



YEARBOOK 2010

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Address by the President of the Board



Now there are evidently positive expectations in the air. The markets are being steadied, and their political events oversensitivity is passing, giving us confidence to advance. But VKG is still moderate in its forecasts and activity plans. We continue our earlier targeted activities but consider the fact that there could be both good and bad days waiting for us, and it makes us to withhold excess optimism.

The year 2009 gave us enough confidence to turn our attention from firefighting to long-term activities. I am excited to see this trend extending to almost all our partners.

VKG is in the center point of the realization of its plans. Behind our back there are construction and start-up of the new plant, acquirement of AS Kohtla-Järve Soojus, groundbreaking of a company-owned mine. **In the prospect there are construction and start-up of Jõhvi-Ahtme heat pipeline, increase of energy generation in the company, bringing of Ojamaa mine to its full capacity and construction of Petroter II plant.** Two next years will lay foundation to further run of business at VKG. The year 2013 will be the deadline which would to either let us loose the belt or tighten it even more.

Our position on a projects` scale do not give us any right for forecasting. But instead we have a clear vision of a sustainable future of both VKG and Estonian oil shale processing industry, in the case all questions in prospect would find the best solution.

I wish to our partners much energy to strengthen the improving economical situation and to everybody exceeding of their best expectations in 2011!

Priit Rohumaa

A handwritten signature in black ink, appearing to be 'Priit Rohumaa', written over a light grey diagonal line that extends from the bottom left towards the top right.

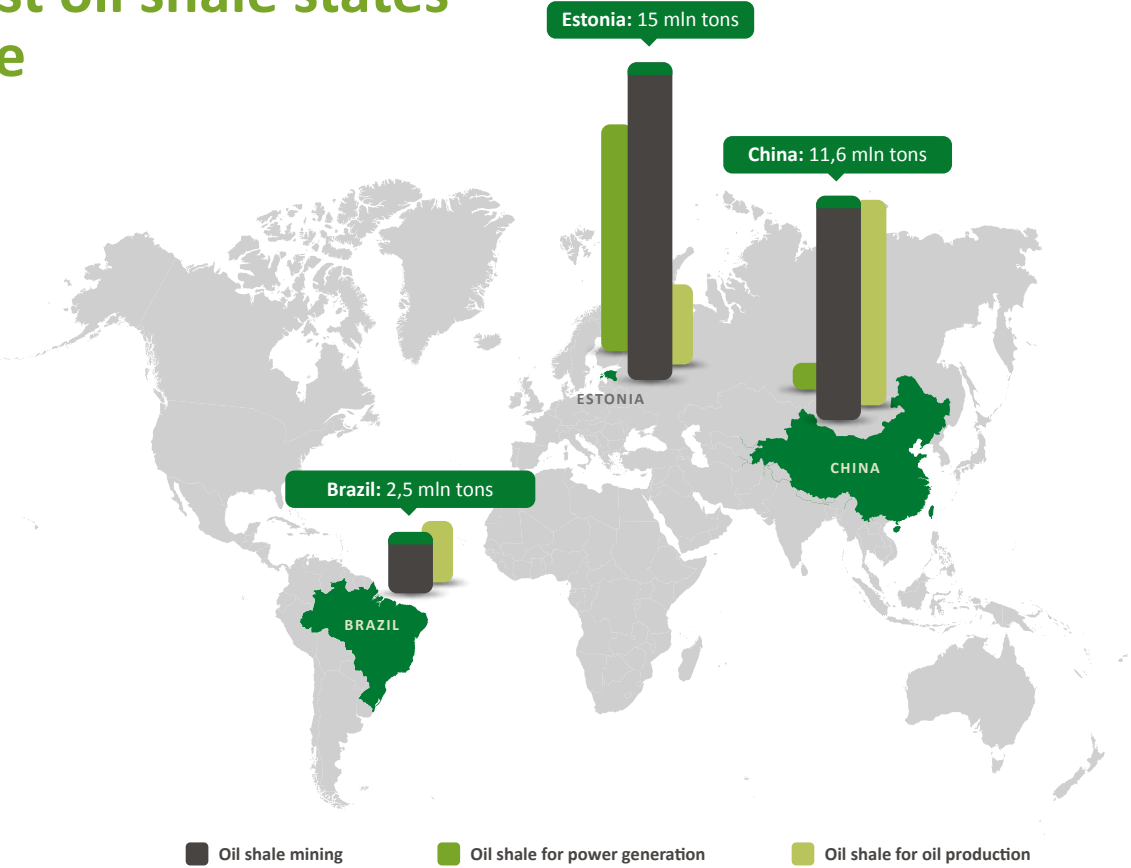
Introduction

Oil shale is found in many countries around the world, and its reserves are important, its processing, however, takes place in few locations. Estonia is the third country in the world, after big countries Brazil and China, where an industrial processing of oil shale takes place. The main products derived from oil shale are fuels – both shale oil and shale gas.

Estonian reserves of oil shale reach 6,5 bln tons, i. e. 5 barrels of shale oil.

VKG is the biggest producer of shale oil and chemicals in Estonia. In 2010 the processing output was 2 mln tons of oil shale. VKG covers the whole production chain, starting with mining and processing of oil shale up to manufacturing and marketing of the most sophisticated chemicals.

The biggest oil shale states worldwide



VKG activities

- Oil shale mining
- Production of shale oils and chemicals
- Production of synthetic resins and chemical products for construction
- Production and distribution of heat and electricity
- Repair, assembling, transport and water supply services

Application fields of shale oil

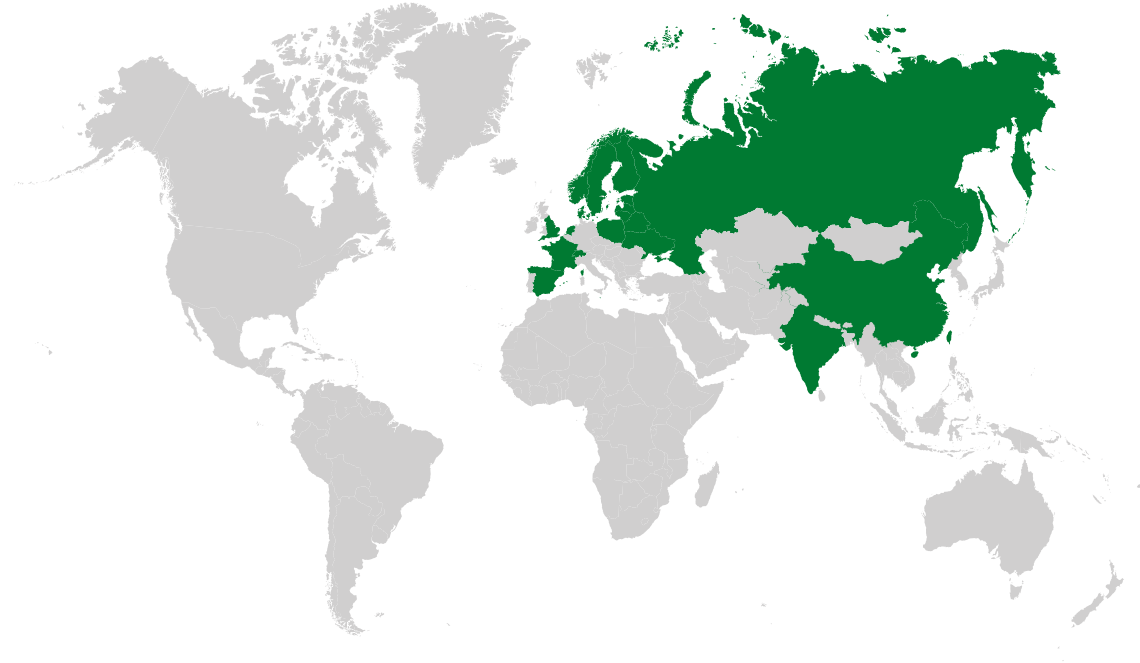
- Marine fuels
- Fuel oils
- Fine chemicals for perfumery and cosmetics
- Raw materials for tyre industry

Main figures

- The biggest Estonian chemical enterprise
- Over 1 500 employees
- 2010 turnover and profit were 125 and 20 mln euros accordingly
- A concern-owned mine is being constructed, with total capacity 3,2 mln tons of oil shale per year
- In 2010 the Petroter plant based on a new technology of oil shale processing reached its full capacity

Geographical distribution of VKG products and services

- Estonia
- Sweden
- Finland
- Norway
- Latvia
- Lithuania
- Poland
- England
- Belarus
- Ukraine
- Holland
- Switzerland
- China
- India
- Malta
- France
- Spain
- Denmark



2010 events

March

Cooperation of VKG and Jõhvi Concert Hall started in order to support local culture. Sponsor money amounted to 20 000 euros that year.

May

It was published the first VKG Report on Social Responsibility and Sustainable Development where it made open data on economics, ecological situation and production of the enterprise and joined the Global Reporting Initiative.

In May a Chemical Worker's Day took place after two-year-break. The enterprise undertook to bear organization expenses.

June

VKG signed a big, abt. 225 mln euros (3,5 bln kroons), consortium loan contract which goals to cover short-term enterprise's investments for development and environment.

July

VKG Energia OÜ started designing a heat pipeline from Kohtla-Järve production complex. Starting from 2013, the enterprise plans to supply Kohtla-Järve and Jõhvi regions with its heat.

August

The new oil shale processing plant Petroter reached in August its full-capacity production. The plant was opened in December 2009, commissioning and start-up works took abt. 8 months.

VKG joined the most powerful social responsibility initiative worldwide UN Global Compact.

First tons of raw oil shale came to Petroter plant from Ojamaa mine.

at VKG

September

In September VKG Kaevandused OÜ signed a contract for construction of an oil shale conveyor and an oil shale crushing and preparation plant with two biggest European engineering and mechanical companies, Thyssen-Krupp Fördertechnik GmbH and FL Smidth.

October

VKG and Eesti Energia exchanged mining licences for Usnova and Sompä, as a result, VKG got Sompä mining field which could be driven from Ojamaa mine.

VKG in cooperation with Jõhvi Concert Hall and Jõhvi District Administration established Kaljo Kiisk Grant for young filmmakers.

November

Start of the construction of a long VKG conveyor from Ojamaa mine into VKG production territory.

The biggest environmental project of last years, reconstruction of the tank farm, was finalized.

December

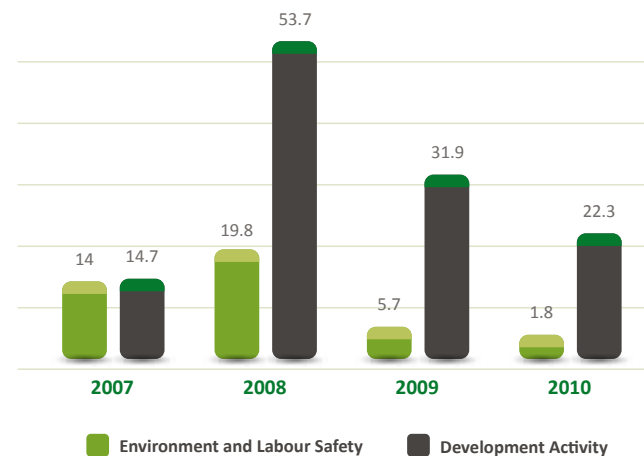
VKG and Eesti Energia started negotiating contract terms for the sale and purchase of Kohtla-Järve Soojus AS. Starting from 2013 the enterprise is going to supply Kohtla-Järve and Jõhvi regions, along with smaller villages, with cheap heat from oil shale processing.

Financial Highlights in 2010

→ Consolidated Profit & Loss Statement (in thous. euros, non-audited data)

	2007	2008	2009	2010
Sales Return	114 214	131 516	107 480	124 751
Special Purpose Financing		92	139	188
Distribution Costs	75 306	100 160	86 378	92 918
Gross Profit	38 908	31 448	21 241	32 021
Marketing Costs	2 517	2 957	3 261	3 514
Administration Costs	11 296	8 881	7 326	7 142
Other Commercial Income	933	1 546	476	7 456
Other Commercial Expenses	1 898	2 249	583	7 178
Commercial Profit	24 130	18 907	10 547	21 643
Financial Income & Expenses	-5 204	-4 033	-1 348	-2 260
Profit before Taxation	18 926	14 874	9 198	19 383
Extra Costs				
Income Tax	141	141		85
Net Profit of Financial Year	18 785	14 740	9 198	19 298

→ Investments into Development Activity, Environment Protection and Labour Safety (in mln euros)



→ Consolidated Annual Balance Sheet (in thous. euros, non-audited data)

	2007	2008	2009	2010
ASSETS				
Current Assets	29 631	40 324	21 220	31 970
Fixed Assets	218 588	266 036	292 039	317 507
ASSETS TOTALLY	248 219	306 360	313 259	349 476
LIABILITIES AND EQUITY				
Short-Term Liabilities	27 000	40 122	50 573	64 063
Long-Term Liabilities	62 413	86 272	89 726	91 418
Liabilities Totally	89 413	126 394	140 299	155 482
Equity	158 807	179 966	172 960	193 995
LIABILITIES AND EQUITY TOTALLY	248 219	306 360	313 259	349 476

Priorities, events and projections for 2011

Priorities

- **Ojamaa mine** opening and reaching its full capacity in 2012
- Development of **Kiviter technology**, preparation of construction of a Petroter II plant
- Increase of **power generation** by appr. 40% starting from the second quarter 2011
- Development of **fine chemicals** and increase of their production output
- Application of **social responsibility conception** in everyday life of the daughter companies, implementation of the principle “one for all” into working culture.



Ahti Puur
Financial Director, Vice President
of the Board

2011 Expected Figures

- Volume of oil shale to be processed – **2,4 mln tons**
- Consolidated turnover – **160 mln euros**
- Consolidated profit – **24 mln euros**
- Investments volume – **52 mln euros**,
incl. into the mine – **40 mln euros**

2011 Key Events

- **2011** – Start of preparative works for construction of the second Petroter plant at VKG (designing, application for permits, works planning).
- **2011** – Start of design and construction of a new Petroter ash storage yard in accordance with European requirements. The objective is to construct a dry ash storage yard which would meet the most severe requirements of environmental security.
- **February** – VKG Energia OÜ turbine start-up.
- **February** – Start of the main underground conveyor operation at Ojamaa mine.
- **March** – VKG Energia OÜ plans to take over Kohtla-Järve Soojus AS.
- **April** – Start of mounting works of a long overland conveyor of Ojamaa mine.
- **April** – Start of mounting works of a crushing and preparation plant and a sorthouse at Ojamaa mine.
- **Early 2012** – Start-up of Ojamaa long overland conveyor.

Development Activity

The enterprise's success is based on its well-planned development activity. The VKG shareholders have foresightedly invested into development activity at both good and bad times. Although money invested into development activity run high risks on the first stage, there is no economical operation of oil shale processing industry possible without such investments.

Concern of new unknown fields, choice-making and visions turning into reality is the thing what makes VKG development activity always exciting and attractive.



Jaanus Purga
R&D Director, Member of
the Board

Although measure finding in long-term outlook during the general economical depression in 2009-2010 was not an easy duty, VKG still continued making strategically important decisions.

The main industrial achievement of 2010 in expansion of oil production was the reaching by the new Petroter plant of its full production capacity and constant duty since August.

Among the projects which came into realization in 2010 the most interesting and innovative one was the start of 12,5-km-long oil shale conveyor with curves and turns between VKG production territory and Ojamaa mine. There has not been yet so long conveyor of such type built in Estonia before.

By 2011 the project of diesel fuel production and shale oil refinery has come into its decisive phase, as well as the project of production of resins based on shale alkylresorcinols. The importance of the both items on the national level is illustrated by their co-financing by the Republic of Estonia through the Special-Purpose Organization for Enterprise Development.

Production of high-quality motor oils from oil shale is VKG's top strategic direction for the nearest future, along with the mine opening and construction of the second Petroter oil plant.

Environment Activity

VKG environmental activity is the basis of the concern's social responsibility and development activity. VKG is one of the biggest Estonian environment investors. Its investments made during last 10 years exceeded 60 mln euros. The 2011 forecast for environmental investments is over 3 mln euros.

2011 is for VKG a decisive year in many ways, as a stabilized economic situation lets realizing projects which require money and time. Just this year a lot of big projects are starting. They will in the future minimize or stop industrial impact on environment and create a basis for its planning, management and close investigation.



Meelis Eldermann
Technical Director, Member of
the Board

Research and plans for 2011:

- Design and construction planning of wet ash storage area for Petroter plant and VKG Energia OÜ.
- Research of outdoor air in the industrial territory of VKG Kohtla-Järve, which will be the basis of a relevant model.
- Updated projects for emissions at VKG Oil AS and VKG Energia OÜ.
- Construction planning for a second Petroter plant.
- Assessment of the environmental impact for a second Petroter plant.

Projects aiming to minimize industrial impact:

- Arrangement and closing of the old wet ash storage area to protect water, air and ground against industrial impact.
- Realization of a project of cleaning and discharge of industrial wastewater.
- Reconstruction of the oil tank park in order to minimize emissions into the atmosphere.
- In the field of labour safety the plans are to give prominence to strengthening of cooperation between administration and labour safety councils, in order to continuously improve labour conditions of workers.

The most decisive things for VKG are 2011 determinations of CO₂-related regulations by the European Commission for the years 2013-2020.

The decision of the European Commission to implement a special status of CO₂ emissions for Estonian Oil Shale Industry will directly impact the future of traditional Estonian industry. If the Commission will decide in favour of a 100%-payable quota for oil shale industry in the next marketing period, a danger will arise that high level of environmental taxes won't enable enterprises to profitably operate.

VKG is the protector of Estonian oil shale industry interests within the European Union. Our goal is to achieve preferential terms for traditional Estonian industry and to determine oil shale industry as a special production kind within the EU.



Social Responsibility

VKG policy of social responsibility and sustainable development was started in 2009. Its objective is to **realize, assess and manage general impact of the concern on economy, social life and environment.**



vastutustundlik
ettevõtte 2010

The company impacts through its activity both Ida-Virumaa and the Estonian state. VKG realizes this impact and is ready to bear any responsibility to community for decisions made.

The conception of social responsibility and sustainable development is the basis of VKG's everyday work and frames of decision-making. VKG is governed in any its activity by international principles of a socially responsible enterprise. VKG promotes expansion of these principles in both local and national level and **assumes that it cannot act alone.**

VKG principles of social responsibility and sustainable development have been implemented into the process of the enterprise administration at the level of its top management. **Since 2011 new principles are starting to be presented to medium-level managers and workers.**

The evident target group for VKG in its sponsoring and supporting activity is Ida-Virumaa region and local residents and workers.





Spheres of action for VKG policy of social responsibility and sustainable development

- **Environmental care**
- **Civil reporting** (publishing of data concerning social, economic and environmental impact in accordance with the Global Reporting Initiative, the tightest reporting standard worldwide).
- **Socially responsible production organization** both at the enterprise itself (creation of safe work conditions, employees' motivation, additional benefits, extra payments, ongoing dialogue between employees and employers) and among its workers (one-for-all principle).
- **Adopted at the enterprise Public Relation standards**, which prohibit giving wrong or incorrect data.
- Implement at the enterprise of **Social Responsibility principles approved by international organizations** (GRI, UNO global agreement).
- **Special attention to regional development and local residents** (principally via sponsorship and voluntary work).

Principles of VKG socially responsible behaviour

- VKG determines and examines its industry's environmental impact, eliminates or minimizes it, if possible. VKG effects a non-stop environmental impact monitoring.
- VKG develops resources- and environment-saving technologies and implements them in its production.
- VKG effects regular reporting about its operation to general public.
- VKG communicates with mass media and general public without withholding information and gives them only right and accurate data.
- VKG guarantees to its employees a safe and comfortable operating environment.
- VKG has implemented systems to motivate and develop its employees.
- VKG supports the trade union in its work, offers extra benefits to its workers and keeps a permanent dialogue between administration and employees.
- At VKG everybody bears responsibility for its operation; everything depends on everybody.
- VKG operates based on social responsibility principles which are internationally adopted.
- VKG puts the biggest attention to the regional development, keeping closely in touch with local administrative officers and residents.
- VKG supports important regional projects, being specially concentrated on cultural and sport events.
- VKG is a reliable partner to national and local authorities and to its commercial partners.
- VKG promotes expansion of social responsibility principles and assumes that it cannot act alone.





VKG for the good of the society

- In 2010 the concern paid its main attention to the **development of local sport and culture life**.
- The main recipient of VKG's sponsor support was **Jõhvi Concert Hall**, which received that year allowances in amount of over 300 000 kroons.
- Thanks to these allowances, the events held in the Concert Hall could (and still can in 2011) be assisted by **children from children`s homes and poor families, retired people and other people of lower financial means**. Support is also given to local cultural events and people.
- Since 2005 VKG has been the general sponsor of **the Wrestling Federation of Estonia**. In the frame of sponsor support it was organized a trip of Heiki Nabi, world master in Greco-Roman wrestling, to China.
- In 2010 the long-tradition **Ice Hockey Club of Kohtla-Järve, Viru Sputnik**, participated in a lap of World Cup in Holland where it got the 2nd place within its group. It was the first time an Estonian team made so remarkable achievement. The club became Estonian master in 2010, as well.
- In cooperation with Ida-Viru Sports Association, VKG supported the major part of local sport events held in Kohtla-Järve, **promoting in such a way a sporting way of life of local residents**.

VKG for the good of education

In the academic year 2005/2006 VKG founded its nominal grant in Technical University of Tallinn. In 2008 the enterprise was entitled by **TTU as its „Golden Sponsor“**. Yearly two grants are distributed to successful students of the Technical University of Tallinn from the faculty of chemistry and material technology, future specialists in chemistry and environment protection.

Since the academic year 2005/2006, VKG has begun its cooperation with **Virumaa Colledge of Tallinn Technical University** (the colledge is located in Kohtla-Järve). Students specializing in production engineering, industrial enterprise, automation systems and fuel technology can apply for the VKG one-year grant. Within the years 2005 – 2010 VKG spent for grants abt. 20 000 euros (over 300 000 kroons). The programme will be continued throughout the year 2011.

Since 2006 VKG, in cooperation with other regional big industries, takes part in the distribution of **the doctoral grant named after Paul Kogerman at TTU**. Paul Kogerman was one of the most brilliant managers and developers of the First Estonian Industry.

In October, 2010 Jõhvi Concert Hall, AS Viru Keemia Grupp, Jõhvi District Administration and film production house Tallinnfilm founded in cooperation a **Young Filmmakers Grant in remembrance of KALJO KIISK**. Grant founders desire keeping the memory of this film producer and actor who was born in Ida-Virumaa. Liis Nimik, young filmmaker, became the first grant holder with her film „Helen`s School of Life“ from the series „Estonian Stories“. The distribution of the grant will continue in coming years.

Four years in a row VKG participates in the project „Land of Oil Shale“ organized by the association „School Tourism“ and Tallinn Technical University. In the frames thereof thousands of capital city schoolchildren visit the enterprise`s territory.

Since December, 2010 VKG has started cooperation with **the project of the contest in natural sciences between best five Estonian schools**. The concern plans involving since 2011 into this project Kohtla-Järve schools which are good in natural sciences.





VKG for the good of its employees

- Employees of VKG and neighbour enterprises are united by **the Trade Union of Chemical Workers** which defends employees` collective interests.
- **A collective agreement** between VKG employees and its administration is signed each two years. It guarantees large extra advantages to all the concern`s employees (including those non-belonging to the Trade Union).
- In cooperation with the Trade Union and mediators VKG supports **traditions of an industrial town** and organizes traditional events within the concern intended for the children of concern`s employees, town veterans, future first-year pupils and other local residents.
- The biggest attention is paid in the concern to **health care and labour safety**. At almost all VKG daughter enterprises the labour safety standard OHSAS 18001 has been implemented. Yearly risk factors are analyzed and large-scaled measures are taken to improve labour safety. There is a medical station operating in the territory of the enterprise.
- The concern`s average salary (850 euros in 2010) **does significantly exceed both Estonian and local averages** (as per data of Estonian Department of Statistics, 2010 average salary in Ida-Virumaa was 619 euros).
- When employing personal, **VKG supports gender, national and age equality**. In accordance with a research made at the enterprise in 2009, the share of female employees at VKG exceeds significantly both local and national averages (see the Report on Sustainable Development of VKG, 2008-2009, page 23). The enterprise employees people of over 20 nationalities. The youngest employee is 19, the oldest one – 72 years old.
- The enterprise is being managed **in close cooperation with VKG employees**. The top management of the concern does regularly meet both mediators from the trade union and employees and takes part in the work of the Trade Union.

The following organizations and events were sponsored in 2010 by VKG:

- Maidla District Days organized by Maidla District Administration
- The festival of the River Purtse Purtsest
- The Sports Association of Ida-Virumaa
- Järve Russian Gymnasium of Kohtla-Järve Town;
- Kohtla-Järve Children`s Home
- Groups of children with special needs at the nursery school Aljonuška
- Ida-Virumaa national dances collective Gevi
- Kohtla-Järve Veterans Association
- Museum of Aviation
- Local judo club for children Afina
- Days of Mäetaguse Mainor
- Local exposition of aerial photos “Lost Land of Oil Shales”
- Kohtla-Järve Recreation Centre





Mining of Oil Shale

VKG covers the whole production chain, starting with the mining up to the marketing of the most sophisticated chemicals. VKG Kaevandused OÜ is responsible for oil shale mining within the company. The total amount of oil shale actually required for VKG's production is being supplied by Eesti Energia Kaevanduste. The cooperation is based on a supplies contract valid until January 1st, 2012, and then Eesti Energia Kaevanduste will start progressive reduction of supplied amount, and the major part of raw material should come from Ojamaa mine. Since April 1st, 2013 the total required oil shale amount is to be supplied for VKG production solely from Ojamaa mine.

VKG holds a mining permit for both Ojamaa mine in Mäetaguse district and located close to it Sompa mining field. This last one can be driven from Ojamaa mine. Now driving and construction works are ongoing in the mine. The project preparation started in 2007, and its construction in 2009. The mine is reaching its full capacity in 2012.

VKG is also interested in oil shale deposits abroad – the concern holds a permit for exploring and mining ca. 350 million tons of oil shale in the Boltyski deposit in Ukraine. Also, VKG examined the characteristics of oil shale in Alexinace deposit in Serbia, and we found the results quite satisfactory for us. We plan to restart cooperation with Serbian state after economical stabilization. Enterprise's long-term strategical objectives include creation of one more modern oil shale mining and processing complex beyond Estonia.

- In Estonia VKG holds **a mining permit for 75 mln tons oil shale** (Ojamaa and Sompa mines) which cover VKG requirements for next 20 years.
- Ojamaa mine has **reserves amounting to 60 mln tons**, and its oil shale does perfectly fit VKG` s requirements.
- VKG got a mining permit for Ojamaa mine in 2004, and preparative works for construction started in 2007. Now there are driving and construction works ongoing in the mine. Ojamaa is starting its operation in 2012 and the same year is reaching its full capacity with **a yearly output of 2,5 mln tons oil shale**.
- The total amount of investments into Ojamaa mine makes **90 mln euros**. The main project investors are a consortium of the biggest Scandinavian banks: **Nordea, SEB** and **Pohjola**.
- During 2010 Ojamaa produced about **70 000 tons fine oil shale** for VKG Petroter plant.
- At the end of 2010 the construction of **a unique over 12-km-long conveyor** started in Estonia, in 2012 this conveyor will connect VKG production complex and Ojamaa mine.
- The major VKG partners in the construction project of Ojamaa mine are biggest European mechanical engineering concerns **ThyssenKrupp Fördertechnik GmbH** and **FLSmidth**.

Social Responsibility



- During the time of the mine`s construction **a constant dialogue** will be held with local residents and local administration.
- The new mine will create in the region **400 new well-paid jobs**.
- VKG is **one of the biggest sports supporters** of Mäetaguse district and promoters of a healthy lifestyle.
- When mining oil shale, a chamber mining technology is started to being used. This technology approved itself in Estonia. It enables to avoid taking up the ground. In Ojamaa mine there is **a modern and effective mining equipment** in use.





Processing of Oil Shale

Oil shale mined at Eesti Energia Kaevanduste and open-cast mines is transported by railway cars to VKG industry in Kohtla-Järve where it comes to oil plants of VKG Oil AS. VKG Oil AS is the biggest concern's subsidiary, which main activity is production of shale oil and chemicals.

VKG Oil succeeds in getting about 80 % of oil shale energy potential as shale oil and shale gas. It is a very good index for industrial equipment. Equipment operated based on Kiviter technology produces from one ton oil shale abt 170 liters raw oil and abt 500 m³ shale gas with calorific value 800-900 kcal. Petroter plant, which raw material is fine oil shale with lower calorific value, produces from one ton oil shale 120 liters raw oil and 500 m³ gas with calorific value 8000-10000. Final products are various oils – fuels, additives to nmarine fuels, oil coke for electrode industry, oil shale bitumen for road dressing and pitch for metal industry.

Shale oil produced at VKG Oil is used in all Baltic seaports, due to its good characteristics it is a required product in all ships navigating in severe conditions of the Arctic Ocean and the Baltic Sea.

- In 2010 VKG Oil AS processed abt **2,0 mln tons oil shale** and produced hereof **270 000 tons oil** and abt **20 tons fine chemicals**.
- 2010 investments amount was **over 8,3 mln euros**.
- VKG Oil AS`s major partners are worldwide known enterprises.
- The enterprise applies two methods for oil shale processing – Kiviter where lump shale is used, operation basis for four oil shale processing fabrics built within 1940-1990, and Petroter where fine shale is used – **an environment-friendly oil shale processing technology**, which was updated by enterprise`s engineers.
- Petroter plant opened in December 2009 reached its full capacity within less than one year period since its start. In 2010 the new plant processed **260 000 tons oil shale**.
- In 2011 the enterprise is starting designing and **construction of a second Petroter plant**.
- The enterprise operates successfully in the Baltic market where **over 20% of its production** is sold.

Social Responsibility



- Main advantages of Petroter technology being developed by VKG Oil AS are its **reduced environmental impact and possibility of fine shale use**.
- VKG Oil with its over 600 employees is **one of the biggest regional employers**, and the average salary of its employees does exceed both regional and national averages.
- VKG Oil is one of the **keenest supporters of national, gender and age equality in Estonian industry**.
- Extra obligations the enterprise has undertaken to its employees (extra payment for evening and night work) **exceed a few millions kroons per year**.
- The enterprise`s management is made **in close cooperation with its employees**.
- VKG Oil is a **big supporter of local professional education** distributing yearly several nominal grants to best students of Tallinn Technical University and Viru College of TTU.
- In 2009 VKG Oil AS won the title of **the best Estonian enterprise**.



Oil Shale Chemistry

Besides energy carriers shale oil and shale gas, VKG Oil also produces oil shale chemicals. One of the most valuable part of Estonian oil shale are high-reactive fine chemicals – alkylresorcinols, which are widely used in perfumery, pharmacy, cosmetics, machine and tyre industries and many other industrial fields. VKG Oil produces fine chemicals of high purity (over 99%) in ten and even hundred tons (2-methylresorcinol, 5-methylresorcinol). The plans for future are to increase these capacities even more – in 2010 designing of a new production unit for fine chemicals was finalized, and its construction is planned to be started in 2011.

Alongside with expansion of production capacity, the enterprise makes a successful development work for production of other phenol compounds. In 2010 an opportunity presented itself, to separate from local oil shale 2,4-dimethyl resorcinol which is used in production of UV-filters, as well as 2,5-dimethyl resorcinol. Our development activity is planned to be continued into 2011, in order to find solution for industrial-scale production of new compounds.

The other wide application field of oil shale chemicals are adhesives, resins, chemical products for construction. VKG Oil plants in Kohtla-Järve and Kiviõli fabricate industrial resins to be used in both Estonia and beyond at wood chipboard and veneer plants, as well as by furniture fabricants. At present the enterprise produces UF-, PF-, SF-resins. Their production output reaches thousands tons per year. An additional production capacity started in 2007 enables marketing of phenol-formaldehyde resins for veneer production in Latvia, Finland, Russia and other countries. The products of the enterprise are used in exacting Japanese market, in India and China. VKG Oil uses oil shale as raw material for its chemical industry, and this fact renders VKG Oil a unique oil shale processing plant worldwide.



- In 2010 the enterprise processed **abt. 20 000 kg fine chemicals and over one thousand tons construction chemicals.**
- The price of a fine chemical with over 99% purity can exceed **800 USD.**
- **Alkylresorcinols can only be found in Estonian oil shale**, their separation method is a protected invention of VKG Oil engineers.
- Fine chemicals produced at VKG Oil are used in **Lexus`s models.**
- In 2011 the construction of a new fine chemicals production complex is starting. It will **ex-tent the enterprise`s capacity by 50%** and let to produce two times wider chemicals scale.

Social Responsibility



- VKG supports through its nominal grants active studies and enables practical works to a large number of local students. **In 2010 the enterprise took for practice over 80 students** from the local college, Mainor University and Narva Centre for Professional Education. Trainees are paid a competitive salary for their job well done.
- VKG employees are supported along with legally required salary by **extra benefits stated in the collective agreement** made between the administration and the employees.
- One of big investments of 2010 was **land improvement of the territory of the Chemical Unit.**



A photograph of an industrial facility, likely a power plant or refinery, featuring a complex network of silver metal pipes and structures. The ground is covered in snow, suggesting a cold climate. The sky is overcast and grey.

Oil Shale Power Generation

Shale oil supplies with energy boilers and machines of VKG`s clients, and shale gas creates values inside the concern. The whole amount of shale gas produced at VKG Oil AS is used by VKG Energia, the concern`s energy producer, for both energy and heat production. VKG Energia possesses two electric power stations with total thermic capacity 700 MW. Electrical production capacity of the enterprise is 47 MW, since February it will reach 80 MW (a new turbine being started). The building of a new turbine with the capacity over 30 MW will let a more efficient co-production of heat and electricity.

VKG Energia OÜ covers with its produced heat full heat demand of VKG concern and its neighbour industries. There is also enough heat capacity to cover demands of residents of Järve municipal district of Kohtla-Järve town. In December, 2010 the enterprise bought 60% shares of Kohtla-Järve Soojus AS and ensured herewith a market in Ahtme and Jõhvi for its heat produced from shale gas. The heating main project by VKG Energia OÜ, which aims supplying other Ida-Virumaa towns with heat produced from shale gas, started in 2006 when the enterprise acquired 40% stockholder capital of Kohtla-Järve Soojus AS.

The heating main project was finalized in mid-2010. The expected value of this heating main is 265 mln kroons. The construction will start in 2011, and the main will be taken into exploitation on January 1st, 2013.

- In 2010 VKG Energia produced **abt. 400 GWh thermal power and abt/ 150 GWh electric power.**
- The heat power stations belonging to VKG Energia OÜ can **operate on oil shale, shale gas or generator gas.**
- In 2010 VKG Energia OÜ took the **whole amount of generator gas with high calorific value produced at Petroter plant.**
- Investments into power stations made during last years have turned the enterprise into **high-potential energy producer and distributor.**
- VKG Energia OÜ is the **second biggest enterprise in Estonia** producing and distributing energy.
- The amount of the enterprise`s investments into environment and development was **over 5 mln euros** in 2010.
- **The produced power is being used as steam by all neighbouring industrial enterprises:** subsidiaries of Viru Keemia Grupp, producer of mineral fertilizers Nitrofert AS and producer of benzoic acid Genovique Specialities AS.
- Yearly steam consumption is **over 380 GWh.**
- The heat from heating water is used by residents of Kohtla-Järve town and Kohtla district through the long-distance heating pipeline in amount of **abt. 100 GWh per year.**

Social Responsibility



- Despite the 265 mln kroons investment into the long-distance heating pipeline Kohtla-Järve – Ahtme VKG believes that the heat price could be kept in Ahtme-Jõhvi region at almost the same level as in Järve municipal district.
- When designing the main it was also considered the recommendation of Kohtla-Järve town to organize cheap heat supplies to small villages, which will get in the future three times cheaper heat thanks to this new VKG initiative.
- VKG Energia is the first Estonian enterprise where a sulphur recovery system has started its operation. The unit cost abt. 10 mln euros. The next sulphur recovery system is planned to be built in 2014.
- Works are ongoing to fix a part of sulphur compounds of generator gas by a co-firing of generator gas and oil shale already in the boiler and minimize therewith emissions into the atmosphere.
- The operation start of the new turbine will help to use more economically the valuable CO2 quote, as emissions into the atmosphere will be minimized alongside with a bigger electric power production.





Distribution of Electric Power

VKG Elektrivõrgud OÜ is the second biggest Estonian power distribution enterprise after Eesti Energia Jaotusvõrk.

The service area of the enterprise include towns of Narva, Narva-Jõesuu, Sillamäe, Vaivara district and Viivikonna municipal area of Kohtla-Järve. The main activities of VKG Elektrivõrgud OÜ are realization of electric power transportation and distribution services and operative control of electrical systems services. Also, the services of electric equipment design, construction, repair, use, control and maintenance are being rendered.

The region with abt. 100 000 residents is supplied with energy through lines of VKG Elektrivõrgud, 430 km thereof are high- and middle-voltage lines, and 380 km are low-voltage lines. Each year VKG Elektrivõrgud invests large sums of money into maintenance of lines, substations and other equipment, and it minimizes significantly energy losses and improves the network reliability. In addition to already serviced consumers new ones come each year, and this fact stabilizes the operation of VKG Elektrivõrgud even more. Along with covering needs of private consumers and small enterprises VKG Elektrivõrgud plays an important role of electric energy supplier to big industrial enterprises located in Narva and Sillamäe.

- VKG Elektrivõrgud OÜ is **the best Estonian enterprise in minimizing electric power losses and network breakdowns**.
- The enterprise has implemented **ISO 9001 standard of quality management**.
- Each year the enterprise spends **millions euros for increase of electric network reliability and network optimization**.
- At VKG Elektrivõrgud employees are constantly trained in the area of safety, **the plans are to implement Occupational Health & Safety Assessment Series OHSAS system**.
- Even now over **one third of electric power meters of the enterprise are remote sensing** (so clients do not have to inform about their consumption figures), the plans are to make all the system remote-sensing by 2016.
- VKG Elektrivõrgud OÜ is an enterprise with a relatively low environmental danger comparing to production industry, but the enterprise still does assess its environmental risks. Processes related to environmental danger are only performed by trained specialists.
- The enterprise System Average Interruption Frequency Index **SAIFI has the best showings in Estonia** (in 2010 – 0.6, in 2009 – 0.1; in 2010 heavy weather circumstances which made the ground move affected the figures).

Social Responsibility



- The employees of the enterprise belong to a strong trade union, and there is a **collective agreement made between administration and employees** which gives additional benefits to the company's employees.
- The company has implemented a **result-reporting system**, and a system of extra payments to employees is based hereon.
- VKG Elektrivõrgud OÜ sponsoring policy is concentrated on support of local sport and culture events. Within the year the enterprise supported the following events/organizations: Ida-Viru Entrepreneurs Centre, Ida-Virumaa Tourism Resource centre, Narva Children's Activity Centre, Paemurru Sports Club Narvic MTÜ, Sports Club Viktoria, Sports School Energia, Technical Sports Association Energia MTÜ, Narva Union of Families with Special Needs ProSpero MTÜ, Department of Town Real Estate and Economics of Narva Municipality, Estonian Orthodox Church of Moscow Patriarchate, Ida-Virumaa Union of Large Families "Large Family".



VKG Infrastructure Enterprises

All previous company production fields are directly connected with production of goods and services, but the following pages introduce you our subsidiaries which activity is to propose their services to other production companies both belonging to the concern and beyond

VKG Transport AS

VKG Transport AS is one of the biggest Estonian transport enterprises which renders logistic services in international road and railway transport.

Enterprise`s main activities are:

- rent of railway tank cars, cement railcars and gondola cars
- international and domestic carriage of goods by railway and car transport
- expedition services
- transport of hazardous substances by tank trucks (ADR transport);
- services of special road machinery
- railway maintenance and repair services.

Our rail car stock includes about 1500 tank and gondola cars. The tanks are intended for light and dark oil products, petrochemical products and chemicals. The most part of enterprise`s railway tanks transport goods in the territory of the Russian Federation.

VKG Transport AS possesses along with railway cars also various tank cars to carry chemicals, which are transporting goods on all European roads. All the cars conform to ADR standard for transport of dangerous goods, and all the drivers were trained accordingly.

The enterprise holds relevant licenses and operation permits for these operations. Environment, quality control, labour safety and health control system ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999.

Facts

- VKG Transport AS has operated since 1999.
- Over 130 people employed.
- 2010 turnover was 14,1 mln euros, profit – 4,1 mln euros.
- Appr. 30% of turnover are services inside the concern mainly connected with oil shale processing.
- Thanks to big attention paid to labour safety no accident has taken place during last years.
- The amount of investments made in 2009 and 2010 exceeded 9 mln kroons, the investments forecast for 2011 is 0,6 mln euros.
- The employees of VKG Transport AS belong to a strong trade union, and there is a collective agreement made between administration and employees which gives additional benefits to the company`s employees.
- Together with other concern subsidiaries VKG Transport AS supports traditions of Kohtla-Järve, an industrial town. In addition, the enterprise pays much attention to improvement of inner climate of the organization and to employees` motivation through corporative events.

Facts

- Viru RMT OÜ 2010 turnover was over 7.7 mln euros.
- In 2010 the enterprise employed abt. 300 people.
- In 2008-2009 Viru RMT OÜ was one of four main contractors for Petroter plant whose duty was design and construction of automation and oil shale feeding system of the plant.
- The clients of the enterprise are: Viru Keemia Grupp AS, Nitrofert AS, Velsicol Eesti AS and other companies inside the concern and beyond.
- Since mid-2009 Viru RMT has been involved into the construction of Ojamaa mine.
- In 2010 Viru RMT built slope shafts, fabricated and installed the main underground conveyor.
- The enterprise holds ISO 9001:2000 (TÜV) and OHSAS 18001 certificates.
- In 2011 the enterprise starts installation works of Ojamaa 12-km-long overland conveyor.
- Viru RMT is one of a few Estonian enterprises offering lifting machines and self-propelled cranes with 140-ton-lifting force and lifting height up to 80 meters.

Viru RMT OÜ

The foregoer of Viru RMT OÜ was a repair and assembly department of the former chemical plant, and it has a large experience in providing repair and mounting services.

The enterprise's activities include:

- repair and servicing of processing units
- fabrication, repair and installation of metal constructions
- production of metal details
- providing of assembly services
- automation systems maintenance and development both at VKG concern and beyond

Since 2003 Viru RMT OÜ has built water and sewerage networks, designed automation systems, made maintenance and worked out software. In 2006 the enterprise started insulation works, painting industrial equipment, testing and repairing gas cutting instruments.

In 2007 it started rendering the service of machines painting. The company is constantly developing production of industrial vessels, metal constructions and metal devices.

VKG Elektriehitus AS

VKG Elektriehitus AS is a VKG concern enterprise acting in the field of industrial energy generation and electric construction.

VKG Elektriehitus AS grew out of the department of electric construction of Narva Elektrivõrgud AS which still is its major client. Despite the fact that a significant part of VKG Elektriehitus turnover is provided by Ida-Viru region where the enterprise has to maintain the East Estonian electric networks (from Narva to Sillamäe and Vaivara district), strategic interests of the company are targeted beyond Ida-Virumaa.

The enterprise owns three production facilities over Estonia (in Narva, Kohtla-Järve and Tallinn) and aims to install within the nearest future its production team in South Estonia where some services are already being rendered. Along with servicing of enterprises beyond the concern, the company plays an important part in big VKG project. Since 2009 VKG Elektriehitus AS has made all electrical construction and underground and overland works in connection with Ojamaa mine. The biggest objective of 2010 was the construction of a new VKG Energia OÜ over 30 MW turbine, which should be finalized by the first quarter of 2011, and which is one of the biggest 2010 industrial power projects (the new turbine will help to organize co-production of heat and electric power at electric power stations of VKG Energia much more effectively).

Facts

- The major clients are Eesti Energia Distribution Network, Port of Sillamäe, national institutions and local self-administrations, as well as municipalities (including North, South and Central Estonia).
- The partners of the company are: ABB AS, Harju Elekter Grupp, OÜ Elektroscandia Baltics, SLO Eesti AS, Tameo MT OÜ, Esvika Elekter AS and AS Gaur.
- In 2010 the enterprise supplied with energy the electric system of slope shaft of Ojamaa mine, including the underground conveyor.
- The enterprise turnover was over 2,3 mln euros in 2010.
- In 2008 the enterprise was awarded as the best Narva employer for the fastest salary increase among the town enterprises.
- A strong trade union is acting at the enterprise, there is a collective agreement made between administration and employees, enabling extra advantages to the enterprise's employees.
- VKG Elektriehitus is since 2002 a member of the Union of Estonian Entrepreneurs for Electrical Works (EETEL).
- The enterprise holds the quality certificate ISO 9001.

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