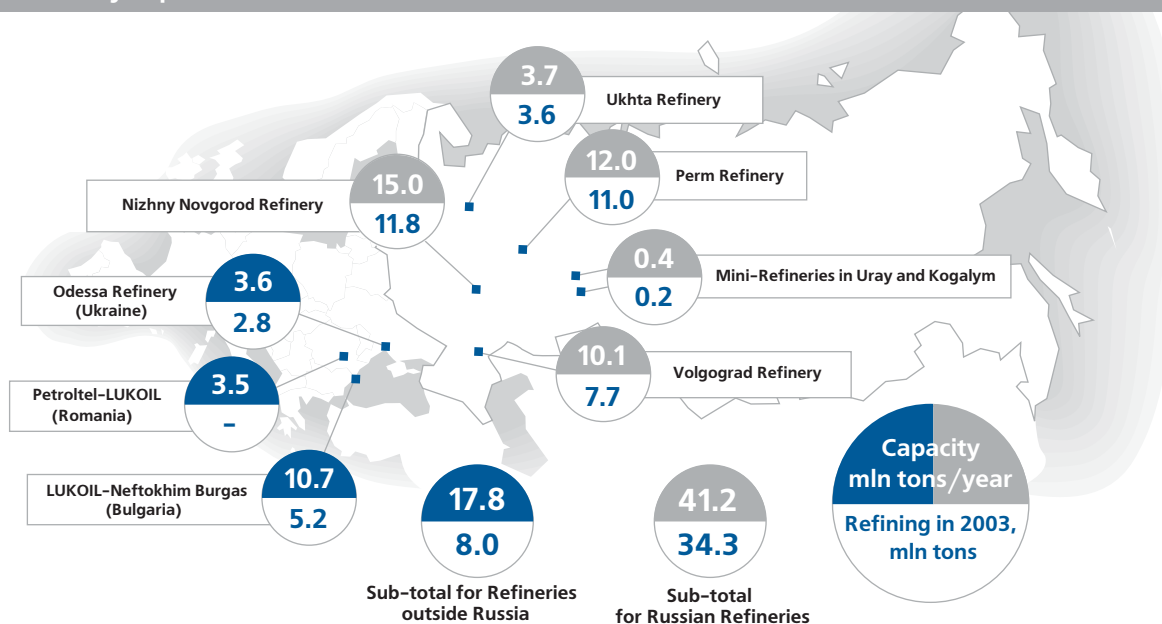
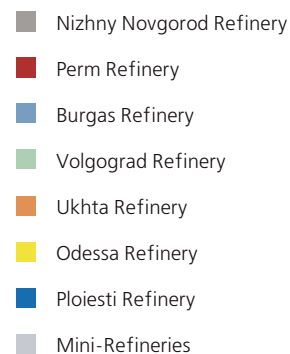
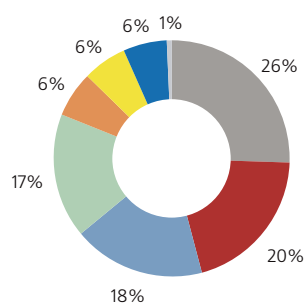


## Refining

### LUKOIL refinery capacities



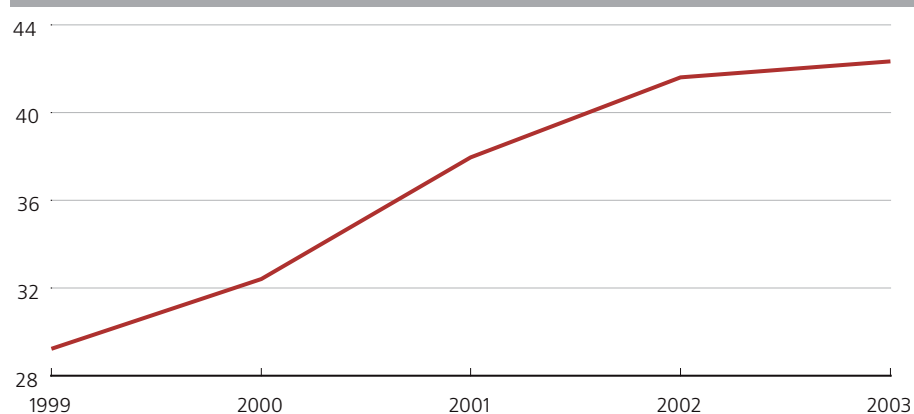
### Structure of LUKOIL refinery capacities



### Oil throughputs at LUKOIL refineries, mln tons

	1999	2000	2001	2002	2003
<b>Total oil throughputs:</b>	29.2	32.4	38.0	41.6	42.3
Including					
Russia	20.7	23.4	29.4	33.9	34.3
International	8.5	9.0	8.6	7.7	8.0
<b>Oil throughputs, th. barrels per day</b>	586	651	763	835	849

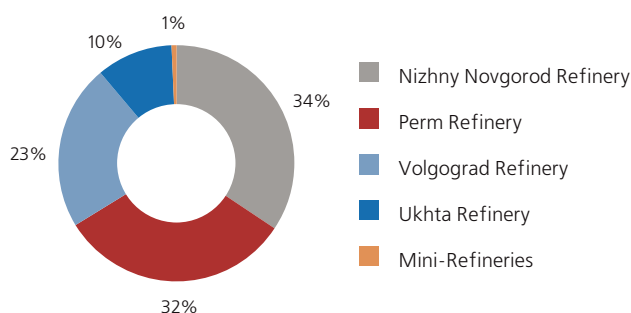
### Oil throughputs at LUKOIL refineries, mln tons



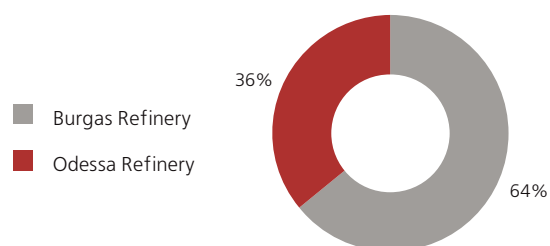
### Depth of refining at LUKOIL refineries, %

	1999	2000	2001	2002	2003
<b>Total</b>	76.1	74.4	72.6	71.4	72.2
Russian refineries	75.5	76.2	73.9	72.7	73.6
International refineries	84.4	69.7	68.4	65.8	66.5

Oil throughputs at Russian refineries of LUKOIL Group (2003)



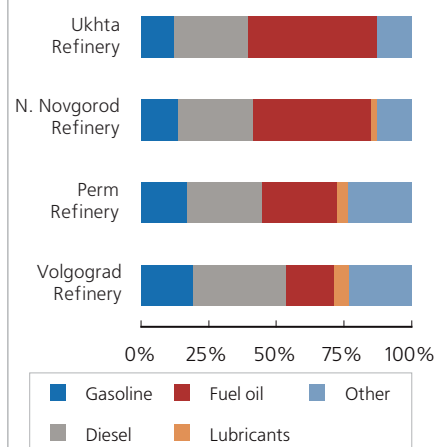
Oil throughputs at international refineries of LUKOIL Group (2003)



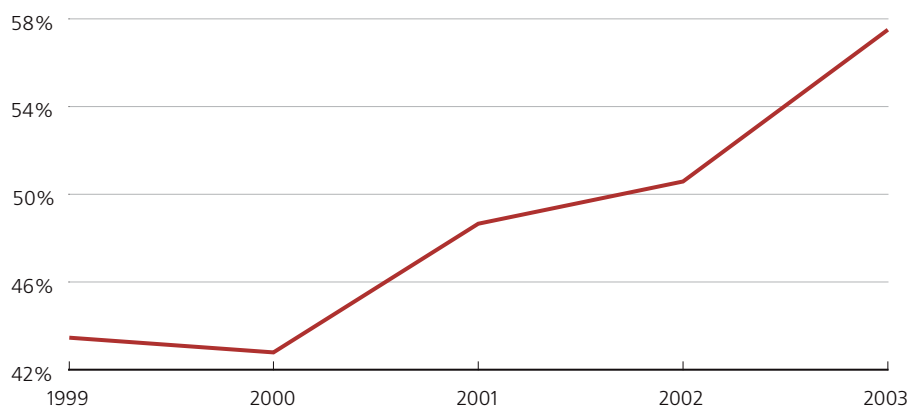
Petroleum product output at Russian refineries of LUKOIL Group, %

	1999	2000	2001	2002	2003
Motor gasoline	16.0	15.4	14.1	13.6	12.4
Diesel fuel	29.7	28.6	27.2	27.9	27.7
Jet fuel	6.0	4.9	6.1	5.0	5.0
Ship fuel	0.4	1.0	2.3	3.3	3.7
Heating oil	1.8	1.8	1.7	1.5	1.6
Vacuum gasoil	3.2	4.4	3.5	4.1	4.8
Non-motor gasoline	2.5	3.0	2.6	3.2	3.5
Fuel oil	26.7	26.6	28.6	29.6	29.3
Bitumen	3.5	4.2	4.7	3.5	3.9
Lubricants	4.0	4.1	3.9	3.3	3.3
Oil coke	2.8	2.3	1.6	1.4	1.3
Other	3.3	3.6	3.7	3.6	3.6

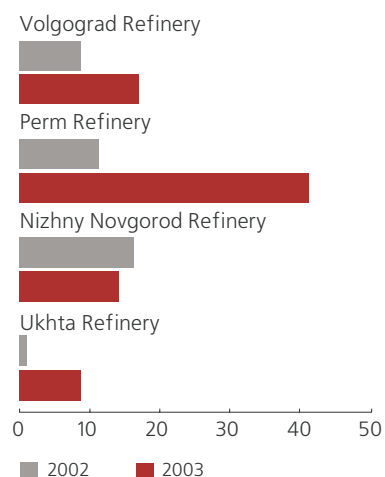
Output of main petroleum products at Russian refineries of LUKOIL Group (2003)



Share of high-octane gasolines in total output of motor gasolines at Russian refineries of LUKOIL Group, %



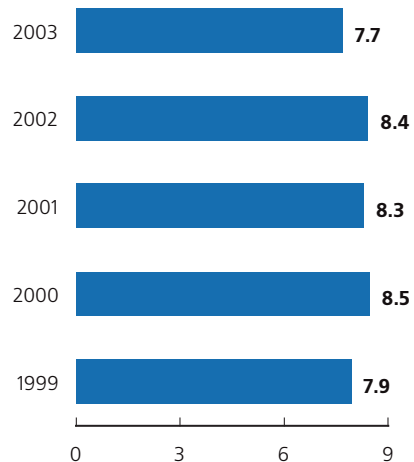
Share of ecological diesel fuel in overall diesel output, %



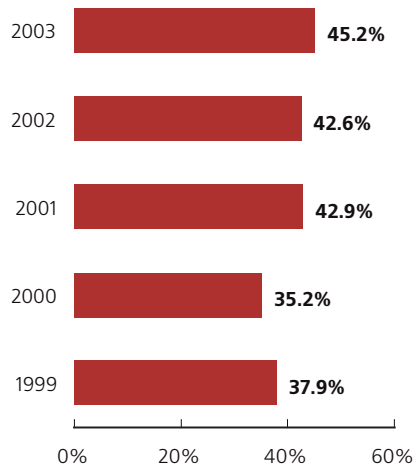
### "LUKOIL- Volgogradneftepererabotka"

- The refinery produces fuels and lubricants
- Put into operation in **1957**
- Belongs to LUKOIL Group since **1992**
- Crude oil is delivered to the refinery by pipeline **Samara-Tikhoretsk**
- Petroleum products are shipped by rail, river and motor transport
- **Capacity – 10.1** mln tons per year

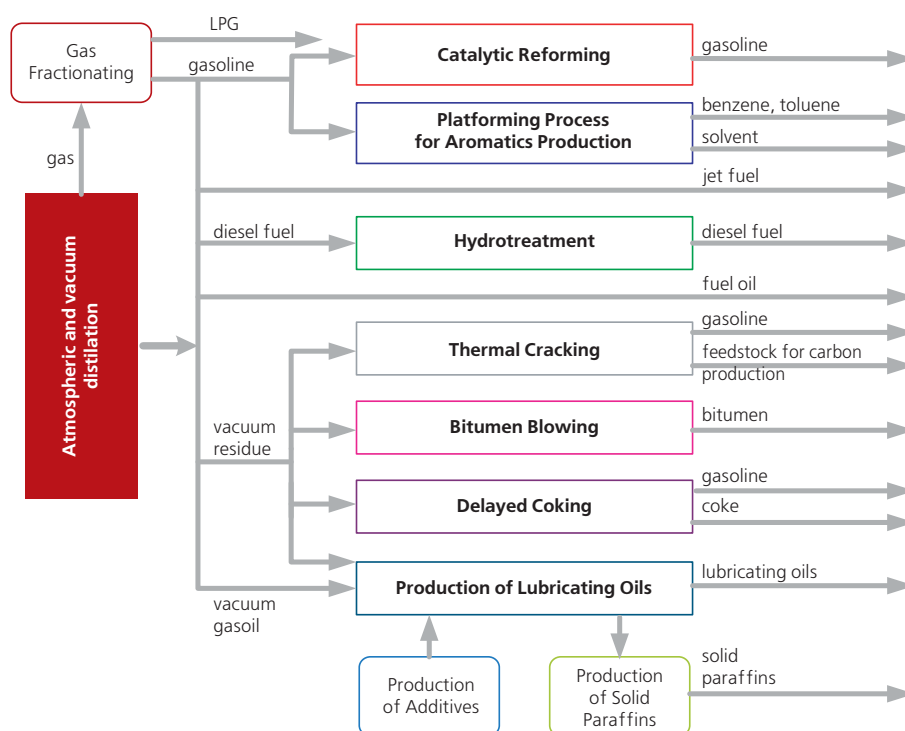
#### Refinery throughput, mln tons



#### Share of high-octane gasolines in total output of motor gasolines, %



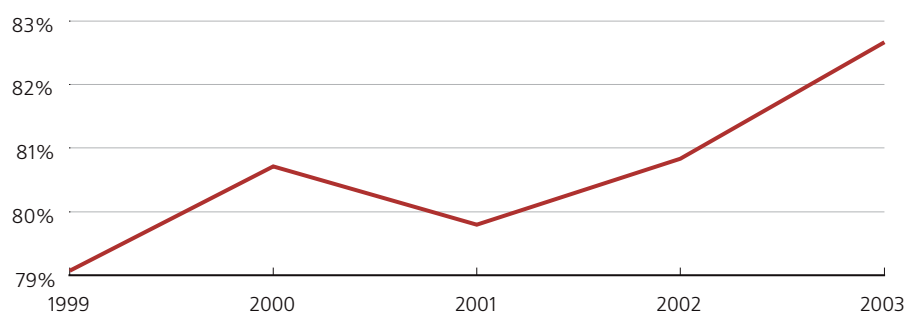
### Volgograd Refinery



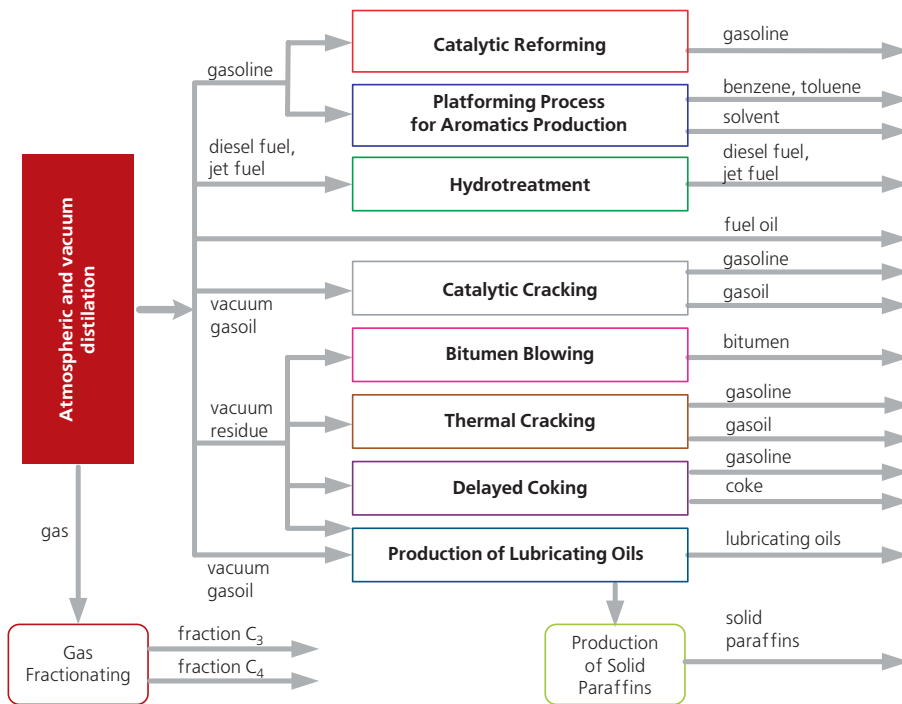
#### Petroleum product output, %

	1999	2000	2001	2002	2003
Motor gasoline	14.0	14.4	13.2	13.7	11.9
Diesel fuel	30.9	31.4	30.8	29.2	28.7
Jet fuel	8.0	7.8	8.5	8.3	8.2
Ship fuel	0.0	0.0	0.0	0.6	0.8
Heating oil	3.3	3.5	3.5	5.1	5.4
Vacuum gasoil	4.8	5.6	6.2	5.9	5.3
Non-motor gasoline	5.6	5.6	6.2	5.8	7.5
Fuel oil	20.0	18.8	19.0	18.1	17.1
Bitumen	1.6	1.9	1.6	1.5	2.1
Lubricants	5.2	5.7	5.5	5.2	5.5
Oil coke	3.0	3.1	2.9	3.1	3.0
Other	3.6	2.2	2.6	3.5	4.5

#### Depth of refining, %



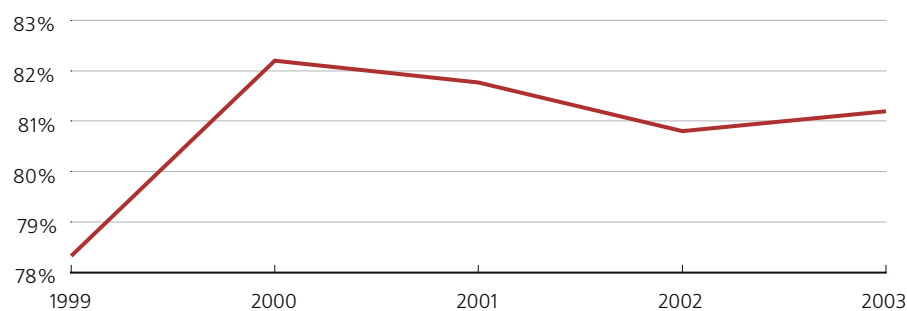
**Perm Refinery**



**Petroleum product output, %**

	1999	2000	2001	2002	2003
Motor gasoline	17.6	17.8	16.8	16.1	14.8
Diesel fuel	29.8	29.8	25.8	27.2	27.1
Jet fuel	5.7	4.4	5.1	4.8	5.2
Ship fuel	0.9	2.1	3.9	3.8	3.2
Heating oil	1.0	1.0	1.4	0.7	0.8
Vacuum gasoil	2.7	2.7	1.9	3.4	4.9
Non-motor gasoline	0.6	0.9	1.4	2.6	2.2
Fuel oil	25.4	23.0	23.5	23.7	24.2
Bitumen	5.7	6.2	5.7	4.5	5.2
Lubricants	3.9	4.3	4.7	3.9	4.0
Oil coke	3.2	2.4	2.2	2.0	2.0
Other	3.5	5.5	7.4	7.4	6.3

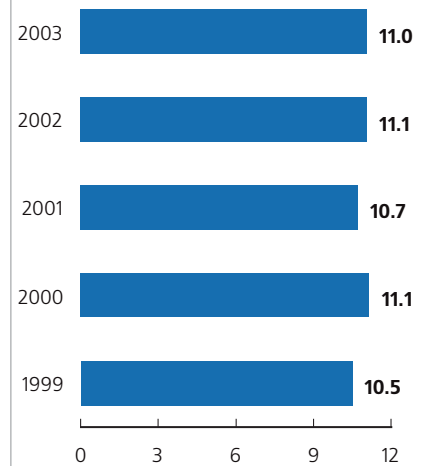
**Depth of refining, %**



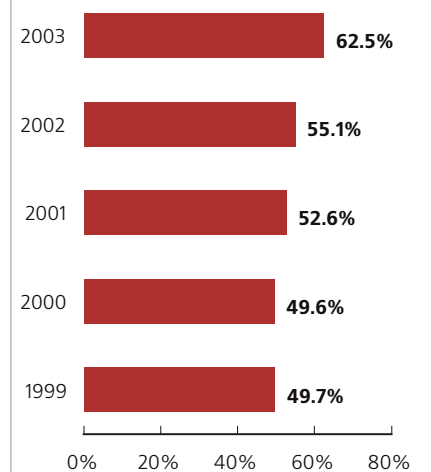
**"LUKOIL-Permnefteorgsintez"**

- The refinery produces fuels, lubricants and petrochemicals
- Put into operation in **1958**
- Belongs to LUKOIL Group since **1992**
- Crude oil is delivered to the refinery by pipelines **Surgut-Polotsk** and **Kholmogori-Klin**
- Petroleum products are shipped by rail, river and motor transport and also by oil-products pipeline **Perm-Andreyevka-Ufa**
- **Capacity – 12 mln tons per year**

**Refinery throughput, mln tons**



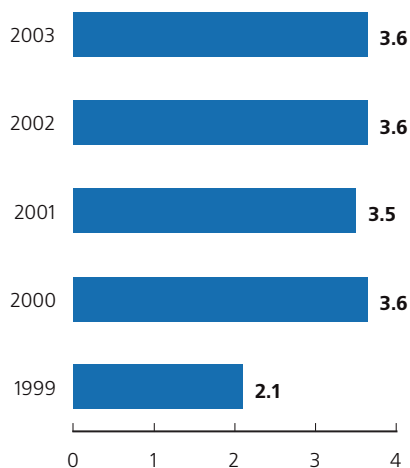
**Share of high-octane gasolines in total output of motor gasolines, %**



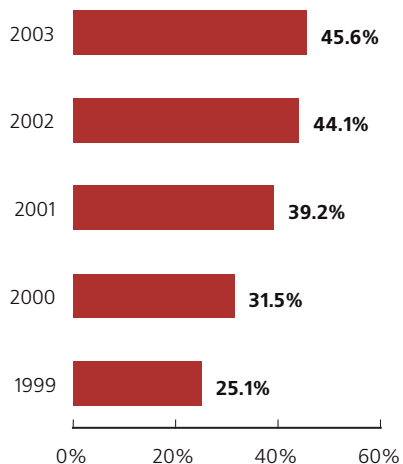
**"LUKOIL-Ukhtanetepereerabotka"**

- The refinery produces fuels
- Put into operation in **1934**
- Belongs to LUKOIL Group since October **1999**
- Crude oil is delivered to the refinery by pipeline **Usa-Ukhta**
- Petroleum products are shipped by rail and motor transport
- **Capacity** – 3.7 mln tons per year

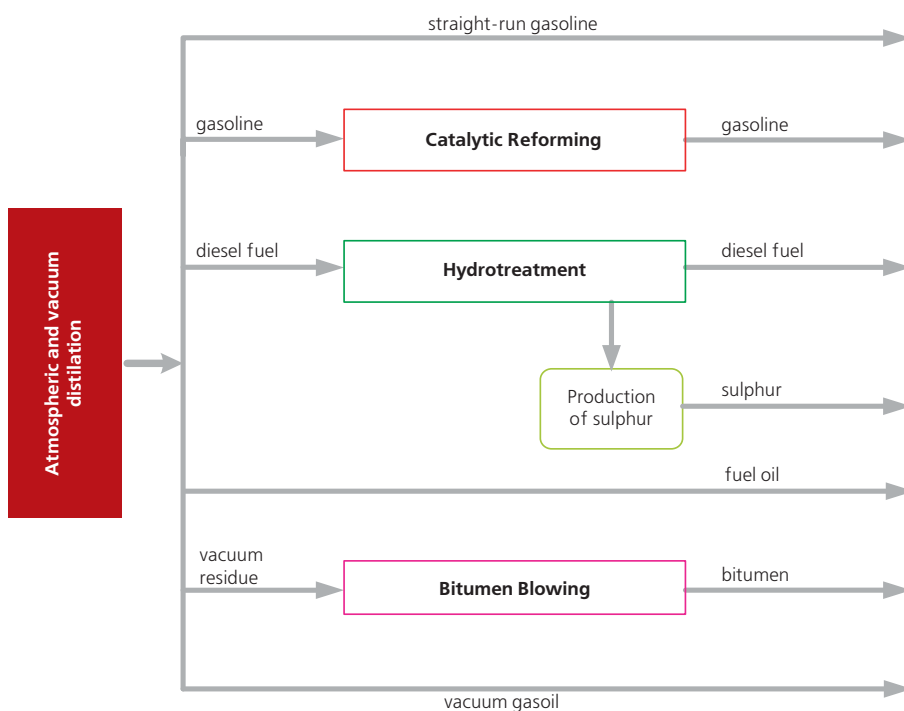
**Refinery throughput, mln tons**



**Share of high-octane gasolines in total output of motor gasolines, %**



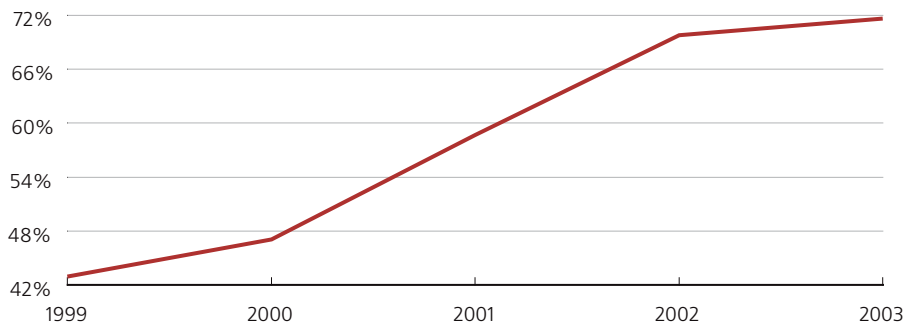
**Ukhta Refinery**



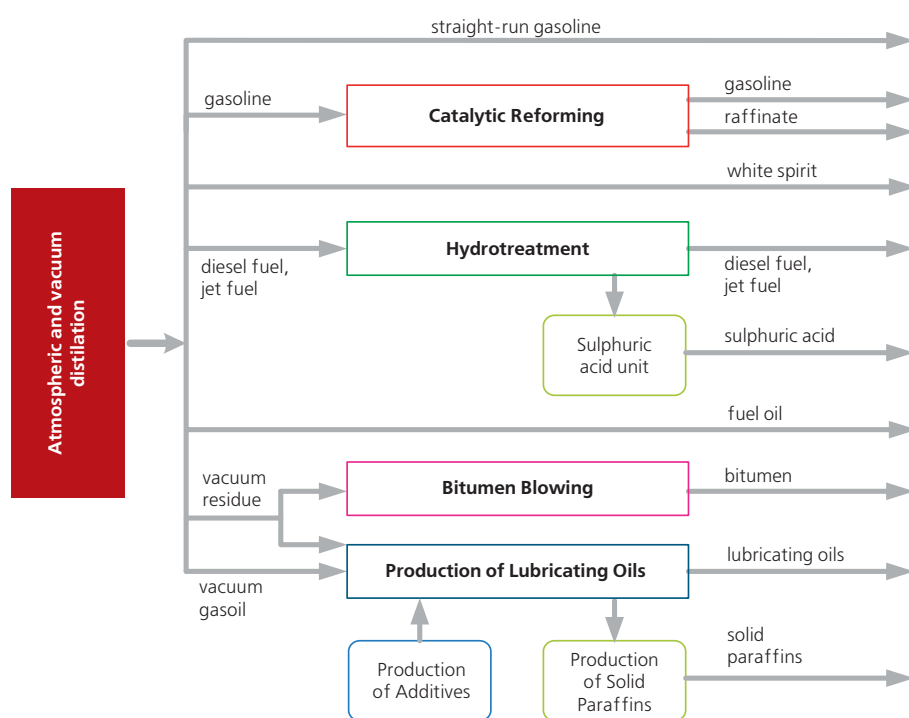
**Petroleum product output, %**

	1999	2000	2001	2002	2003
Motor gasoline	15.5	10.3	9.6	9.7	9.6
Diesel fuel	24.8	18.4	25.0	26.2	26.7
Jet fuel	0.0	0.0	0.0	0.1	0.5
Ship fuel	0.0	0.0	7.0	14.8	13.4
Heating oil	0.1	0.5	1.0	0.3	0.7
Vacuum gasoil	0.0	6.7	6.3	6.9	9.1
Non-motor gasoline	0.0	3.6	2.6	2.1	2.7
Fuel oil	58.7	56.2	43.9	36.1	34.2
Bitumen	0.0	3.4	4.0	3.2	2.5
Lubricants	0.0	0.0	0.0	0.0	0.0
Oil coke	0.0	0.0	0.0	0.0	0.0
Other	1.0	1.0	0.6	0.5	0.6

**Depth of refining, %**



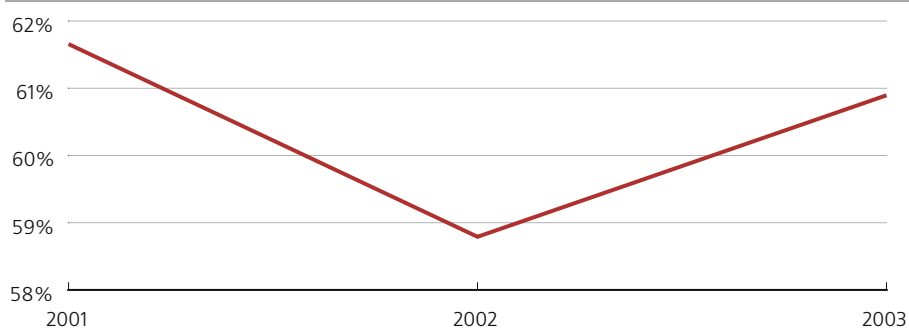
## Nizhny Novgorod Refinery



Petroleum product output, %

	1999	2000	2001	2002	2003
Motor gasoline	—	—	13.3	12.2	11.3
Diesel fuel	—	—	25.9	28.1	27.9
Jet fuel	—	—	8.0	4.2	4.1
Ship fuel	—	—	0.0	1.1	3.0
Heating oil	—	—	0.3	0.1	0.1
Vacuum gasoil	—	—	1.3	2.4	2.9
Non-motor gasoline	—	—	0.0	2.2	2.4
Fuel oil	—	—	40.1	42.4	40.3
Bitumen	—	—	7.4	4.2	4.1
Lubricants	—	—	2.7	2.4	2.4
Oil coke	—	—	0.0	0.0	0.0
Other	—	—	0.9	0.8	1.5

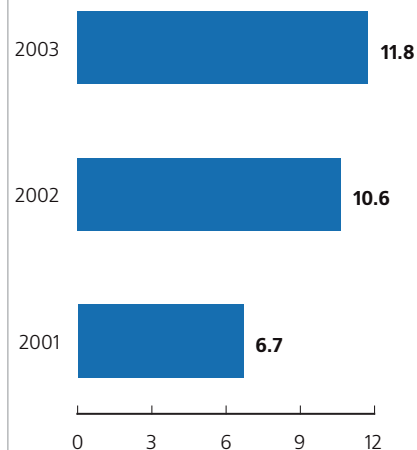
Depth of refining, %



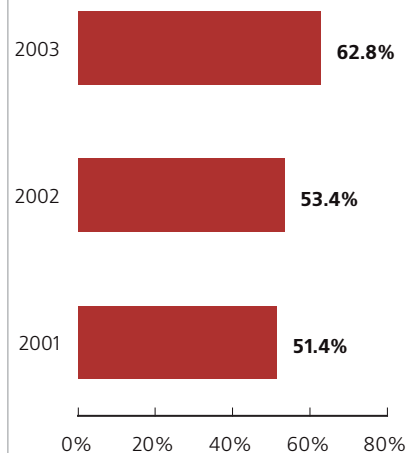
### "LUKOIL-Nizhegorodnefteorgsintez"

- The refinery produces fuels, lubricants and petrochemicals
- Put into operation in **1958**
- Belongs to LUKOIL Group since the end of **2001**
- Crude oil is delivered to the refinery by pipelines **Almetyevsk-Nizhny Novgorod** and **Surgut-Polotsk**
- Petroleum products are shipped by rail, river and motor transport and also by oil-products pipeline
- **Capacity – 15** mln tons per year

Refinery throughput, mln tons

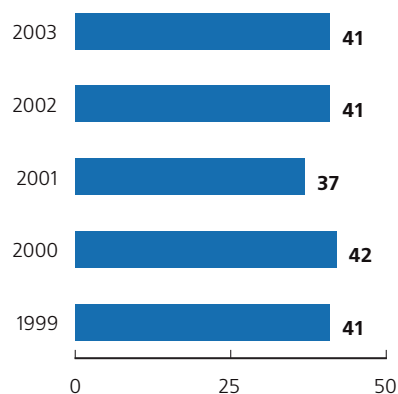


Share of high-octane gasolines in total output of motor gasolines, %



**"Urayneftegas"**

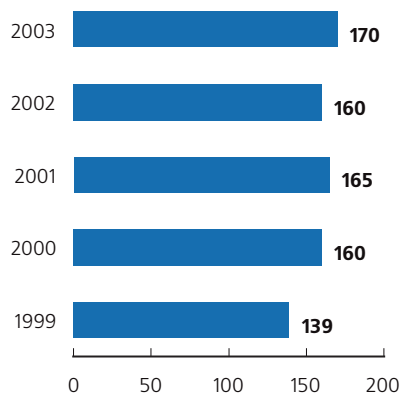
- The refinery produces fuels
- Put into operation in **1995**
- Belongs to LUKOIL Group since **1995**
- **Capacity** – 0.1 mln tons per year

**Refinery throughput\*, mln tons**

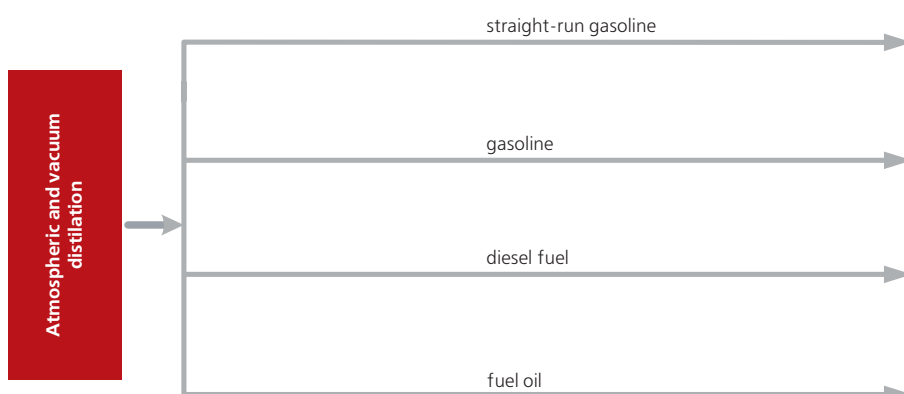
\* Excluding petroleum tailings returned to oil.

**"Kogalymneftegas"**

- The refinery produces fuels
- Put into operation in **1997**
- Belongs to LUKOIL Group since **1997**
- **Capacity** – 0.3 mln tons per year

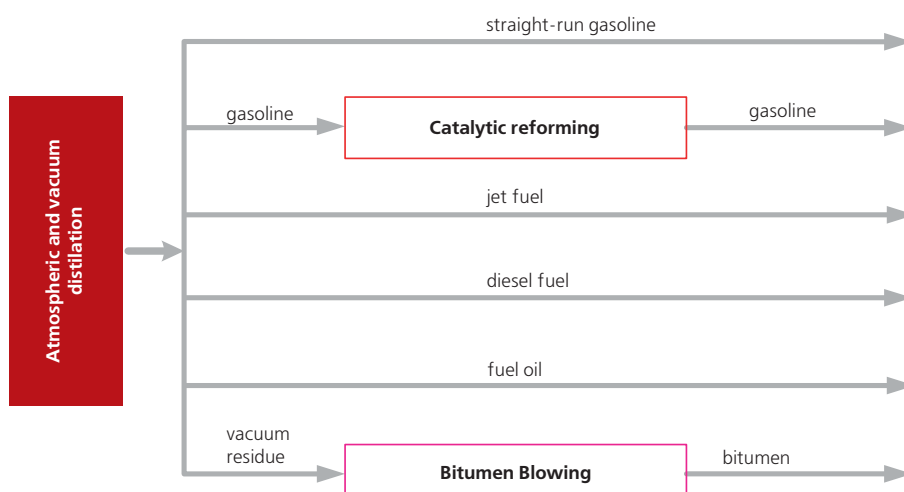
**Refinery throughput\*, mln tons**

\* Excluding petroleum tailings returned to oil.

**Mini-Refinery in Uray****Petroleum product output\*\*, %**

	1999	2000	2001	2002	2003
Motor gasoline	14.4	14.1	10.0	15.6	13.1
Diesel fuel	23.1	23.6	22.0	22.7	22.0
Non-motor gasoline	0.0	2.0	2.4	0.9	4.8
Other	0.0	0.0	0.0	0.0	0.0

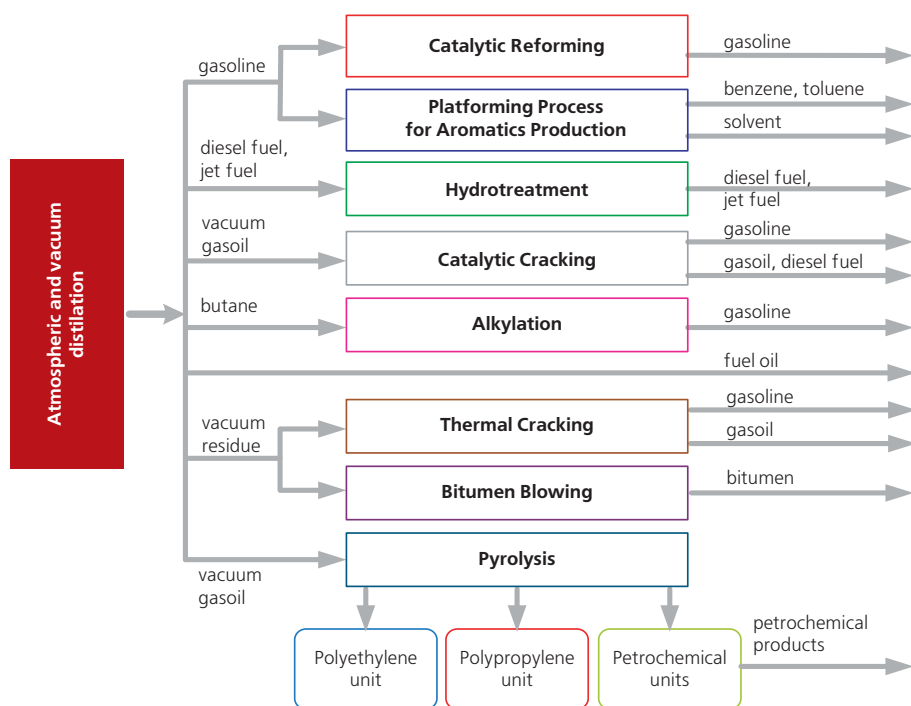
\*\* Petroleum tailings are returned to oil.

**Mini-Refinery in Kogalym****Petroleum product output\*\*, %**

	1999	2000	2001	2002	2003
Motor gasoline	4.5	3.5	9.9	6.1	6.7
Diesel fuel	18.7	20.8	20.6	20.7	23.1
Jet fuel	5.4	6.7	6.7	6.9	7.4
Non-motor gasoline	9.6	10.6	5.2	9.2	10.1
Bitumen	5.7	6.7	6.5	2.3	3.0
Other	0.0	0.0	0.0	0.0	0.0

\*\* Petroleum tailings are returned to oil.

### Burgas Refinery



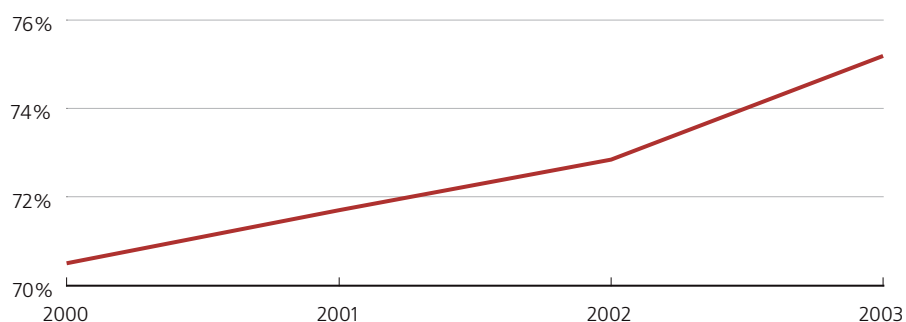
### "LUKOIL-Neftokhim Burgas", Bulgaria

- The refinery produces fuels and petrochemicals
- Put into operation in **1964**
- Belongs to LUKOIL Group since the end of **1999**
- Crude oil is delivered to the refinery from the port of **Burgas**
- Petroleum products are shipped by rail, sea and motor transport and also by oil-products pipelines **Burgas-Sofia** and **Burgas-Varna**
- **Capacity – 10.7** mln tons per year

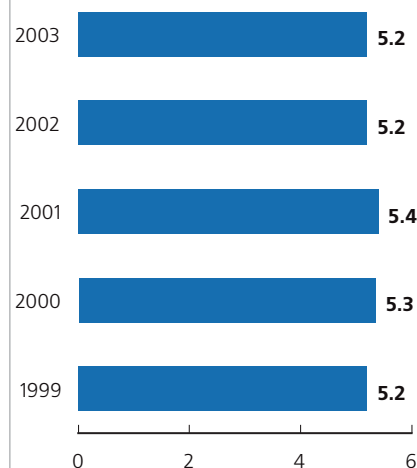
Petroleum product output, %

	1999	2000	2001	2002	2003
Motor gasoline	–	20.4	24.0	22.7	24.8
Diesel fuel	–	37.0	36.8	37.3	39.4
Jet fuel	–	2.4	3.2	2.7	3.3
Ship fuel	–	0.0	0.0	0.0	0.0
Heating oil	–	3.3	4.1	3.5	2.8
Vacuum gasoil	–	0.0	0.0	0.0	0.0
Non-motor gasoline	–	0.0	0.0	0.0	0.0
Fuel oil	–	22.4	17.3	19.5	16.0
Bitumen	–	2.7	3.5	2.0	2.8
Lubricants	–	0.0	0.0	0.0	0.0
Oil coke	–	0.0	0.0	0.0	0.0
Other	–	11.8	11.2	12.3	10.9

Depth of refining, %



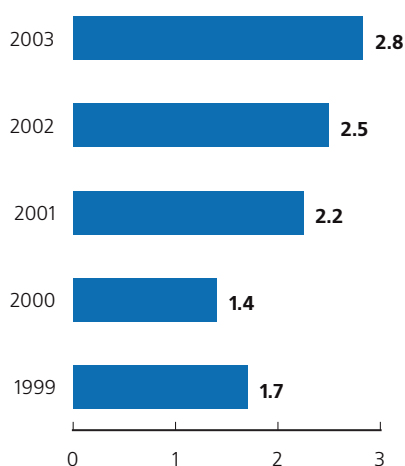
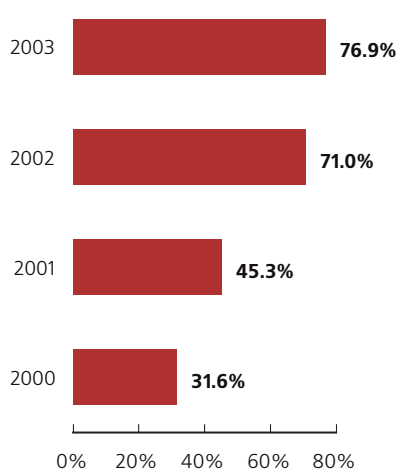
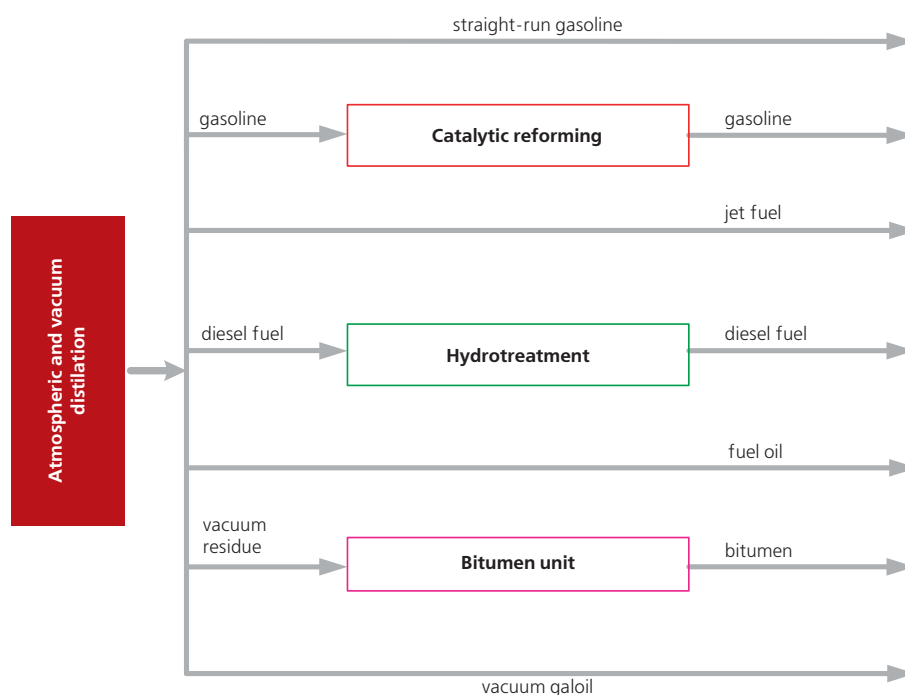
Refinery throughput, mln tons



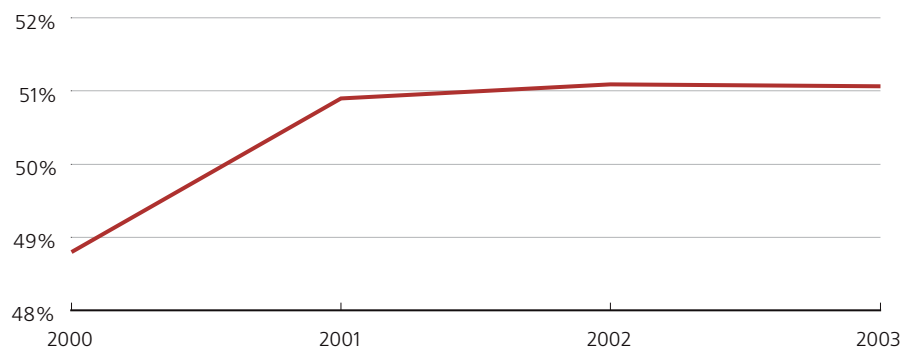


**"LUKOIL-Odessky NPZ", Ukraine**

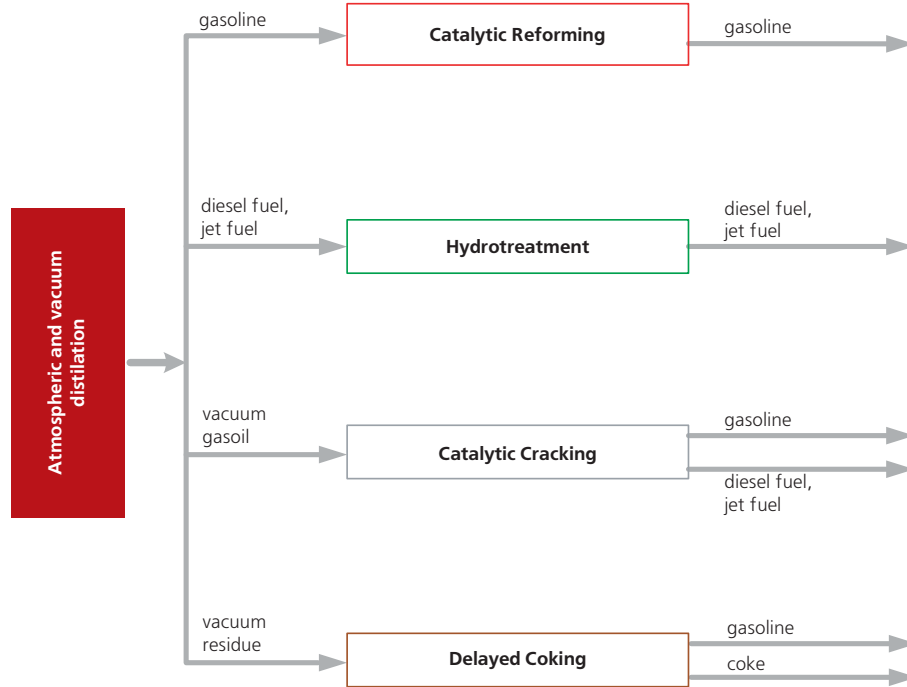
- The refinery produces fuels
- Put into operation in **1937**
- Belongs to LUKOIL Group since mid-**2000**
- Crude oil is delivered to the refinery by pipeline from **Russia**
- Petroleum products are shipped by rail and motor transport and also by oil-products pipeline
- **Capacity**— 3.6 mln tons per year

**Refinery throughput, mln tons****Share of high-octane gasolines in total output of motor gasolines, %****Odessa Refinery****Petroleum product output, %**

	1999	2000	2001	2002	2003
Motor gasoline	—	16.4	14.1	11.1	11.1
Diesel fuel	—	28.8	29.0	29.6	28.4
Jet fuel	—	1.8	1.7	1.5	2.5
Ship fuel	—	0.0	0.0	0.0	0.0
Heating oil	—	0.0	0.0	0.0	0.0
Vacuum gasoil	—	0.0	2.2	2.5	1.9
Non-motor gasoline	—	0.0	0.0	2.8	2.6
Fuel oil	—	51.0	49.3	48.8	49.6
Bitumen	—	1.1	1.8	3.0	3.2
Lubricants	—	0.0	0.0	0.0	0.0
Oil coke	—	0.0	0.0	0.0	0.0
Other	—	0.9	1.9	0.8	0.7

**Depth of refining, %**

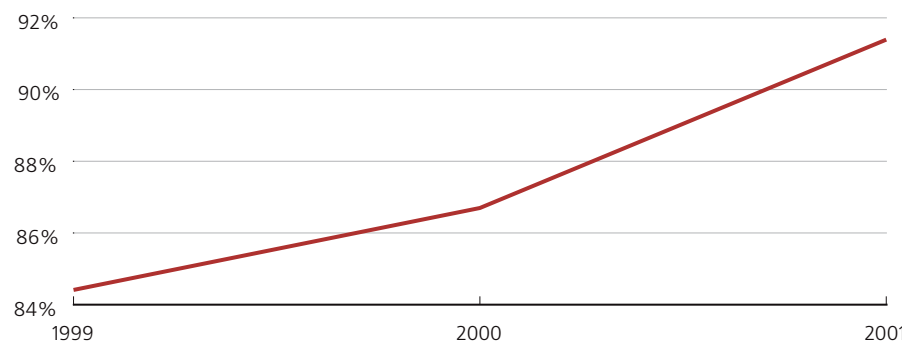
**Ploiesti Refinery**



**Petroleum product output, %**

	1999	2000	2001	2002	2003
Motor gasoline	38.0	37.7	34.9	—	—
Diesel fuel	40.9	42.6	42.6	—	—
Jet fuel	0.0	0.0	0.0	—	—
Ship fuel	0.0	0.0	0.0	—	—
Heating oil	0.0	0.0	0.0	—	—
Vacuum gasoil	0.0	0.0	0.0	—	—
Non-motor gasoline	0.0	0.0	0.0	—	—
Fuel oil	7.0	2.7	5.7	—	—
Bitumen	0.0	0.0	0.0	—	—
Lubricants	0.0	0.0	1.1	—	—
Oil coke	5.1	7.6	8.2	—	—
Other	9.0	9.4	7.5	—	—

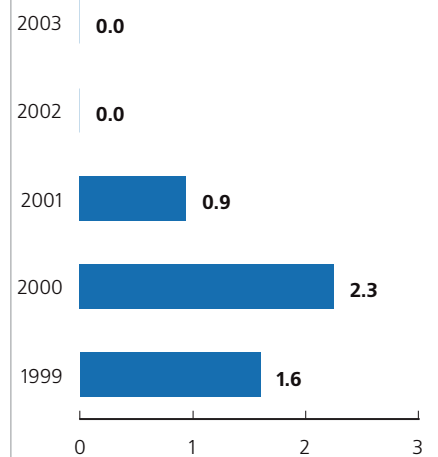
**Depth of refining, %**



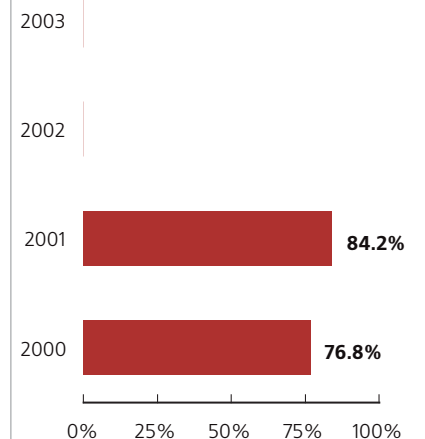
**"Petrotel-LUKOIL", Romania**

- The refinery produces fuels and petrochemicals
- Put into operation in **1927**
- Belongs to LUKOIL Group since **1999**
- Crude oil is delivered to the refinery by pipeline from the **Black Sea port of Constantza and by rail**
- Petroleum products are shipped by rail and motor transport and also by oil-products pipeline
- **Capacity – 3.5 mln tons per year**
- The refinery was **closed in 2001 for reconstruction**

**Refinery throughput, mln tons**

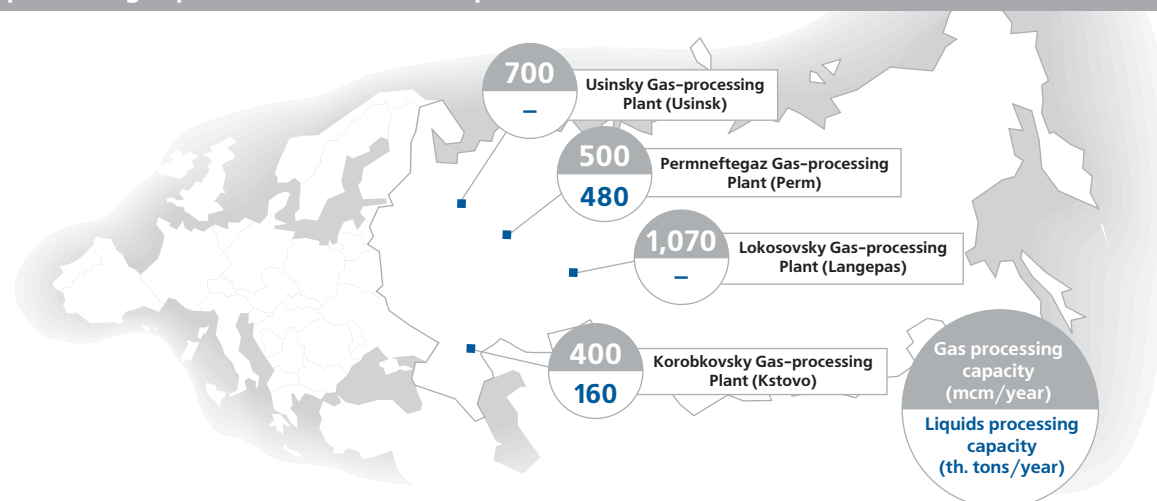


**Share of high-octane gasolines in total output of motor gasolines, %**



## Gas Processing

### Gas processing capacities of LUKOIL Group



### Gas processing and product output at Korobkovsky Gas-processing Plant

	1999	2000	2001	2002	2003
<i>Processing, th. tons</i>	346	424	422	408	418
Product output					
Liquefied hydrocarbon gases, th. tons	65	69	75	73	73
Stable gas gasoline, th. tons	46	52	48	44	46
Stripped gas, mcm	263	343	310	299	293

### Gas processing and product output at Permneftegaz Gas-processing Plant

	1999	2000	2001	2002	2003
<i>Processing, th. tons</i>	—	621	630	736	807
Product output					
Liquefied hydrocarbon gases, th. tons	—	259	250	327	376
Stable gas gasoline, th. tons	—	45	51	83	88
Stripped gas, mcm	—	315	321	290	329

### Gas processing and product output at Usinsky Gas-processing Plant

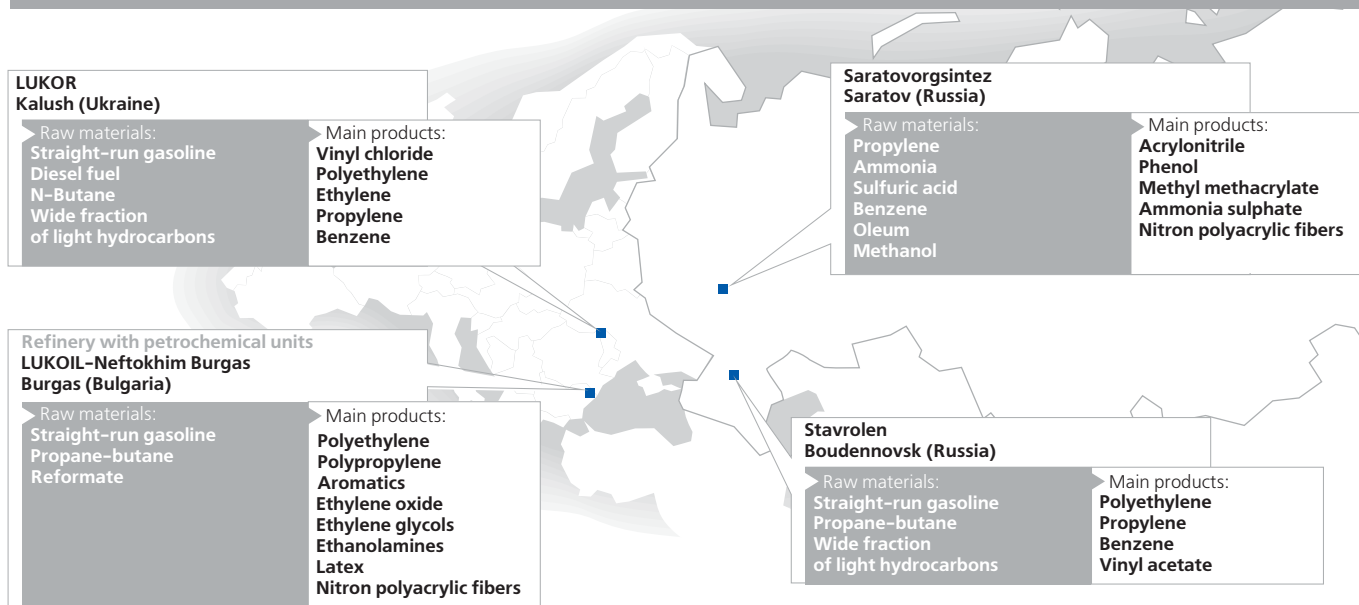
	1999	2000	2001	2002	2003
<i>Processing, mcm</i>	—	414	526	464	419
Product output					
Stripped gas, mcm	—	203	299	446	402

### Gas processing and product output at Lokosovsky Gas-processing Plant

	1999	2000	2001	2002	2003
<i>Processing, mcm</i>	—	—	—	896	1,017
Product output					
Stripped gas, mcm	—	—	—	704	816

## Petrochemicals

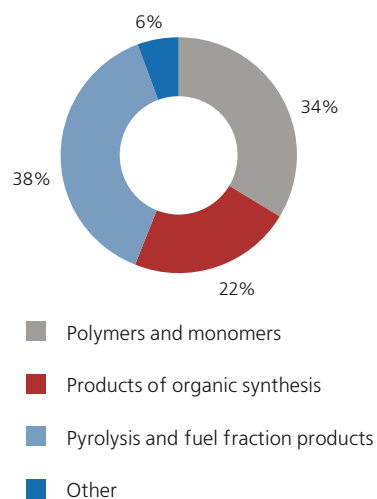
### LUKOIL petrochemical facilities



**LUKOIL is now the Russian, CIS and East European leader in the petrochemicals sector. Its leading positions are as follows:**

- \* Biggest East European producer of olefins (total annual capacity over 1 mln tons).
- \* Biggest East European producer of polyethylene (total annual capacity over 480,000 tons).
- \* Biggest producer in East Europe, and sole producer in Russia of acrylonitrile, which is used in production of synthetic fibers (fourth in Europe by capacities).
- \* Owner of Europe's largest vinyl chloride-monomer plant with annual capacity of 370,000 tons.
- \* Only Russian producer of nitron polyacrylic fibers.
- \* Biggest Russian producer of methyl methacrylate.

**Output structure of petrochemical products at petrochemical plants of LUKOIL Group\* (2003)**



\* Excluding "LUKOIL-Neftokhim Burgas".

## Processing and petrochemical product output at petrochemical plants of LUKOIL Group\*, th. tons

	1999	2000	2001	2002	2003
<i>Processing</i>	805.4	1,141.3	1,605.2	2,138.0	2,262.4
Petrochemical product output	614.2	864.2	1,194.9	1,632.2	1,763.8
Polymers and monomers:					
polyethylene	210.1	252.9	298.1	366.5	356.3
synthetic fibre	1.4	9.3	11.6	13.5	21.2
vinyl acetate	20.5	0.0	0.0	30.7	42.5
vinyl chloride	0.0	9.5	70.7	120.7	173.2
Products of organic synthesis:					
benzene	0.0	20.3	118.7	151.1	156.7
phenol, acetone	15.3	43.2	39.6	31.1	36.8
methyl methacrylate	2.4	19.8	20.6	20.7	23.8
acrylonitrile	12.1	72.7	83.5	122.2	117.7
ammonia sulphate	5.7	48.9	56.5	50.3	60.7
Pyrolysis and fuel fraction products:					
propylene	93.1	118.2	162.0	220.7	233.1
saleable ethylene	0.0	1.6	32.4	47.5	52.6
butadiene butylene fraction	68.8	82.2	106.6	143.7	147.6
fraction C <sub>5</sub> +C <sub>9</sub>	41.5	45.4	71.2	101.6	108.4
heavy oil tar	37.5	46.4	86.2	127.2	133.7
Other	105.8	93.8	37.2	84.7	99.5

\* Excluding "LUKOIL-Neftokhim Burgas".

### "LUKOIL-Neftokhim Burgas", Bulgaria

- The petrochemical complex was put into operation in **1968**
- Belongs to LUKOIL Group since the end of **1999**
- Petrochemical capacities – **500,000** tons per year

### Petrochemical product output at "LUKOIL Neftokhim Burgas" plant, th. tons

	1999	2000	2001	2002	2003
<i>Petrochemical products</i>	183.5	407.9	333.3	328.5	375.3
Polyethylene	76.4	70.2	68.9	64.4	71.6
Polypropylene	55.5	53.4	61.6	56.3	64.3
Acrylonitrile	0.0	18.8	16.6	17.3	18.0
Synthetic fibre	0.0	9.8	11.7	9.6	11.3
Styrene	0.0	13.0	13.2	12.8	13.8
Polystyrene	6.0	9.5	9.8	8.3	9.3
Latex	14.2	0.0	0.0	12.8	12.2
Industrial rubber	20.3	18.4	0.0	17.2	32.1
Ethylene glycol	0.0	59.8	73.4	63.1	69.1
Ethanolamine	7.3	11.0	12.9	10.7	12.8
Benzene	0.0	28.9	9.7	6.2	10.8
Toluene	0.0	26.6	28.6	26.0	25.3
Xylene	0.0	16.8	17.8	14.6	14.9
Other	3.8	71.7	9.1	9.2	9.8

## Petrochemical product output at "Stavrolen" plant, th. tons

	1999	2000	2001	2002	2003
<i>Processing</i>	747.8	826.4	788.5	889.8	914.4
Petrochemical products:	573.1	634.5	581.0	671.2	686.6
Propylene	93.1	115.2	109.8	128.7	129.0
Polyethylene	208.1	252.6	245.8	267.8	263.9
Benzene	0.0	19.0	70.4	75.9	78.2
Vinyl acetate	20.5	0.0	0.0	30.7	42.5
Heavy fuel	37.5	38.3	35.5	32.7	33.9
Liquid pyrolysis fractions	213.9	209.4	119.5	135.4	139.1

## Petrochemical product output at "Saratovorgsintez" plant, th. tons

	1999	2000	2001	2002	2003
<i>Processing</i>	57.5	278.8	305.2	373.2	401.6
Petrochemical products:	41.1	201.7	218.0	244.0	269.5
Phenol	13.4	35.6	33.3	28.4	33.3
Acetone	8.4	7.5	6.3	2.7	3.5
Acrylonitrile	10.4	72.7	83.4	122.2	117.7
Fiber	1.0	9.3	11.6	13.5	21.2
Acetone cyanogen hydride	0.2	3.2	2.6	0.5	2.8
Methyl methacrylate	1.8	19.8	20.6	20.7	23.8
Ammonia sulphate	4.2	48.9	56.5	50.3	60.7
Other	1.7	4.7	3.7	5.7	6.5

## Petrochemical product output at "LUKOR" plant, th. tons

	1999	2000	2001	2002	2003
<i>Processing</i>	—	36.1	511.5	875.0	946.4
Petrochemical products:	—	28.0	395.9	717.0	807.7
Saleable ethylene	—	1.6	32.4	47.5	52.6
Propylene	—	3.0	52.1	92.0	104.1
Benzene	—	1.2	48.3	75.7	79.8
Polyethylene	—	0.2	52.3	98.7	92.3
Vinyl chloride	—	9.5	70.7	120.7	173.2
Liquid pyrolysis fractions	—	4.3	65.1	117.5	124.2
Pyrolysis tar	—	8.2	50.7	94.6	99.9
Other	—	0.0	24.3	70.3	81.6

**"Stavrolen"**

- Put into operation in **1981**
- Belongs to LUKOIL Group since **1998**
- Capacity — **1,050,000** tons per year

**"Saratovorgsintez"**

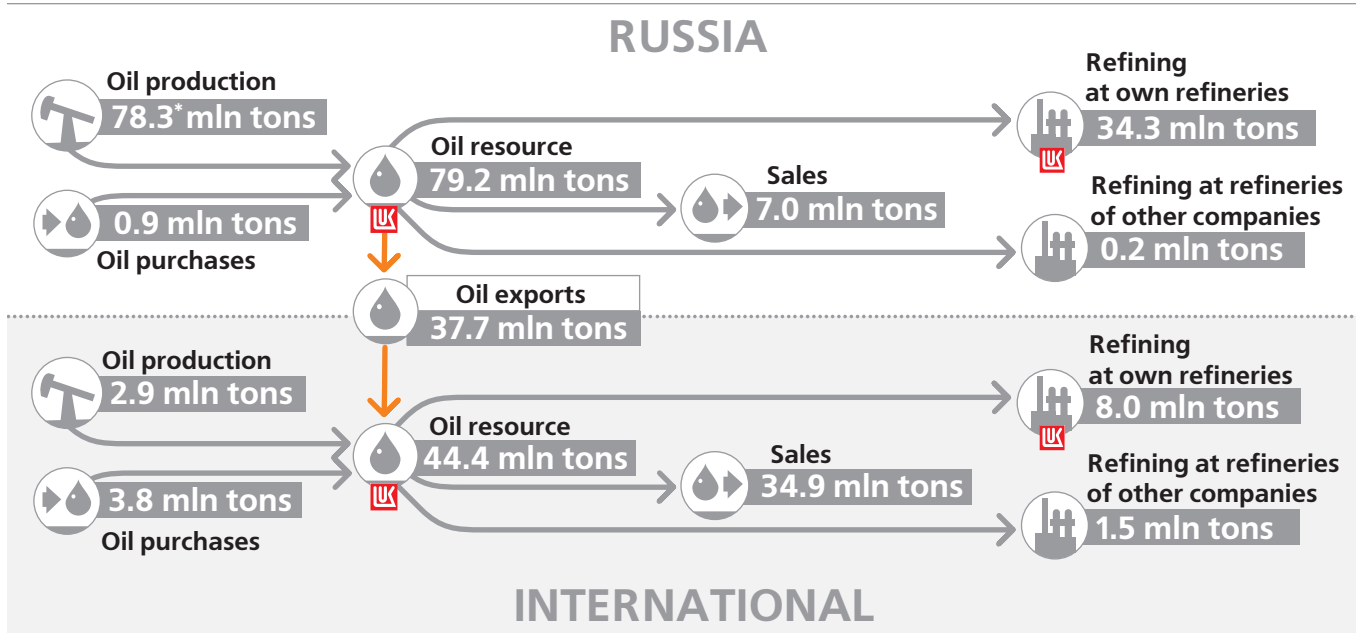
- Put into operation in **1957**
- Belongs to LUKOIL Group since July **1999**
- Capacity — **490,000** tons per year

**"LUKOR", Ukraine**

- Put into operation in early **1970s**
- Joint venture of LUKOIL and "Oriana" since **2000**
- Capacity — **1,330,000** tons per year

## Oil Supplies

### Oil supplies in 2003



\* Oil production excluding transportation losses.

### Export terminals of LUKOIL Group

