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RESTRUCTURING AND REVITALIZING THE KALININGRAD REGION*
(PHASE I-A)

TF/RUS/94/001 and US/RUS/93/134

RUSSIAN FEDERATION

Technical report: Study on energy**

Prepared for the Kaliningrad Administration
by the United Nations Industrial Development Organization

Based on the work of B. Bjoerk,
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1. Introduction

1.1 Overall objective

The UNIDO-project, Restructuring and Revitalization of the Kaliningrad Region (Phase 1. a), aims at preparing a detailed regional development survey of the Kaliningrad region, identifying industrial development projects, and advising on policy and institutional measures. Particular emphasis is put in identifying concrete projects and areas for development to be further developed in subsequent project phases.

1.2 Objectives of this sector study

This sector report deals with supply to and consumption in the region. The objectives of this study are limited to briefly describe the regional energy situation.

1.3 Methodology

Basic information about existing situation and (by the sector authorities) planned developments was obtained through public sources (newspapers, official statistics) and, when possible, directly from the authorities.

Again, when possible, our conclusions were discussed with the authorities.

1.4 Limitations

Within the limited scope of this sector study it has only been possible to make a brief description of energy systems. Any conclusions and recommendations regarding developments have to be based on more detailed research and analysis.

1.5 Study team

The study has been carried out by Mr Alexander Alexeev, Mr Igor Maltsev, Mr Igor Akmanov from Investment Research Centre, Kaliningrad, together with Mr Bo Björk, UNIDO-expert.

2. Summary

2.1 General

Most of the energy consumed in the region is imported. Transit of elektric energy and natural gas through Lithuania is both an economical and "political" burden, resulting in competitive disadvantages for the region, both in terms of costs and possibly safety of supply.

Domestic energy production, electricity and heat, is to a large extent produced in old, often pre-war facilities coming close to their operational life.

Although the potential for energy conservation has not been studied or assesed, it is evident that many heat distribution systems and buildings could be improved to save energy.

2.2 Electric energy

Approximately 2.7 Twh were consumed in 1994, down 13% from 1992.
29% was produced in the region in heat power stations. in most cases built for the pulp and paper industry, but also deliveringelectric energy and heat for non-industrial consumption.

Of the remaining 71% approximetely 90% is transited through Lithuania from the nuclear power plant Leningradskaya in Russia and the rest is produced in Lithuania.

Current plants include the completion of the gas fuelled thermal power station in Borisovo town close to Kaliningrad, which would mean that all necessary electric energy would be produced in the region and would also open up for export. Lack of funding is presently upholding the works.

Other projects include modernisation of existing plants, energy conservation projects, etc.

2.3. Heat energy

District heating systems are extensive in the region. In the region there are more than seven hundred boiler units fuelled by natural gas, heavy oil or coal.

The equipment is to a large extent in constant need of repair.

During 1992-94 the consumption of heat energy has decresed due to disturbances in fuel deliveries, mechanical problems but also due to the consumer's inabilty to pay.

2.4. Oil

Approximetely 2-2.5 million tonnes of oil products are used each year including 600,000 tonnes of petrol.

In addition to that 110,000 tonnes of "melt oil" is used every year.

In the region approximetely one million tonnes of crude oil is extracted, for refinement outside the region.

More oil deposits are probable, there are known oil reservoirs on the shelf in the Baltic. Agreements with neighbouring states makes it currently impossible to explore these resources due to environmental reasons.

New projects include increased oil extraction from existing and new oil fields and oil refinery in the region.

2.5. Natural gas

In 1994 700 million cubic meters were delivered to the region via pipeline from Russia, through Lithuania.

Due to Kaliningrad's position at the end of the pipeline system, pressure drops occur at times of increased consumption.

Project under consideration includes a new pipeline throgh Belorussia, Poland to Germany including a connection to Kaliningrad. This would be an alternative to the Lithuanian transitgas and also be required for the planned thermal power station. Another project is to build a gas storage facility in salt deposits.

2.6. Coal

In 1994 about 220,000 tonnes of coal were delivered to the region.

In the region there are two deposits of brown coal with a calculated size of 70 million tonnes. These are not used and all coal is imported from Russia and Poland.

2.7. Peat

Approximately 45,000 tonnes are produced in the region annually for private consumption. The size of the deposits would allow a higher production.

Energy

3. Energy sources

The consumers of Kaliningrad region use electric and heat power, natural gas and petroleum products.

3.1. Electric energy

The biggest part of electric energy (about 71 %) comes to the region from Lithuania through intermediate station placed on the boarder city Sovetsk. The transit costs are high. Let us say that total cost of this electricity is 100% then 37% would be the cost of electricity itself and 63% - transit tariffs through Lithuania.

The smallest part of consumed electric power (approximately 29%) is produced by own power stations on the territory of the region:

The name of the station	Effect, MW	Location
Power station 2 (HEPS 2)	115	Svetly
Heating power station	16	Gysev
HPS JSC "Sovetsky PPF"	24	Sovetsk
HPS JSC "Darita"	12	Kaliningrad
HPS JSC "Cepruss"	12	Kaliningrad

All these stations were built before World War II. They work on natural gas or on melt fuel oil. Today turbogenerators of the stations almost used to their working life . This situation is typical illustrated by HPS in Gysev.

The station in Gysev is a heat power station. It was built before World War 2. The boiler units were made in 1934-35. After the war the station began its work in 1955. The work started from launching turbogenerator with capacity 15 MW. In 1958 the other unit started its work & capacity of whole station became 30 MW. The station works on a melt fuel oil. The main purpose is production of heat for Gysev town. Production of electric energy is secondary. The station produced 1,32% of all electric power in the Kaliningrad region. Nowadays capacity of turbogenerators is reduced to 26 MW because of the significant wear. Operational life so far of the turbogenerators is estimated 225-230 thousand hours, while operational maximum is 250 thousand hours.

3.2. Small hydroelectric power stations

Before the second World War 30 small hydroelectric power stations worked on the territory of present Kaliningrad oblast. Some of them were used up to 1975. After closure because, of wornout equipment they were conserved.

Recently the question of restoration of these small hydroelectric power stations has attracted interest. Although the restoration of all these hydroelectric power stations would bring only 5% of the total consumption in the region, the leadership of JS "JantarEnergo" makes off effort to start the restoration.

The plan is to firstly restore the hydroelectric power stations on Sheshupe river in Krasnoznamensky rajon, on Angrapa river in Ozersk and also Pravdinsky hydroelectric power stations cascade on the Lava river.It is however difficult to realise this because of lock of financing. Only Pravdinsky hydroelectric power stations cascade restoration would cost $6,500,000.

The first hydroelectric power station after war was built in 1994. It is located on the Guryevka river near by Kaliningrad. The capacity of the station is 53 kW. The cost of construction was $40,000. The electricity produced there is being used by motel "Baltica",which is not so far.

3.3 Heating energy

In the region heating energy (hot water and steam) is produced by boiler units. There are 730 boilers, 377 of which often need repair. The fuel is natural gas, betominuous coal and melt fuel oil. Considerable part of the population heat their private houses using small boilers. The season for heating is 195 days.

The biggest consumer of heat energy is Kaliningrad city. Six district heat stations and 611 boiler rooms supply the city with hot water.

Betuminous coal used for the needs of region boiler rooms is delivered from Inta, Vorkuta, Kuzbass. Also silez coal bought in Poland is being used. Melt fuel oil is delivered from Mozur (Belorussia), Kirishei, Jaroslavl, Ryazan, Maizshekai (Lithuania). Natural gas comes from Russia.

3.4 Fuel

In Kaliningrad region the following types of fuel are used:

3.4.1. Oil

For the first time oil was found on the territory of the region in 1962. It is of high quality because of low sulfur content. The age of the oil is 550 m. years. Industrial delivery was started in 1975 and the production was never above 1 m. tonns a year. From the beginning more than 20 m. tonns were extracted. Total prognosis for the continental reserves of oil on the territory of the region is estimated to 80 m. tonns. Only 40% of the territory of the region (swampy ground) has been investigated for oil resources. Besides: big oil field "D-6" (20 m. t) is temporarily closed down.

In shelf zone of Kaliningrad region 40 oil fields are found, prognosed reserves of Kaliningrad shelf are 80 -100 m. tonns. However in the nearest future shelf reserves will not be cultivated as Baltic states signed up convention because of environment considerations.

Nowadays 9 oil wells out of more than 400 exploratory wells are used. 243 oil wells are considered active. In the last few years 3 new oil fields were found.

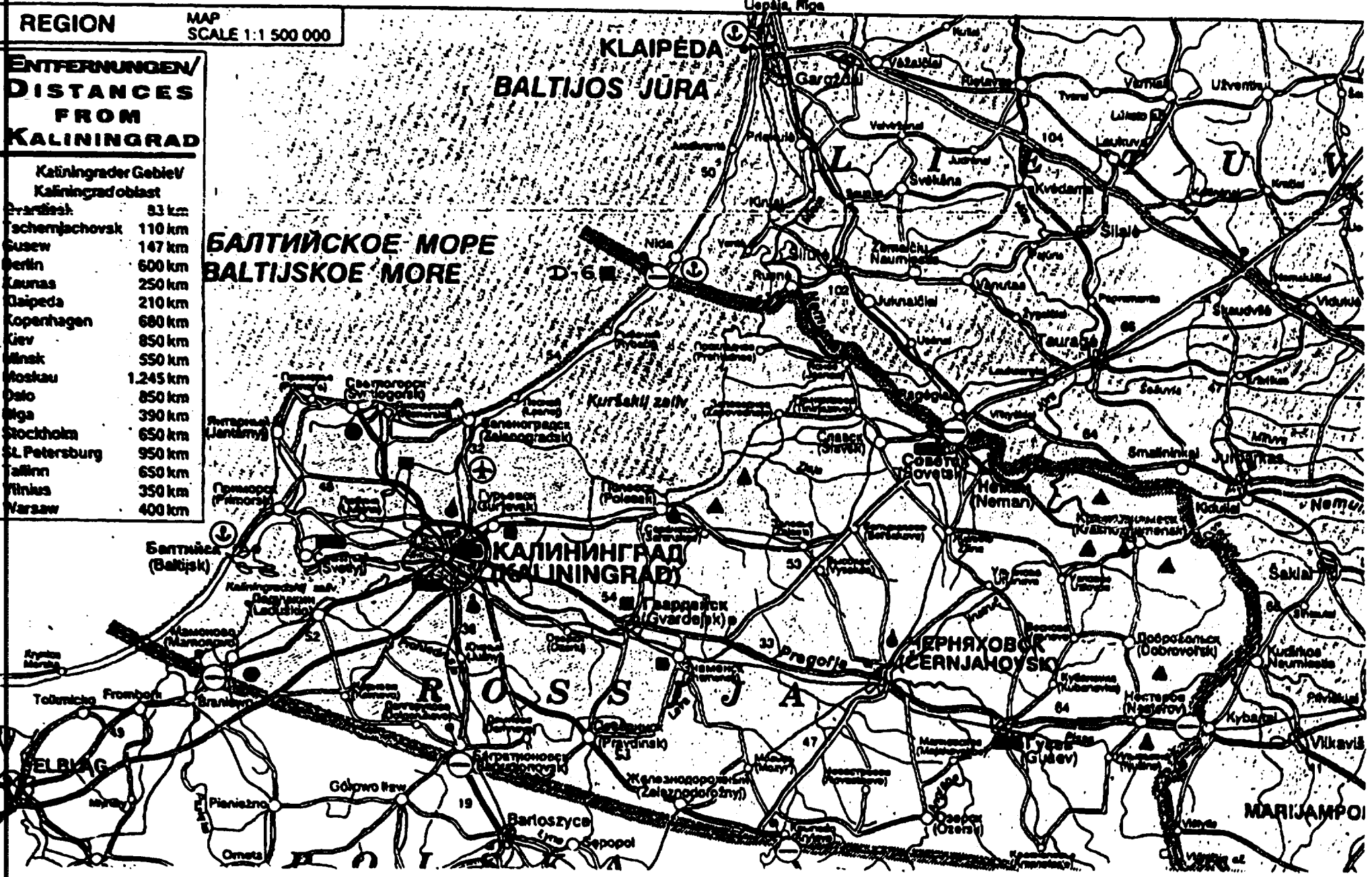
ENERGY STRUCTURES IN KALININGRAD REGION

● - coal ■ - oil ■■ - HEPS and HPS ♦ - oilproducts ▲ -peat

REGION MAP SCALE 1:1 500 000

ENTFERNUNGEN/ DISTANCES FROM KALININGRAD

Kaliningrader Gebiet/ Kaliningradskaja oblast	
Frauenburg	93 km
Tschernjachovsk	110 km
Gusew	147 km
Berlin	600 km
Kaunas	250 km
Klaipeda	210 km
Kopenhagen	680 km
Kiev	850 km
Minsk	550 km
Moskau	1.245 km
Oslo	850 km
Riga	390 km
Stockholm	650 km
St. Petersburg	950 km
Tallinn	650 km
Vilnius	350 km
Warsaw	400 km



3.4.2. Oilproducts

Kaliningrad region does not produce its own oilproducts. All oilproducts are delivered from oil refining plants of Ryazan, Kirishi, Jaroslavl, Novokyibyshevsk, Mazheikai. Oilproducts are delivered by railroad transport. After entering the region oilproducts go to 6 special oilbases in different districts of the region, which sale the oilproducts to organisations and individuals.

3.4.3. Natural gas

Kaliningrad region does not have its own natural gas deposits. The delivery of natural gas to Kaliningrad region are made by JV"GasOil" which is organized by RJV"Gasprom".

Usually the transportation of natural gas to the region is performed by "Byelorustransgas" thruogh the line Vilnius - Kaunas - Kaliningrad 450,000 cubic meters per day. Forecasting the development of gas consumption in the region the present gas delivery capacity is not enough. For example the planned completion the new HEPS-2 will require to increase the delivery in the future.

24th of June 1993 the statement of intensions to build a gas pipeline from Yamal was signed by Russian, Byelorussian, Polish and German representatives. The project is to build a pipeline 1420 mm diameter and capacity 30 billion cubic meters per year through Byelorussia, Poland to Germany and to Kaliningrad (Goldap - Gusev).

Besides economical problems this project would achieve some political objects.

It is planned federal budget to finance it. Along with this project there is a project of an automobile road Grodno - Suvalky - Goldap - Gusev thus openning a problem of financing.

3.4.4. Betominous coal

On the territory of Kaliningrad region there are 2 deposits of brown coal (near Mamonovo and township Grachevka, Zelenogradsk area). Total capacity of deposits equals to 70 mln. tonns. These two fields have not been opened. All needed coal is bought in Russia and Poland.

3.4.5. Peat

In Kaliningrad region peat fields take up about 1000 sq. km. Thickness of peat stratum approximetely equals to 3-5 m. Total researves equal to 3 billion cubic meters. Peat is extracted by industrial method in Krasnoznamenskii, Polesskii, Nesterovskii areas. It is used for of heating.

4. Energy networks

Energy is distributed to consumers through special networks electric networks. heatenergy supply networks and distribution networks of natural gas. You can see schematic form of these networks on the maps.

4.1. Electric network

Big power substations in Kaliningrad & Sovetsk are connected by overhead transmission; transmission lines; the tension is 330 kv. The length is 118 km. The second line with the same parameters is temporary operating at tension 110 kv. Total length of power transmission lines with tension 330 kv is to 318 km. Part of these lines (104,8 km) is temporary

used for electric power transmission at tension 110 kv. Total length of lines with tension 110 kv equals to 1394 km. Part of them (82 km) is also used with less tension - 60 kv.

In the western part of the region transmission lines with tension 60 kv are used. Their total length is 65 km. In rural area lines with tension 60 kv are used. Their total length is 5540 km. Electric network with tension 60 kv is not standart. That's why now a lot of work is done to change these lines to tension 110 kv.

The biggest consumers of electric power are industrial centres of the region - Kaliningrad, Gysev, Chernyahovsk, Sovetsk, Neman.

Energy supply to industrial & civil objects is carried out by redistribution of electric power coming to the transformation substation from the power transmission lines of high tension (EL -15-110 kv). Supply of electric power to different objects is carried out by transmission lines on metal or wood (saturated larch tree) masts, as well as underground & overland cabels in lead, aluminum & plastic cover. Also oilfilled cabels are used.

Industry & civil consumers in Kaliningrad region use electric power with tension 220 & 380 v of alternating current, frequency 50 Hz. Each of industrial & civil enterprises is connected to power networks (15-110 kv) through individual transformator substations (ussually till capacity 1-10 MW) which are equiped with distributing mechanism to connect regional networks.

The quantity of electric power consumed is measured by meters.

4.2. Heat power networks

As we have said before the biggest consumer of the heat in the region is Kaliningrad. The consumption of heat is beying done by HEPS, heat stations and boiler rooms. The leading position belongs to HEPS. These are HEPS - 1,8,9. HEPS - 8 has additional boiler.

District Heat stations (DHS) are big sources which supply the city with hot water and industry with productional steam. These are heating stations "Severnaya", "Zavodskaya", "Baltyiskaya", "Uzsnaya". Also we can add to it a big sized boiler rooms (you can compare them with heating stations) of Western and Northern industrial knots. All these heating stations use fuel oil or natural gas as a fuel. Each of them supplies heat and hot water the about 80 thousand people.

The other part of heat is supplied by 10 big sized, 80 middle sized and 521 small sized boiler rooms which work only for heating of living quaters.

In the table you can see detailed data on different heat sources:

Heat sources supplying heat to Kaliningrad

The name of heat source	Heating capacity mln. caloric units / hour	Steam boiler capacity . tonns/hour	Capacity of water warming boilers
HEPS- 1	196	245	76
HEPS- 8	146	264	
HEPS- 9	114	234	
Station "Sevenaya"	255	81	205
Station "Uzhnaya"	140	32	120
"Vostochnaya" boiler-room	130	58	100
Station "Zavodskaya"	50	84	
Station "Baltiiskaya"	65	109	
Boiler-room "Severnaya"	80	32	60
Big-sized boiler-rooms	589		
Middle-sized boiler-rooms	283		
Heating Boiler-rooms	534		

Townships near the city are supplied with heat from their own boiler-rooms. Total heat defficit in Kaliningrad city is 20-25 % .

In the other cities of the region heat supply of living quaters is based on buying it from big boiler-rooms of nearest factories. For example part of Chernyahovsk is supplied with heat from the boiler-room of JSC "Carat". It is the boiler-room with the biggest capacity (5 boilers). Also considerable part of the city (20 blocks) is supplied with the heat from boiler-room of JSC "Zavod Techmash".

Sovetsk is supplied with heat from HEPS JSC "Sovetskii CBZ" (Sovetsk pulp and paper factory), it can work both on coal and fuel oil. This HEPS consumes 73 thousand tonns of fuel oil per year. Municipal boiler-rooms of Sovetsk and individual boilers in living houses consume 3,5 thousand tonns of coal annually.

Neman is fully supplied with heat from boiler-room of Neman pulp and paper factory. A big part of living quaters in Baltyisk is supplied with heat from boiler-room 3.

The heat supply in small towns is exemplified by the resort town of Svetlogorsk, placed on the coast of Baltic sea. In this town there is central boiler room which consumed 152 tonns of fuel oil in 1994 during during the season when heat is required. Majority of living houses is heated by water boilers working on coal. During this season 2795 tonns of coal were used. Also there are 11 small municipal boiler-rooms which during this season spent additionally about 2 thousand tonns of coal.

The region has a big problem with leakages of heat. Ussually it is connected with old equipment and old network of hot water distribution. Nowadays about 80 km of HEPS pipes need to be changed out of which 12,5 km were replaced in Kalininrad in 1994.

4.3. Network of fuel distribution

4.3.1. Oil

More than a half of oil is extracted in Gvardeisk area. Not far from Znamensk. In the same area (50 km to the east of Kaliningrad) rail oil loading station is situated. It is handling all extracted oil in the region . From here oil is transported by rail transport to the different places. Part of it goes to Baltyisk for export deliveries as a quota. The owner of this quota is regional administration (in 1993 249 thousand tonns were exported that way, and in 1994 - 302

thousand tonns). The other part is transported by railroad to oil refinement plants in Russia and Lithuania.

4.3.2. Oilproducts

Different oilproducts come to the region by railroad and are distributed to 6 oilbases which are located in the cities of Kaliningrad, Chernyahovsk, Pollesk and others.

Ussual incoming oilproducts are: automobile petrol, diesel fuel, fuel oil, and kerosene, etc. Then they are distributed through the network of petrol stations. Total number of them is 58, 10 of them are situated in Kaliningrad.

4.3.3. Natural gas

As mentioned above natural gas comes by high pressure gas pipeline with diameter 1420 mm through the territory of Lithuania.

Not all the areas of the region are supplied with natural gas. Natural gas is not delivered to Sovetsk, Baltiisk, Pollessk, Gvardeisk, Znamensk, Neman, Gysev, Nesterov. "GasOil" and "Kaliningradgazifikatsia" companies are planning to expend the pipeline network to provide all the region with natural gas.

Gas pipelines are being built to the cities of Zelenogradsk, Chernyakhovsk, Mamonovo to the Kaliningrad gas-distribution station number 2. The works on building gas pipeline to Sovetsk started.

All imported natural gas is consumed in the region and and because of this there is a problem of maintaining the pressure in the pipes when the consumption varies with the season.

One way to avoid the problems is to build an undergroud gas storage (UGS), which is possible profitable to organize in the salt . Such UGS would compensate for a breakage in deliveries for a few months.

JS"GasOil", since 1993, is making plans to build such UGS in the salt deposits near Romanovo town in Zelenogradsky rajon. Along with this there is a plan to mine salt.

On this project worked 3 German and Dutch companies "Preussag Anlagenbau GmbH", "Comprimo", "USG Mittenwalde" and Dutch company "AKCO" - the producer of salt industry equipment.

By the concession of the regional administration "GasOil" have got the right to perform this project. Now the drilling of the slit for UGS is taking place.

4.3.4. Coal

Betominous coal comes to the region by railroad from Russia and seaway from Poland. The centres of its deliveries are Kaliningrad, Sovetsk, Chernyahovsk and also township Zelenogradskii (deliveries by railtroads) and port Svetly (deliveries by sea). Coal is stored in bases, which sell it to the companies and population.

4.3.5. Peat

For the needs of heating joint stock company "Balttorf" extracts peat in Krasnoznamenskyi part of Kaliningrad region. This peat is sold to private consumers.

5. Energy volumes

We will look at the consumption of different types of energy on the territory of Kaliningrad region during the period of time which equals to one calendar year. We have chosen the last year of 1994 for analysis and also we looked at the dinamics of changes in the flows of enenrgy deliveries.

5.1. Electric energy

In general only a smaller part of needed electric energy is produced in the region c bought in Lithuania, a bigger part of electric energy cames from the biggest North-West Russian supplier -Leningradskaya AEPS.

In 1994 - 0,175 Twh were produced in the region, in 1993 - 0,257 Twh and in 1992 - 0,334 Twh.

The reasons of decrease in electric power production are: general economic situation in the country, outdated equipment and its uneffective use.

In 1992 in the region consumers used 3,066 Twh of electric energy, 1993 - 2,874 Twh, 1994 - 2,682 Twh. Maximum effect in 1994 was 540 MW.

Electric energy corresponded to 12,6 % of the total energy consumption in 1994, up from 11,2 % in 1993.

5.2. Heat energy

In 1994 heat consumers used daily approximetely 3,2 thousand caloric units of heat. This total quantity of heat is less than used in 1993 (the difference is 292 thousand caloric units) and less than used in 1992 (the difference is 400 thousand caloric units). So in 1992-1994 in Kaliningrad region there was a decrease in heat production and heat consumption. It was caused by partial disturbanses in deliveries of fuel to the region and also by decrease of consumer solvency. Because of that heat shortage (comparing with production) in 1986 was equal to 22,61 mln. caloric units.

In following table state of fuel (coal and fuel oil) deliveries to the boiler-rooms in december 1994 is shown:

Heat producer (boiler room)	Used in december		Balans for January 1995	
	Coal, tonns	Fuel oil, tonns	Coal, tonns	Fuel oil, tonns
JSC "Jantar energo"		10065		+5498
JSC "Cox"	11115		+789	
Railroad	2924	620	-2234	-605
Coopsnab	350	12	+2450	-3
JSC "Kaliningrad rybprom"	1130	1960	-1110	-1945
"Rybakkolhozsouz"	419		-322	
Country areas	8470	3952	-5032	-2722
Whole region	24408	16609	-5459	+223

The data in the table show us the difficulty of situation with fuel deliveries. So total deficit of coal in the region in the beginning of 1995 was more than 5 thousand tonns. At the same period of time there were only 223 tonns of melt fuel oil in the companies. This situation does not mean lack of fuel oil or coal in the region, it just shows us that companies and enterprices does not have money to buy it.

5.3 Oil

In 1994 from oil fields in Kaliningrad region were extracted 817,4 thousand tonns of row oil. In 1993 were extracted 888,4 thousand tonns, in 1992 - 987,1 thousand tonns. So in the period from 1992 to 1994 there was a decrease in extraction of row oil. It is caused by natural research of oil - wells and absense of means for new geology-research works. Nevertheless there are great reserves for stabilization and increasing annual extraction. First of all it is connected with return of stratum improvement (using current technology less than 50% of crude oil is extracted from them) and also with developing shelf oil-fields (f.e. oil field D-6).

5.4. Oil products

Total need of whole region in oilproducts equals to 2-2,5 mln. tonns per year, including 600 thousand tonns of automobile petrol.

Total sales of light kinds of oilproducts through petrol stations equals to 40-45 thousand tonns a month.

In addition to that annualy about than 110 thousand tonns of melt fuel oil is delivered to the region.

5.5. Natural gas

During 1994 700 mln. cubic meters of the gas was delivered to the region for industrial and common use.

5.6. Betominous coal

In 1994 coal is delivered to the region from Inta (120 thousand tonns) and from Vorkuta (100 thousand tonns). Small quantity of coal was delivered from Kuzbass. This total quantity does not exceed average quantity of coal during last 5 years. So there are no changes in deliveries of coal to the region.

5.7. Peat

Annualy 45,000 tons of peat are extracted in the region. It is assumed that by 1999 this would rich 140,000 tons.

6. Organization and authorities

All the questions connected with production of electric power and heat and also with deliveries of different kinds of fuel to the region are solved by appropriate organisations. Below you can see all needed data.

Energy type	Company	Adress
Electric energy, heat	JS "JantarEnergo"	236040 Kaliningrad, Teatralnaya str.,34
Coal	JS "Borej"	236006, Kaliningrad, Barnaulskaya str.,4
Coal	"Kaliningradtopprom" state company	236000 Kaliningrad, Kommunalnaya str.,6
Oil	JS Kaliningradmorneftegas"	236039 Kaliningrad, Kievskaya str., 23
Oilproducts	JS "Kaliningradnefteproduct"	236000, Kaliningrad, Komsomolskaya str., 22á
Oilproducts	JS "LUKoil"	236041, Kaliningrad, Kuybysheva str.,13
Natural gas	JS "Gas-Oil"	236006, Kaliningrad, Galickogo str., 20
Pressured gas	JS "Kaliningradgasificaciya"	236000, Kaliningrad, Pugacheva str.,18
Peat	JS "Balttorf"	238730, Krasnoznamensk Matrosova str., 25

Administration of the region deals with the energy supplying of the region through the Commetee of operative managing, which is situated on Dmitry Donskogo str., 1, Kaliningrad 236007.

7. Economical conditions

Prices for electric energy in Kaliningrad region are determined by Federal Energy Commission According to proved tariffs. If we take the electric energy price on the Lithuanian border as 1, then agricultural enterprises will buy for 2,55, industrial enterprises 1,7 - 4,36, depending on capacity consumed. Tariffs on heat energy are based on current prices for coal and oilproducts. The coal, oil, oilproducts, gas and peat prices are determined by concrete producers. You can see appropriate data below :

Energy type	$, Cost
Electric energy, kW/hour	0,02 - 0,09
Heat, 1 gC	13
Oil, 1 ton	126
Gasoline	406
Diesel fuel, 1 ton	242
Gas, 1000 cubic meters	75
Coal, 1 ton	72
Peat, 1 ton	34

8. On-going improvement / development work

8.1 The work on building a new HEPS-2 in Borisovo town near Kaliningrad is going on. In present situation some of the main roads and all secondary roads are completed. The building of transformation station is started. The works on building the fuel oil preparation system are going on.

8.2 First small hydroelectric power station 53 kW capacity was put into operation on Guryevka river close to Kaliningrad, thus starting the revival of small hydroelectric power stations in the region.

8.3 Started installation in apartment buildings of heat saving modules made by co-operation of Danish company with local OKB "Fakel", which allow to use heat more efficiently. The tests of improved heat isolation pipes made in Poland began in some areas in Kaliningrad.

8.4 "Kaliningradmorneftegas" company became a part of the biggest Russian oil concern "LUKoil". It will allow to the company to organize oil extracting on the sea shelf suorce "D-6".

8.5 Regional department of concern "LUKoil" and company "Binex" began to organize their own petrol stations in the region. Today three stations are working (2 - "Binex", 1 - "LUKoil"). There is a project for other six stations. Thus started an alternative supply of oilproducts in the region.

8.6 Privat company "Shturman" in April 1995 started the construction of oil processing factory, capacity 500,000 tons. The consruction will be completed within one year.

8.7 On agreement for a new pipeline from Russia to the Europe through Poland between Poland and Russia on the governmental level . This pipeline will also include the part to the Kaliningrad region. Started test drilling for an underground gas storage in the area of Romanovo town.

9. Projects under consideration

9.1 The project of building of a new HEPS-2. The project initiated by JS "JantarEnergo" and by the Ministry of fuel and energy of Russia. It is planned to build the station including 3 new energy units 450 MW capacity each. It assumed to use natural gas of the gas pipe line which would be built through Poland. This would solve the problem of energy deficit in the region. And also it would allow to close almost all small heating boilers in Kaliningrad.

9.2 The project of modernizing and improving of operating now HEPS-2 in Svetly was initiated by JS "JantarEnergo". This improving would increase the capacity from 114 MW to 250 MW.

9.3 Installation of two new energy units 10 MW capacity each on the South HPS. The project was initiated by JS "JantarEnergo" and would supply with the energy the surrounding area.

9.4 Installation of two new energy units 16 MW capacity each on the HPS-1. The project was initiated by JS "JantarEnergo" and would give an extra energy.

9.5 The project on extracting the oil from Slavsky oilfield initiated by JS "Kaliningradmorneftegas". It would allow to extract 50,000 tons per year.

9.6 The project on extracting the oil from "D-6" sea shelf oilfield initiated by JS "Kaliningradmorneftegas". The project would allow to use 21 oil wells and get 900,000 tons per year.

9.7 The project of building gas pipelines to Chernyakhovsk, Mamonovo, Sovetsk and other cities of the region. The project of building gas measuring complex on the Lithuanian border. Building of underground gas storage. All projects initiated by JS "GasOil". The projects would let to supply the cities of the region with gas and provide the reserves for about 1,5 month.

10. Bottlenecks and disadvantages

10.1 The transit of electric power, oilproducts, coal and natural gas from Russia through the territory of Lithuania.

10.2 Absense of processing of oil extracted on the territory of the region.

10.3 Deficite in of electric and heat energy in the region.

10.4 Badly developed petrol station network. Nonconstant oilproduct deliveries.

10.5 Outdated equipment produced in former USSR which needs often repair.