrial Parks (20)
- ✓ <u>Industrial sites at the municipal</u> <u>level (80)</u>



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

min 2,5

mln. rub.

min 20

min 10

Incl. for the 1-st year

Incl. for the 1-st year

after residency

status acquisition

Job creation

after residency status acquisition



min 2,5

mln. rub.

min 10

min 2,5

mln. rub.

min 10

implementation in the field of GPCC $\frac{\omega}{2}$					o the table of contents	
		Zelenodolsk	Nab. Chelny	Nizhnekamsk	Chistopol	Mendeleevsk
Secto	rs of GPCC:					
Ж	Chemical substances		\checkmark		\checkmark	
	Drugs and medical materials	√	\checkmark		√	
	Rubber and plastic goods		\checkmark		\checkmark	\checkmark
₽	Capital investments	min 10 mln. rub.	min 20 mln. rub.	min 15 mln. rub.	-	-

min 2,5

mln. rub.

min 15

min 10

min 2,5 mln. rub.

min 20

min 10

Comparison of conditions for project realization in PSEDA and SEZ



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

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 z.; 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

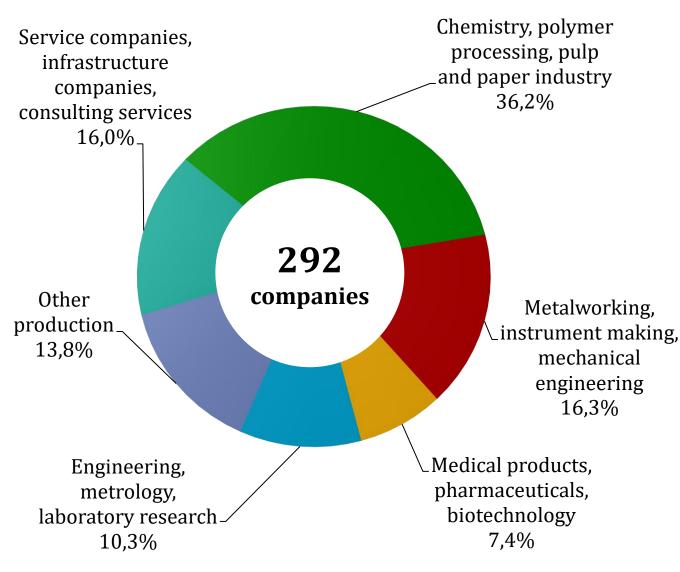


	For non-residents	For residents of PSEDA	For residents of SEZ (industrial -production type)
Custom regulations	General terms	Import VAT – 0%, Import custom duties – 0%*	Free custom zone: Import VAT – 0%, Import custom duties – 0%, without using non-tariff regulation measures
Minimal investments in capital projects	-	Determined individually for each PSEDA, according to the decision of RF Government	120 mln. rub. (except intangible assets, including 40 mln.rub.during first 3 years after resident status acquisition)

^{*}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



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

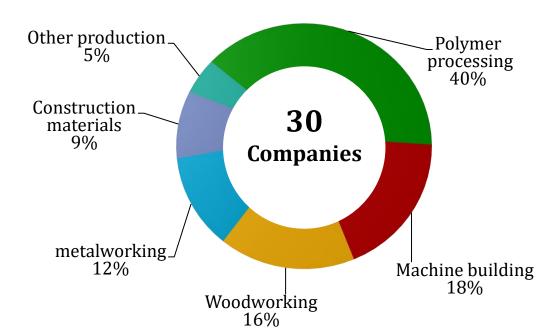




INDUSTRIAL PARK



- ✓ 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

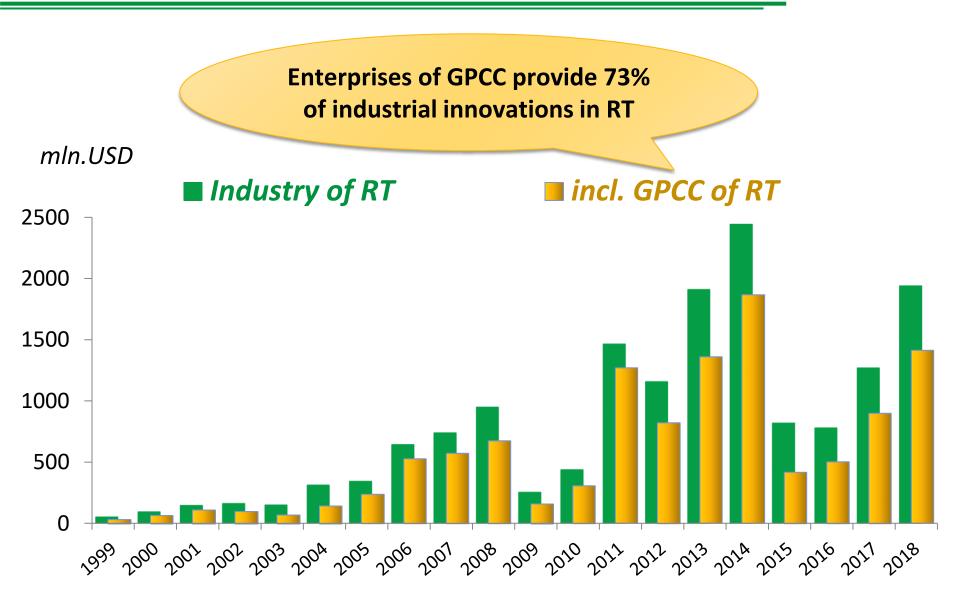




Innovation development of Gas and Petrochemical Complex of the Republic of Tatarstan

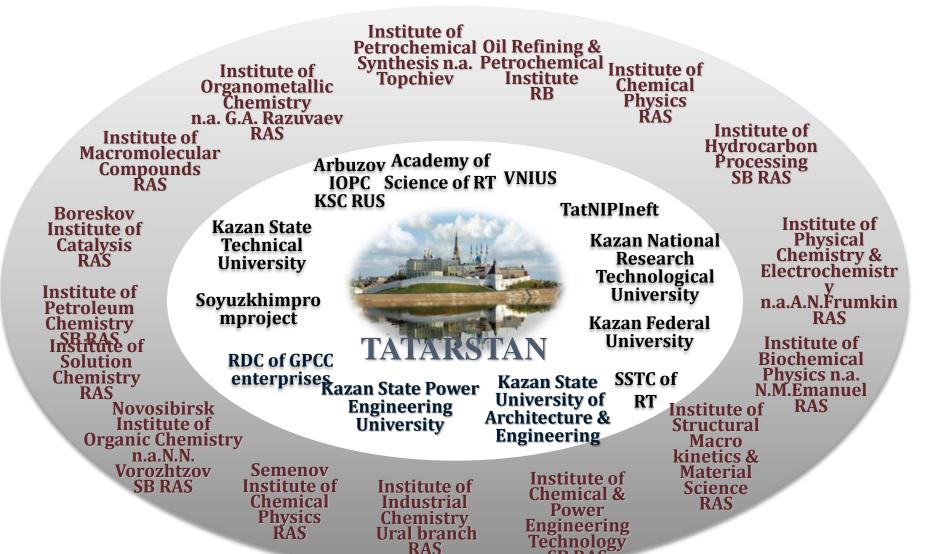
Expenditures for innovation in GPCC and in industry of Tatarstan





Creation of scientific relations of GPCC of the Republic of Tatarstan





Academic infrastructure of GPCC of Tatarstan

and Engineering



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

chemical materials in construction industry

Scientific and Technical Councils of JSC "Tatneftekhiminvest-holding"



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:









институт "ТатНИПИнефть"









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 programoriented & goal-oriented approach



1-st Program (1999-2003)

Ensuring economic security and economic growth of the Republic by bringing a key sector of the economy to a competitive level

2-nd Program (2004-2008)

Increasing the competitiveness of the Petrochemical Complex and ensuring, on this basis, the economic growth of the Republic

3-d Program (2010-2014)

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

4-th Program (2015-2019)

Growth of competitiveness of Gas & Petrochemical Complex, realization and expansion of competitive advantages

5-th Program (2020-2024)

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

6-th Program (2025-2029)

Creation of the industry of functional materials, medium- and small-tonnage chemistry in Tatarstan

7-th Program (2030-2034)

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

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 smalltonnage 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:

in the Republic of Tatarstan.

Expanding the raw material base for Positioning of the Republic of Tatarstan as the most effective platform (window of the production of medium- and smallopportunity) for the development of new tonnage chemistry products in the Republic of Tatarstan. areas of the chemical industry in the EAEU countries Infrastructure improving to facilitate The development of small and medium-sized the implementation of priority projects businesses in Gas and Petrochemical in the field of Gas and Petrochemical Complex of the Republic of Tatarstan. Complex of the Republic of Tatarstan. Development of scientific base for the The development of promoting new products industry of performance materials, assistance system of Gas and Petrochemical medium- and small-tonnage chemistry

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



Creation of pilot areas for testing innovative rubber and plastic products, chemical products in the Republic of Tatarstan



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



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

to the table of contents

- methylchlorosilanes and their
- > polyurethanes, including:
 - poluethers

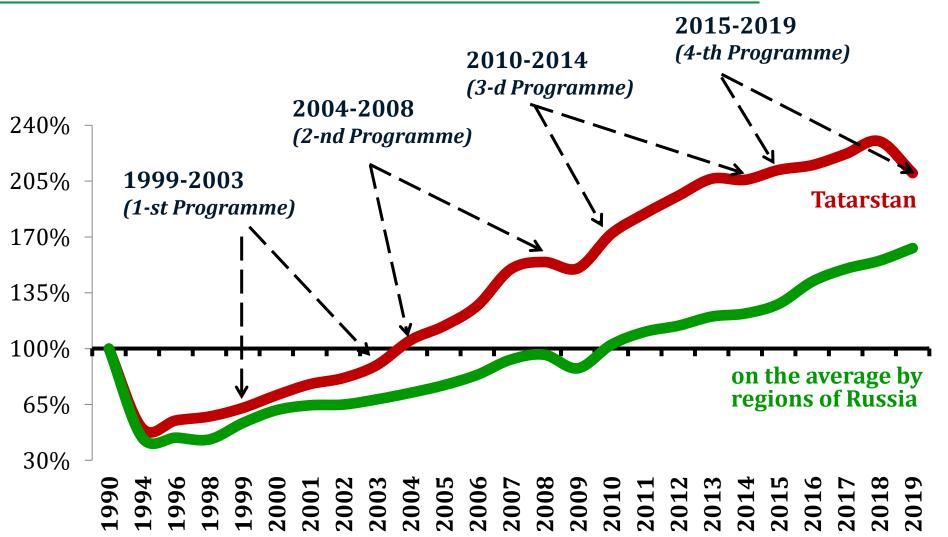
processing

- 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

Dynamics of production in Chemistry and Petrochemistry in Russia and Tatarstan (in % to 1990)





In 2019, the decline in production dynamics in Tatarstan is connected to a decrease in synthetic rubbers supplies

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

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

- *Nizhnekamskneftekhim:* polystyrene (1-st stage)
- *TAIF-NK:* visbreaking unit, sulfur recovery unit with a granulation block
- Tasma-holding: aerospace films

<u>1999</u>

<u> 2000</u>

<u> 2001</u>

<u> 2002</u>

<u> 2003</u>

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

- *Nizhnekamskneftekhim:* methyl tertiary butyl ether
- Kazanorgsintez: ethylene (expansion), highpressure polyethylene (expansion), products for oilfields
- *Tatneft:* Base Complex of Nizhnekamsk Refinery
- *TAIF-NK*: sulfur distillate hydrotreatment complex

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
- Nizhnekamsktekhuglerod: carbon black (revamp)
- *Kazan Synthetic Rubber Plant:* thiokol (revamp), sealants (expansion)
- *SafPlast:* sheets of cellular and solid polycarbonate

2004

<u>2005</u>

<u> 2006</u>

<u> 2007</u>

<u> 2008</u>

2009

- *Nizhnekamskneftekhim:* polystyrene (2-d stage)
- Karpov Chemical Plant:
 magnesium bisulphate
 heptahydrate
 (reconstruction), extruded
 foam polystyrene
- Tasma-holding: carboxymethyl cellulose from wood cellulose, oilfield chemical products, corrosion inhibitors & demulsifier

- 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 dehydragenating 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

2010

<u> 2011</u>)

<u> 2012</u>

<u> 2013</u>

<u>2014</u>

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

- Nizhnekamskneftekhim: ABC-plastic
- *Delrus Chistopol*: medical products
- Technopolis "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 4rd 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 Kamskiye Polyany*: 2 stretch films lines
- Alabuga -Fiber: carbon fiber
- 3M VOLGA: liquid corrosion-resistant coatings
- **PD-Tatneft-Alabuga Fiberglass**": twisted fiber glass filaments

- 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: 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

<u>(2015</u>

<u> 2016</u>

<u> 2017</u>

<u> 2018</u>

<u>(2019</u>

- 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
- *HIIII Fiberglass pipe plant:* high-pressure antistatic fiber glass pipes with single-walled carbon nanotubes

- *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

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



- AO TANECO: pilot hydro-conversion unit; heavy coker gasoil hydrotreating; catalytic cracking; middle distillate hydrotreating
- PJSC "Nizhnekamskshina": tires "Viatti" (expansion)
- 000 "Nizhnekamsk SSC Tire Factory": SSC Tires (expansion)
- PJSC "Nizhnekamskneftekhim": SSBR
- **PISC Kazanorgsintez:** ethylene (modernization)
- GC "Egida": PU foam plant in the SEZ PPT "Lipetsk"
- GC "Danaflex": Recyclable Barrier Materials
- 000 Alabuga-Fiber: PAN precursor
- **000 Alkema** : decorative facing PVC films
- 000 INCO-TEK Agro Alabuga: complex granular NPK fertilizers
- PFC "KNT-Plat": PVC plastic compounds and film
- 000 Agruskhim-Alabuga: plant protection agents

- *PJSC Tatneft:* : maleic anhydride; polysulfur
- AO TANEKO: gas fractionation unit; alkylation; MTBE; naphtha hydrotreating 2;
- 000 "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

•000 "Nizhnekamsk All Steel Tires Plant" : SSC

Tires (expansion))

- •SC "Nefis": household chemicals and technical products, fat- and-oil products (expansion and technical reequipment)
- •000 "TatkhimPlast":
 polymer compounds
 (expansion)

2020 2021 2022

- AO "TANEKO": Aromatics production Complex; diesel fuel isodewaxing; hydrogen production
- 000 «P-D Tatneft-Alabuga Fiberglass": twisted fiberglass (expansion)
- PJSC "Nizhnekamskneftekhim": methanol; co-generation station
- PJSC "Kazanorgsintez": power generating unit
- 000 "Karpov Concern": toners; diatomite (kieselguhr processing)
- PC "Danaflex": oriented polyolefin films

023

• *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

	2019	2029		
Installed capacity, mln.t	10,1	14,8		
Main refined products basket, mln.t				
Diesel fuel	3,7	7,4		
Gasoline	1,1	1,7		
Jet kerosene	0,5	1,1		

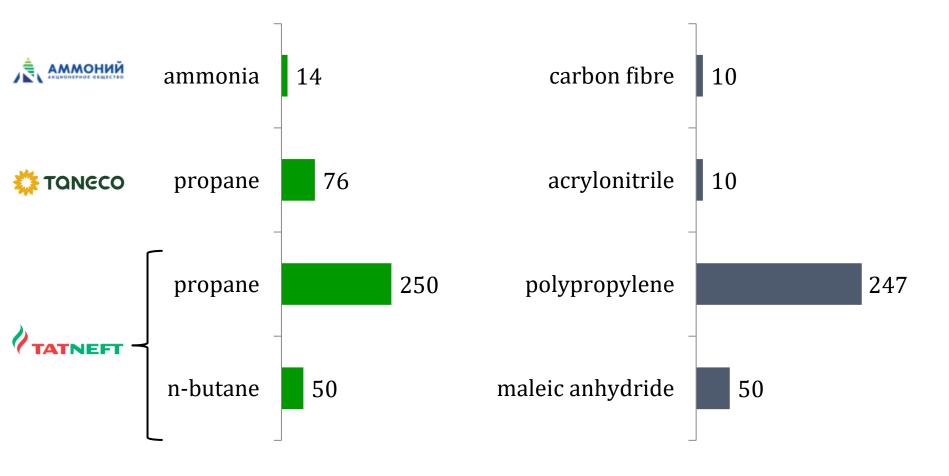


Tatneft Group: Gas & Petrochemical development





Production output – 317 th.TPA





TAIF-NK: Construction of Advances Oil Refining Complex

to the table of contents

Fresh feed rate:

3,7 mln.t

Technology:

Veba Combi-Cracking (licensor – BP)

Basic engineering:

Kellogg Brown and Root (Engineering company, USA)



Key indicators

	2019	After project realization	
Oil conversion ratio	74,6% (2018)	98,6%	
Main refined products, mln t			
Diesel fuel	2,4	4,0	
Raw gasoline & Stable Gas Naphtha	1,6	2,2	
Gasoline	0,5	0,7	
Jet kerosene & Heating Kerosene	0,4	0,6	
Fuel Oil	2,1	0	



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





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





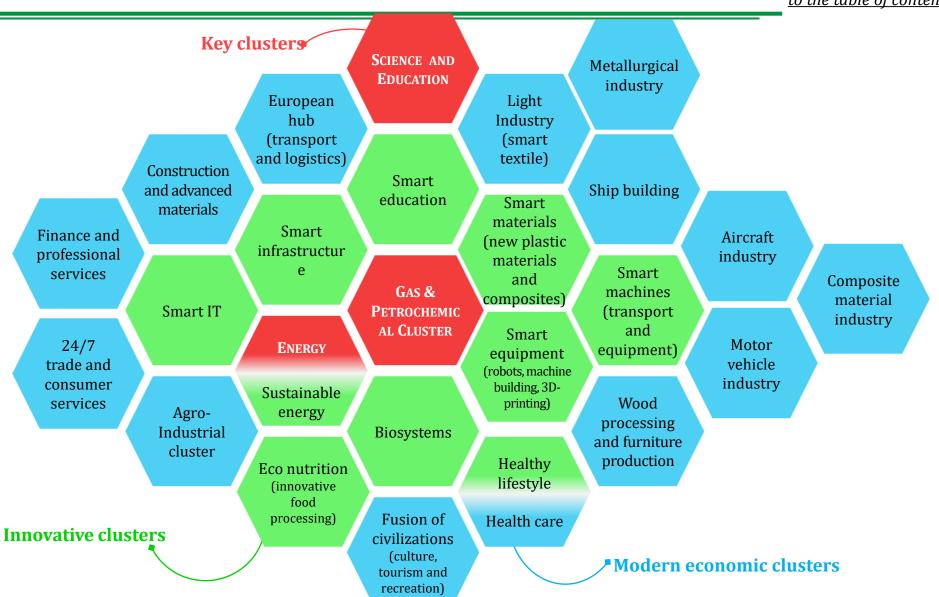




Perspective Investment Projects of Gas and Petrochemical Complex of the Republic of Tatarstan

"Tatarstan- 2030" Strategy: Cluster activation





Transportation and Processing of Valanginian Gas



2016

Cooperation Agreement



Republic of Tatarstan













- *Cost-effectiveness analysis* of separate transportation and processing of ethane containing gas by 000 "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

000 "SafPet"

Raw material base

Paraxylene and hydrogene AO "TANEKO"

Capacity

terephthalic acid - 210 th.t polyethelenterephthalate - 250 th.t

Licensor

La Seda de Barcelona SA

Basic engineering:

Chemtex International INC

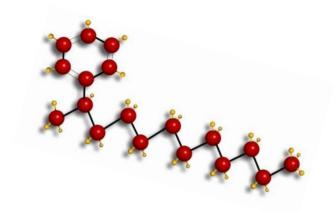


Linear alkylbenzene

Commercial offer

LG Chem

Capacity 65 th.t



New Natural Gas to Gaprin (bioprotein) **Production**



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: 000 «Protelyuks Alabuga»
- ☐ **Location**: SEZ «Alabuga»
- **Capacity**: 100 th.t
- Processing of natural gas: 635,7 million cubic feet
- ☐ Investment volume: 0,3 bln.USD

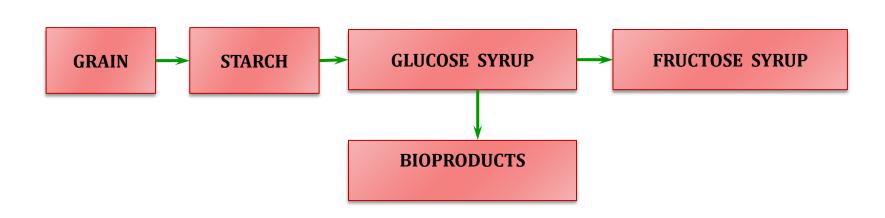
Construction of Deep Grain Processing Complex





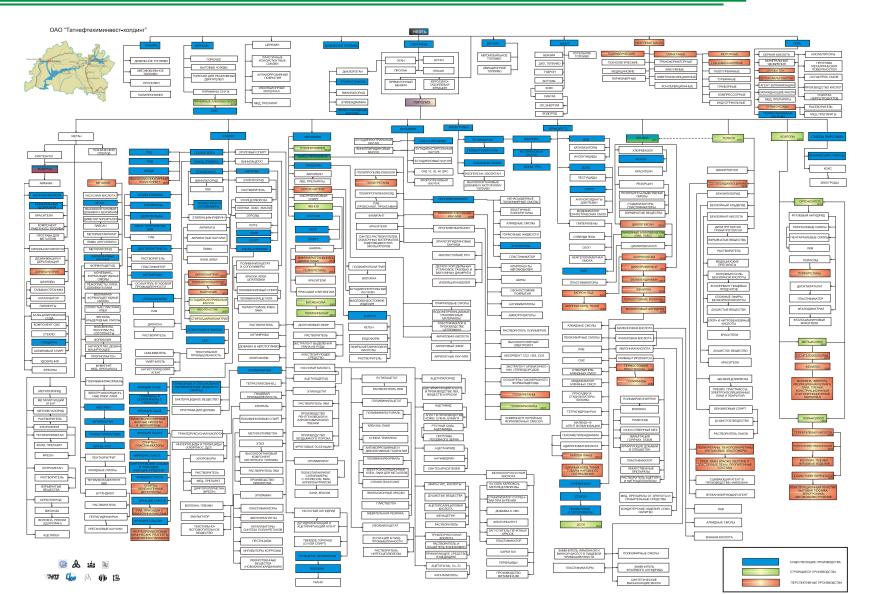
Capacity: 500 th. tons of wheat per year (with a further increase to 1 million tons)

Location area: Sviyazhsk or Chelninsk zones



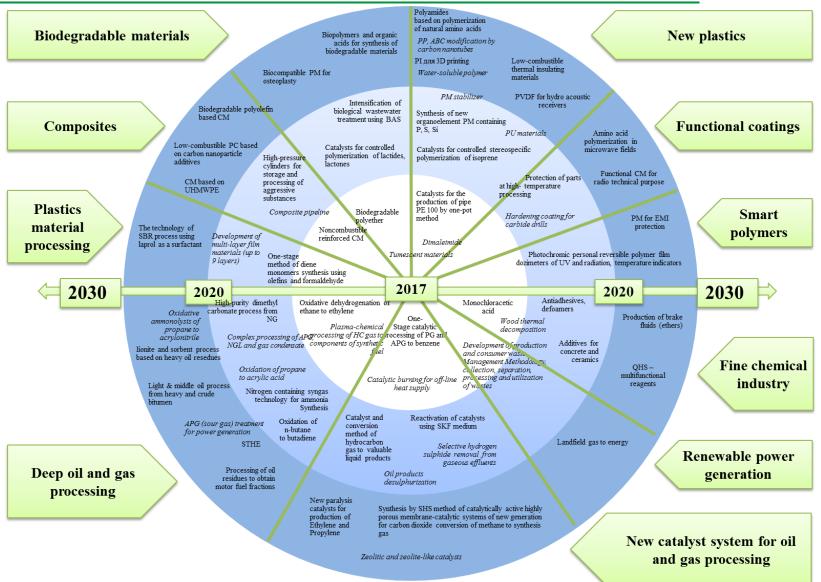
Cluster Scheme of Perspective Trends of Development of GPCC of RT





Radar of innovative research and development of RAS institutes for petrochemical cluster development









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