



**SOCIAL RESPONSIBILITY AND SUSTAINABLE DEVELOPMENT REPORT  
2010**





# Principles of VKG's Socially Responsible Behavior

- VKG assesses and studies industrial impact on environment, minimizes or eliminates it if possible. VKG effects continuous monitoring of environmental impact.
- VKG develops environmental-friendly and resources-saving technologies and implements them into operation.
- VKG gives regularly account to general public of its activity.
- VKG communicates with mass media and general public without hiding any information and giving just accurate and faithful data about itself.
- VKG guarantees to its employees comfortable and safe operating environment.
- There are systems of motivating and developing of employees implemented at VKG.
- VKG supports the Trade Union in its activity, offers extra-advantages to its employees and constantly communicates with its employees.
- VKG bears responsibility for its activity: everything depends on everyone.
- VKG operates on basis of internationally recognized principles of social responsibility.
- VKG pays most attention to the development of the region having close links with authorities and local residents.
- VKG supports important regional project, main target is cultural and sport events.
- VKG is a reliable partner for national and local authorities and its commercial partners.
- VKG promotes expansion of principles of social responsibility and assumes that it cannot operate alone.





# Introduction

## Presentation of the Sustainable Development Report

The present Sustainable Development Report is published for the second time and updates the first Social Responsibility and Sustainable Development Report published by VKG in 2010 with the 2010 data.

The present report reflects the VKG development in 2010, provides comparison of the annual results with those of previous years and gives a weighted forecast for the years 2011-2012. The given version presents first of all data related to the enterprise and less important are chapters analyzing the scopes of application of the enterprise.

Viru Keemia Grupp intends with the present report to present and promote the concept of a sustainable development in Ida-Viru County and in Estonia in whole, pursuing the following aims:

- **Making the organization`s activity more transparent**
- **Creation of confidence among people interested in the enterprise`s operation, local residents and VKG employees**

## Structure and Method of the Report

The basis of the 2010 report on sustainable development are the guide materials of **Global Reporting Initiative** – GRI. GRI is an organization promoting voluntary reporting, which consolidates enterprises all over the world paying high tribute to sustainable development. The organization is considered to be the founder of the conception of sustainable development, and advisable instructions have been worked out. More details about the organization and instructions at: [www.globalreporting.org](http://www.globalreporting.org).

An additional basis for making this report was the guidance material „Oil and Gas Industry Guidance on Voluntary Sustainability Reporting“, worked out by the **International Petroleum Industry Environmental Conservation Association** (IPIECA) in cooperation with the **American Petroleum Institute** (API).

When drawing up the report, ISO and OHSAS certification materials of the enterprise have been used. Data of environmental and labour safety conform to requirements fixed for certificates.

All questions related to documents can be asked from the PR manager of Viru Keemia Grupp Julia Aleksandrova ([julia.aleksandrova@vkg.ee](mailto:julia.aleksandrova@vkg.ee)).

## Target Groups

The report on sustainable development 2010 by Viru Keemia Grupp is a public document available both on paper and electronically on the concern`s webpage in Estonian, English and Russian languages. Our first desire is to present our enterprise more in details:

- **to strategic investors to enable them making informed investment decisions;**
- **to introduce to residents of the Ida-Viru County the regional development throughout last years and prospects for future;**
- **to clarify more closely to the employees of Viru Keemia Grupp modifications made in organization and activities.**

## Restrictions Related to the Report

Drawing up a sustainable development report is voluntary to organizations. Data reflected in the report have not been additionally checked by independent parties, excluding the cases stated in the law.

The 2010 economic survey and the 2011 forecasts have been prepared by Viru Keemia Grupp and were not subject to an audit. So, the 2010 data can differ a bit from the statement confirmed and reflected in the financial annual report.

When reflecting data in the report, the enterprise relies upon the transparency principle and good commercial practice.



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# Address of the Chairman of the Board

No matter how strong trend would become Corporate Social Responsibility among enterprises in coming years, we can already notice its positive effect on commercial activity.

Within a few last years enterprises worldwide have passed to 100% independent and predictable firm basis for philanthropy- and charity-friendly society-oriented business, i. e. from the principle of damage recovery to the non-damage principle. In accordance with the general message of CSR, our task is a successive work based on extensive analysis of VKG impact and its responsible execution.

Implemented CSR principles are to improve image of private enterprises including VKG and to contribute creation of confidence among an enterprise and its target groups. So we have to deal with an absolutely useful initiative, and its social importance is highly appreciated as well.

**Priit Rohumaa**

VKG Chairman of the Board

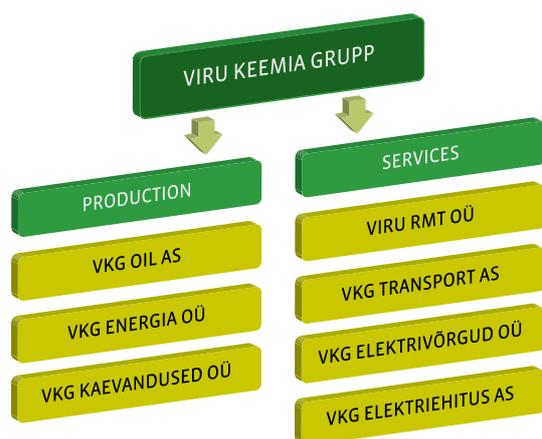




# Company description

Viru Keemia Grupp AS (VKG) is the biggest national enterprise in oil shale processing based on private capital. Main activities of the concern are productions of shale oil, heating and electrical energy. The concern`s main activity supporting production and servicing are divided among particular daughter companies whose shares and stocks belong 100% to the mother company.

Activity fields of daughter companies belonging to VKG concern →



## VKG OIL AS

Production of shale oil and fine chemicals

## VKG ENERGIA OÜ

Production of heating and electric power

## VKG KAEVANDUSED OÜ

Oil shale mining to supply the concern with raw material

## VKG SOOJUS AS

Production of heating energy (until 1.01.2013), distribution and sales (The enterprise has belonged to the concern since 8 March 2011, before May 2011 had the name of Kohtla-Järve Soojus AS)

## VKG ELEKTRIVÕRGUD OÜ

Distribution and sales of electrical power

## VKG TRANSPORT AS

Logistic services of road and railroad transport

## VIRU RMT OÜ

Repair and assembly services

## VKG ELEKTRIEHITUS AS

Energy production and electrical construction services

## SILBET PLOKK PANKROTIVARA

Production of building material (belongs to the concern since 8 April 2011)

## VKG mission

Valorization of the most important Estonian natural resource

## VKG vision

Be a leader worldwide in production of oil shale products and in reaching full potential of oil shale.

## VKG business philosophy

The business philosophy of Viru Keemia Grupp includes full discovery of mineral and organic potentials of the most valuable Estonian mineral resource and covering of the whole production chain of oil shale industry, starting with the mining of oil shale up to the marketing of the most sophisticated chemicals in the name of development of traditional Estonian industrial branch and Ida-Viru industrial region in whole.

# VKG management

## Management of the mother company

The Board of Viru Keemia Grupp AS consists of six members: **Chairman of the Board, Vice Chairman of the Board, Financial Director, R&D Director, Technical Director, VKG Kaevandused OÜ Member of the Board and VKG Oil AS Member of the Board.**

Four Members of the Board – Priit Rohumaa, Ahti Puur, Jaanus Purga and Meelis Eldermann – manage the concern`s operation in whole and belong to Councils of daughter companies. Two Members of the Board – Margus Kottise and Nikolai Petrovitš – are directors of two most strategically important concern`s enterprises.

The Board`s task is to manage a day-to-day economic activity of the company and its representation. The enterprise can be represented in legal transactions by two members of the board jointly, whereby one of them has to be the President or Vice president of the Board.



**PRIIT ROHUMAA**  
Chairman of the Board



**AHTI PUUR**  
Vice Chairman of the Board,  
Finance Director



**JAANUS PURGA**  
R&D Director



**MEELIS ELDERMANN**  
Technical Director



**MARGUS KOTTISE**  
VKG Kaevandused OÜ  
Member of the Board



**NIKOLAI PETROVIŠ**  
VKG Oil AS  
Member of the Board

## Control over the Board's activity

The control over the activity of the Board is effected by the Council consisting of three members. The Council meets once a month on last Wednesday of the month. Urgent questions demanding an approval of the Council are solved constructively by phone or electronic post.

In accordance with the law On Auditing Activities the VKG concern is considered to be a unit of the public interest and is to have a constituted auditing committee. The members of VKG auditing committee are Ants Laos (President of the committee), Priit Piilmann, Margus Kangro and Elar Sarapuu. According to the main act, the auditing committee is a consulting unit to the Council of Viru Keemia Grupp AS in the fields of accounting, audit control, risk management, internal control and audit, supervision and budgeting, as well as legality of activity. Meetings of the auditing committee are to be held at least twice a year.

The people involved in the Board and the Council of the Concern's mother and daughter companies are listed in the table →

COMMERCIAL NAME	MEMBER OF THE BOARD	MEMBERS OF THE COUNCIL
Viru Keemia Grupp AS	Priit Rohumaa (Chairman) Ahti Puur Jaanus Purga Nikolai Petrovitš Meelis Eldermann Margus Kottise	Toomas Tamme (Chairman) Jens Haug Jaan Uustalu
VKG Oil AS	Nikolai Petrovitš	Priit Rohumaa (Chairman) Meelis Eldermann Ahti Puur
VKG Transport AS	Raimond Niinepuu	Priit Rohumaa (Chairman) Meelis Eldermann Ahti Puur
Viru RMT OÜ	Uku-Madis Savisto	Priit Rohumaa (Chairman) Meelis Eldermann Ahti Puur
VKG Kaevandused OÜ	Ahti Puur (Chairman) Margus Kottise Aleksandr Borovkov	Priit Rohumaa (Chairman) Jaanus Purga Meelis Eldermann
VKG Elektrivõrgud OÜ	Marek Tull	Priit Rohumaa (Chairman) Toomas Rätsep Ahti Puur
VKG Energia OÜ	Tarmo Tiits Sergei Kulikov	Priit Rohumaa (Chairman) Meelis Eldermann Ahti Puur
VKG Elektrihitus AS	Andry Pärnpuu	Priit Rohumaa (Chairman) Toomas Rätsep Ahti Puur
VKG Soojus AS	Andres Veske Sergei Kulikov	Priit Rohumaa (Chairman) Meelis Eldermann Ahti Puur



# Economical Activity

## Places of operation of the enterprise

The main office and the production territory of VKG are located in Estonia, town of Kohtla-Järve. The main offices and the production plants of the daughter companies are located in Kohtla-Järve, Narva and Tallinn.

The concern exports almost 90% of its products. VKG production is sold to over 20 different countries. The biggest markets are **Sweden, Finland, Norway, Latvia, Lithuania, Poland, Great Britain, Belarus, Ukraine, the Netherlands, Switzerland, China, India, Malta, France, Spain and Denmark.**



## Breakdown of Sales revenue by Products and Services

VKG consolidated sales return amounted in 2010 to over **125 MLN EUROS** (1,951 bln kroons).

Herebelow sales return is shown split by activity categories and products →

PRODUCTS AND SERVICES (IN THOUSAND EUROS)		
Shale oils	81,818	65%
Heat and electric power and network services	27,822	22%
Rent of railway rolling stock	6,925	6%
Coke and coke products	2,828	2%
Transport services	2,319	2%
Repair, maintenance and assembly of equipment	975	1%
Transport of natural gas and its distribution	817	1%
Phenol products	494	0%
Other products and services, material	1,498	1%

## Characteristics of commercial activity of daughter companies

Showings of VKG daughter companies' turnover and profit in 2010 were as follows →

	TURNOVER, TH EUR	PROFIT, TH EUR
Viru Keemia Grupp AS	7 384	494
VKG Oil AS	92 101	12208
VKG Transport AS	14 098	3 939
VKG Energia OÜ	30 379	3 318
Viru RMT OÜ	8 288	-189
VKG Elektrivõrgud OÜ	13 286	868
VKG Elektriehitus	2604	-244
VKG Kaevandused	0	-877
Kohtla-Järve Soojus AS	7 810	307

Percentage of daughter companies' shares into VKG sales revenue is reflected in the following table →

Viru RMT	0,38%
VKG Elektrivõrgud	10,57%
VKG Elektriehitus	0,44%
VKG Oil	68,12%
VKG Transport	7,42%
VKG Energia	12,83%

# Events, Priorities and Challenges of the Reporting period

## Key Events of 2010 and Ist Quarter of 2011

### 2010

#### In March

started the cooperation between VKG and Jõhvi Concert Hall in order to support local culture. Annual support amount was 20 000 euros.

#### In May

the first VKG Report on Social Responsibility and Sustainable Development was published where the enterprise made public its economic, environmental and productional data and joined the Global Reporting Initiative.

After two-year-break the Chemical Workers` Day took place which organizational costs were paid by the enterprise itself

#### In June

VKG signed a big 3,5 mln kroons contract on consortium loan aiming to cover the enterprise`s short-term development and environmental investments, first of all building of Ojamaa mine, Petroter II plant and VKG projects to produce high-quality motor fuels.

#### In July

VKG Energia OÜ started designing a heat main from Kohtla-Järve production complex. The enterprise plans to supply since 2013 with its own heat the region of Kohtla-Järve and Jõhvi (through the heat distribution network of Kohtla-Järve Soojus AS).

#### In August

the new oil shale processing plant Petroter started its operation at full capacity. The plant was opened in December 2009, its starting-up works lasted over 8 months.

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

Ojamaa mine gave first tons of oil shale to Petroter plant. Oil shale from Ojamaa mine does perfectly suit with the new technology.

#### In September

VKG Kaevandused AS signed construction contracts for oil shale conveyor and crushing and preparation plant with biggest European desing and construction companies Thyssen Krupp Fördertechnik GmbH and LF Smidt.

#### In October

VKG and Eesti Energia exchanged their mining licenses for Usnova and Sompma mines. As the result hereof, VKG got the licence for Sompma, which ca be drifted through Ojamaa mine.

VKG in cooperation with Jõhvi Concert Hall and Jõhvi Parish Administration founded the Kaljo Kiisk grant for young film-makers.

#### In November

it was started the building of a unique over 12,5-km-long conveyor from Ojamaa mine to the production territory of VKG.

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

#### In December

VKG acquired 60% of shares of a local heat production company ASi Kohtla-Järve Soojus and became its sole owner. Since 2013 the enterprise is planning supplying with cheap heat from oil shale processing Kohtla-Järve and Jõhvi regions, including smaller villages.

## 2011

### In January

VKG made public its plans to build Petroter II plant. Construction works are planned to be started in 2012.

### In March

the takeover of Kohtla-Järve Soojus AS was finalized, 100% of the enterprise's shares now belong to VKG Energia OÜ.

### In April

VKG acquired a local company for production of building materials Silbet Plokk OÜ in order to restart its operation stopped during the economic slowdown and to use for this purpose solid waste from oil shale processing as its raw material.

## Priorities for 2011–2015

The concern's priorities for the years 2011–2015 are as follows:

- BUILDING OF OJAMAA MINE AND SETTING UP OF A RELATED INFRASTRUCTURE AND REACHING OF FULL-CAPACITY OPERATION IN 2012
- DEVELOPMENT OF PETROTER TECHNOLOGY, BUILDING OF PETROTER II PLANT
- INCREASE OF ELECTRIC POWER PRODUCTION BY 40% SINCE II QUARTER 2011 (DUE TO THE START OF A NEW TURBINE)

- DEVELOPMENT OF FINE CHEMICALS AND INCREASE OF THEIR OUTPUT CAPACITY
- CONSTRUCTION OF KOHTLA-JÄRVE-AHTME HEATING MAIN AND ITS STARTUP BY JANUARY 1ST 2013
- IMPLEMENTATION OF PRINCIPLES OF SOCIAL RESPONSIBILITY CONCEPT INTO EMPLOYEES' DAY-TO-DAY LIFE
- BUILDING OF A REFINERY PLANT
- OBTAINING OF A MINING LICENCE FOR UUS-KIVIÕLI MINE

## Challenges

**RESTART OF SILBET PLOKK OÜ ACQUIRED IN APRIL 2011.** Transformation of technological processes in order to make it possible to use solid waste from oil shale processing as its raw material. The realization of this objective will enable VKG to reuse yearly several thousands tons of hazardous waste.

**OBTENTION OF A FULL OR PARTIAL MINING LICENSE FOR UUS-KIVIÕLI MINE.** VKG applied a mining license for Uus-Kiviõli field in 2004. To secure further operation after Ojamaa and Sompma mines will be wasted, VKG will need further oil shale. It is planned to be achieved with Uus-Kiviõli mine under opening, an other pretendent hereto is the state-owned energy concern Eesti Energia.

Other VKG's challenges for the nearest future are first of all related to environmental taxation which constitute a direct danger for the future operation of the enterprise:

The most important for VKG is the **DETERMINATION BY THE EUROPEAN COMMISSION OF CO<sub>2</sub> REGULATIONS** for the years 2013–2020. If the commission decides to set a 100% payable quota for oil shale industry for the next commercial period, a big danger will arise that high environmental taxation would obstruct a profitable operation of the enterprise.

A considerable affect on VKG operation is related to **SO<sub>2</sub> RECOVERY**. In accordance with emissions amounts approved by the Estonian Republic, the enterprise has to recover by 2015 99% of sulfur to be emitted into the atmosphere. Now it is not easy to be technically achieved. In coming years the enterprise has got a challenge to considerably increase the percentage of its sulfur recovery (at present over 60% of sulfur are recovered due to a sulfur recovery unit started up in 2008 and at the cost of 150 mln), also a second and even third sulfur recovery units building is under consideration.

# Social responsibility

The VKG policy of social responsibility and sustainable development took its start in 2009 having as objective realizing, valorization and management of general impact of the concern on national economy, social life and environment.

The activity of the concern affects both Ida-Viru County and the Republic of Estonia. VKG is aware of this impact and is ready to bear responsibility to society for its decisions made.

## **VKG has an significant effect on both regional and national economy**

As the result of a research made in the frames of the first VKG report on social responsibility and 2008-2009 sustainable development it became clear that VKG concern and its employees make a contribution of over 4% into the budget of the town of Kohtla-Järve (VKG report on social responsibility and sustainable development 2008-2009, pg. 15).

In 2011 according to a research by AS PricewaterhouseCoopers Advisors (PwC) VKG concern `s total economic impact on the Estonian state made up to 0,9% of gross domestic product in 2010.

The concern `s impact on the national payment base amounts to 29,4 mln euros, which is 0,6% of income from the total amount of national taxes in 2010. With the startup of Ojamaa mine in the beginning of 2012 VKG will employ 1762 people and create appr. 1380 working positions due to consumption of products and services. Taking into consideration the fact that Ida-Viru County is the region with the highest unemployment rate in Estonia (the unemployment rate made in 2010 up to 25,8%), working positions created at the concern have a special importance for the region.

Also, VKG has an important influence on the national export and balance of foreign commerce balance which are 0,9% and 14,6% accordingly. All above mentioned reflects importance of VKG impact on Estonian economy.

VKG is aware of this impact on both Ida-Viru region and Estonian economy and is ready to bear responsibility to society for its decisions made.



vastutustundlik  
ettevõtte 2010



# Main directions of VKG policy of social responsibility and sustainable development

Main priorities of VKG policy for social responsibility are environmental protection, regional support, VKG`s employees and art and sports support, as this last sector is usually less protected from economic difficulties. Below you can find a review of these priority sectors related to social responsibility.

## ENVIRONMENTAL PROTECTION

### INVESTMENTS

Over a number of years environmental protection has been one of the main VKG`s priorities.

During last 4 years the concern`s investments into environmental protection have amounted to over 41,3 mln euros.

Investments breakdown in years (mln euros):

**2007: 14**  
**2008: 19,8**  
**2009: 5,7**  
**2010: 1,8**

General forecast for 2011 investments is 52 mln euros, hereby 40 mln euros are intended to mining.

### MAIN TASKS

The main concern`s environmental tasks are given in the chapter 1.4.3 of the Report which considers dangers related to regulations of CO<sub>2</sub> and SO<sub>2</sub> emissions. Also for the concern are important decrease in H<sub>2</sub>S emissions into the air and all tasks related hereto.

The particularity of shale oil production as an industrial process consists in removal of H<sub>2</sub>S (sulfurated hydrogen) during the processing.

Recovery and removal of chemicals goes with the shale oil production process all through, starting from production up to storage of finished product.

Over a number of years H<sub>2</sub>S emissions at VKG have been the biggest environmental problem. To find out a relevant solution, during these last years big amount of money was invested (building of a filtration unit, repair of bridges, overhead passings and pipelines, reconstruction of tank parks, maintenance of water infrastructure and many others). These investments aimed making the production process airtight and stopping H<sub>2</sub>S leakages. Investments aimed to stop H<sub>2</sub>S leakages have required during the years millions euros.

In the beginning of 2011 after bigger environmental projects have been finalized VKG made a research of H<sub>2</sub>S handling in the territory. Based on the results of this research there was added to the 2011 investments plan the elimination of discovered H<sub>2</sub>S sources, which will be implemented in 2012.

H<sub>2</sub>S emissions into atmosphere have always been a natural part of oil shale processing. But both modern environment protection norms and commercial culture do not allow continuing with a production process which results in emission of prohibited products into atmosphere.

VKG plans to completely stop emissions of H<sub>2</sub>S taking place in its territory by 2013.

### INVOLVEMENT OF EMPLOYEES AND GENERAL PUBLIC INTO THE PROCESS OF DECISION-MAKING RELATED TO ENVIRONMENT

Since April 2011 an Environmental Council has started its work at VKG. Its objective is to inform the Board about the situation with environment protection, notify the top managers about any work in connection with environment and, with the assistance of the Board and specialists, to better coordinate concern`s environmental initiatives. The Environmental Council consists of abt. 20 members, among them the concern`s top managers, directors of the subsidiaries, departments directors and specialists.

Since May VKG has actively started engaging local residents to create its environmental policy. In May 2011 VKG organized several meetings with the most active town residents in order to inform them about the concern`s environmental policy and to learn about residents` advices in connection with VKG`s environmental projects. VKG intends to organize regular meetings with general public four times a year since May 2011.

## VKG REGIONAL SUPPORT

VKG regional support can be split into two large fields: sponsoring and education support

### SPONSORING

In support and sponsoring activities VKG`s evident target group is Ida-Viru region and local employees and residents.



The main recipient of VKG sponsor support has been Jõhvi Concert Hall, which annual support amount exceeded 300 000 kroons. Thanks to this support also in 2011 **events held in the Culture Centre could be assisted by children from the children`s homes and low-income families, retired people and other poor members of society.** Support is also given to local cultural events and artists.



Since 2005 VKG has been the **major sponsor of Estonian Wrestling Federation.** Its sponsor support helped to organize a trip to China of Heiki Nabi, master of sport in Greco-Roman wrestling.



In 2010 Kohtla-Järve **ice hockey club Viru Sputnik** participated thanks to VKG support in a World Cup stage in Holland where it obtained the second place in its group. It was the first time an Estonian team made so a remarkable achievement. The club also became Estonian master 2010.



In cooperation with Ida-Viru Sports Association, VKG supported the major part of local sport events held in Kohtla-Järve region, **promoting in such a way a sporting way of life of local residents.**



In 2011 VKG became a supporter of **National Opera of Estonia.**



In 2010 VKG also became a sponsor of **Jõhvi Music School and Ahtme Art School,** helping the schools to organize events oriented to their pupils.

### 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 over 300 000 Estonian 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.

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.

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.

## VKG FOR THE GOOD OF ITS EMPLOYEES

VKG employees are the concern`s biggest value. In relations with its workers VKG pays the most attention to labour safety and employees` valorization through creation of extra benefits. Information about labour safety is given more in details in the fourth chapter of the report. The concern has implemented the following initiatives to support 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.



# Occupational Safety and Health Care Service

Viru Keemia Grupp AS sets its sights on creation of labour conditions where employees could enjoy working and developing themselves. We wish our working environment to be safe and our people healthy.

To achieve better results, the concern's subsidiaries have implemented the standard **OHSAS 18001**. VKG Oil AS, VKG Transport AS, Viru RMT OÜ, VKG Energia OÜ and VKG Resins AS are bearers of such OHSAS certificate. The mother company VKG AS, Narva companies VKG Elektrivõrgud OÜ and VKG Elektrihitus AS and Kohtla-Järve Soojus AS acquired in 2011 do not have this certificate but plan to apply for it.

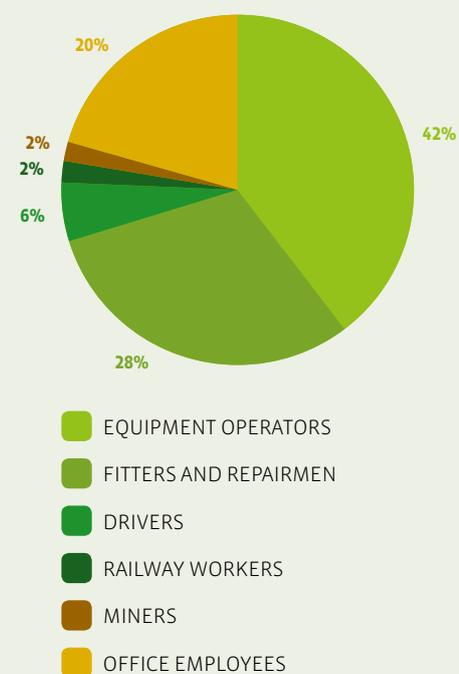
The concern has implemented the standard for occupational safety and health care as a measure which enables guaranteeing a safe labour conditions and process to its employees, contractors and visitors.

## List of risks related to main activities

In 2010 Viru Keemia Grupp employed over 1411 people, 80 % of which are professional line members and 20 % are office staff.

The main risks resulting from the job structure are wrong work methods, safety violation and carelessness, as well as working environment specific to chemical industry. In 2008 and 2009 there were nine accidents at work happened, and 14 in 2010. The number of serious industrial accidents increased in 2010 by one accident comparing to 2009, four in total. No accidents at work happened at VKG Resins AS, VKG Transport AS and VKG AS.

PROFESSIONAL DIVISION OF VKG CONCERN'S EMPLOYEES 2010



The share of heavy accidents at VKG (over 30%) exceeds the Estonian average (22%). It results from the job specificity, as 80% of VKG employees are directly connected to industrial processes.

Within three last years the greatest number of labour accidents took place at VKG Oil AS (11 labour accidents, 579 employees) and Viru RMT OÜ (10 accidents, 269 employees). Within this period there were no accidents happened just at one enterprise of the concern – VKG Transport AS.

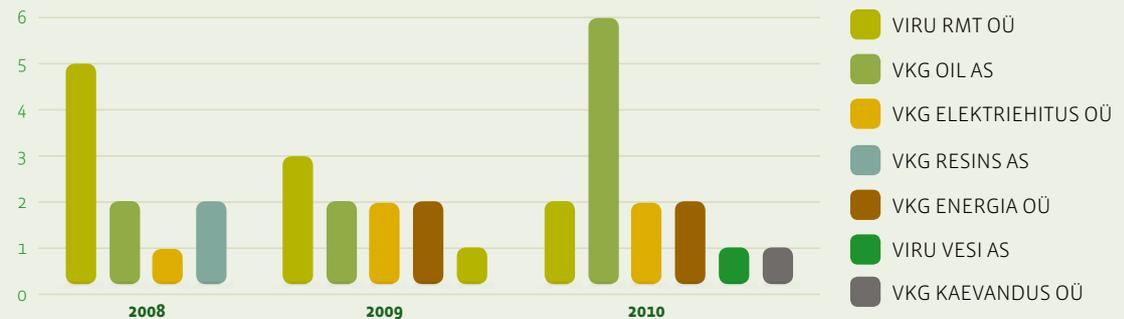
At VKG we can clearly observe a trend of accidents increase depending on the number of employees. In 2008 and 2009 the number of employees at VKG was 1235 and 1159 accordingly, in 2010 there were 1411 employees (the average, by the end of the year there were over 1500 employees). The number of employees increased in 2010 by 23%, and the number of accidents by 28%.

In connection with the concern's policy of improvement of working conditions, the amount of chronic occupational diseases has decreased comparing to previous years. Main factors oriented to this goal's achievement are improvement of working conditions and investments into environment and technologies. There were no occupational diseases recorded at Viru Keemia Grupp AS in 2008, 2009 and 2010.

### ACCIDENTS AT VKG CONCERN IN 2008–2009



### NUMBER OF ACCIDENTS AT VKG CONCERN ENTERPRISES



## List of steps to prevent accidents

The administration of the concern allocates resources required for more effective operation of management system. The OHSAS 18001 management system`s implement is based on the following:

- **approved structure of subsidiaries**
- **determined responsibility of administration**
- **determined rights and obligations of employees**

To detect hazards, assess risks and carry out in practice preventive measures, the company has worked out a procedure of risk assessment for working environment which appoints the methodology of risk assessment.

Action principles have been communicated to all employees through common discussions and training, and they are available in manuals for management system. The conformity of action principles (as the base for company`s actions) are regularly reconsidered by the direction, and based on them goals are set for operational safety and health care.

To help towards achievement of these goals, a management program is drawn up where results of risk assessment have been considered.

When drawing up management programs, the direction of the concern and its subsidiaries has fixed and planned various activities and allocated resources required to achieve goals of labour safety and health care at the enterprise and to constantly improve the management system. Viru Keemia Grupp AS invested into improvement of its working environment 9,9 mln kroons in 2008 and 6,1 mln kroons in 2009.

## Awareness of employees about labour safety

The enterprise has worked out a requirements system enabling each employee to be competent to perform his work. This system establishes requirements to professional education, skills and experience. Requirements to each job are stipulated in post descriptions, procedures, regulations and safety instructions.

Each subsidiary employs safety people, or working environment specialists, and safety induction for personnel is conducted. After any person has been employed, working environment specialist conducts a primary safety induction. For regular workers a periodic additional safety instruction is organized by the chief of a respective unit. Additional training is provided for employees. Safety enforcement is compulsory to any employee.

The enterprise provides its staff with protective equipment required, and the direction takes care of its availability and use. Health control is guaranteed to all employees of the concern according to their jobs once a year or every second year. There is a medical station working at the enterprise.

There is a risk analysis of working places made in the concern at regular times. The conformity to requirements of all factors of working places is assessed in the frames of an administrative survey.



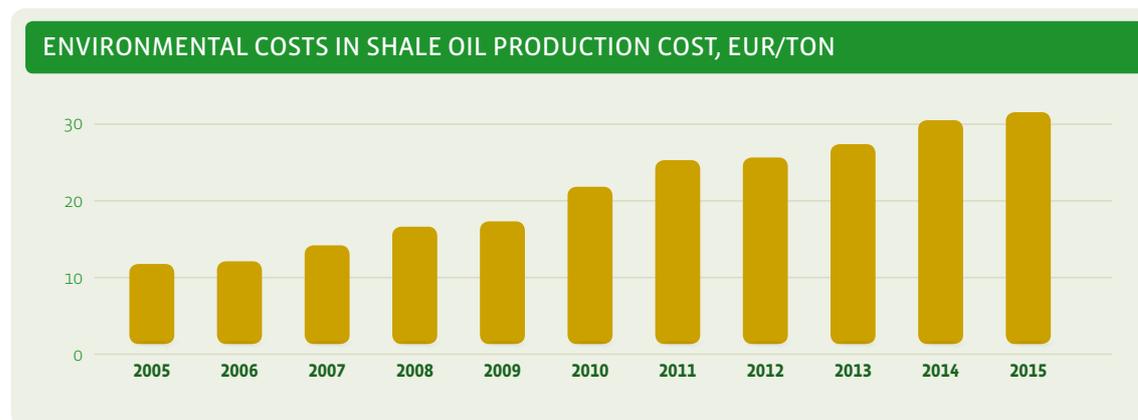
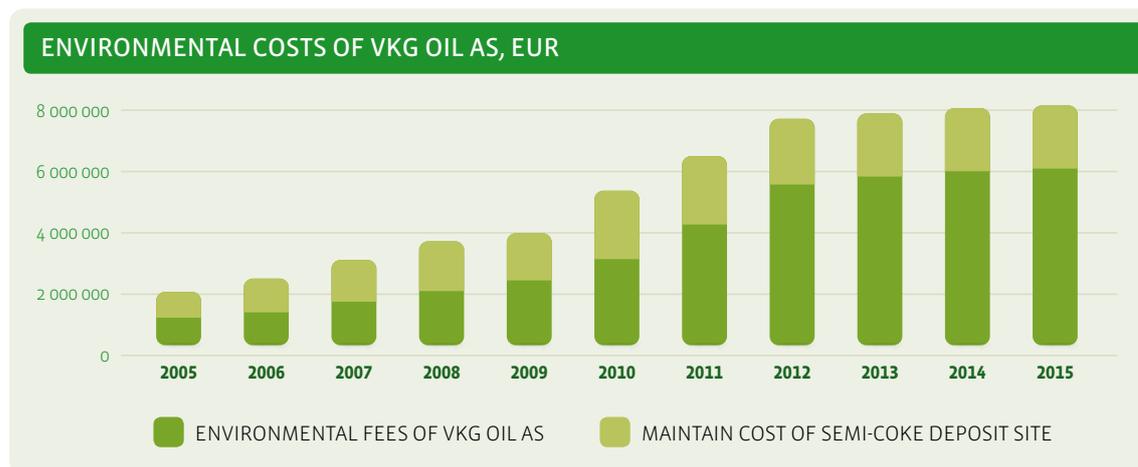
# Environmental activity

## Concern's environmental costs

VKG environmental costs have been increasing since 2000, and they will reach 10 mln euros by 2015. Especially important growth of environmental taxes takes place at the most important concern's enterprise, VKG Oil AS, which environmental costs are growing by 2015 by over 5 times (comparing with showings of 2005). It should be underlined the fact that the enterprise did not rise its emissions limit, but taxes and fees have increased.

VKG Oil AS's constantly increasing environmental load per the price of ton of oil is illustrated with the following figure. Raw oil is considered as shale oil which output was 270 000 tons in 2010.

Since 2005 the amount of environmental taxes per oil ton has increased more than two and half times, from 10 euros in 2005 up to 25 euros in 2011. Should new environmental fees not be implemented within next four years, by 2015 taxes could exceed the limit of 30 euros.



## Process Waste

### HAZARDOUS RESIDUES

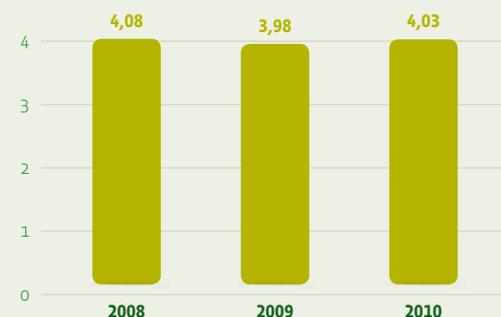
In 2010 the amount of concern's hazardous waste was 1,33 mln tons what is 16 % more than in 2009. Increase of hazardous waste is determined by the startup of the new Petroter plant (260 000 tons of oil shale were processed in 2010). The hazardous waste which is being created in biggest amounts is semicoke. Semicoke is kept in full accordance with all EU requirements in a special deposit site which was opened in September 2007. Being duly put in this deposit site, semicoke does not constitute any danger to environment and makes no pollution of water, soil or air.

Fusses, second large-scale hazardous residue, are treated in filtration unit which is a patent-protected invention of VKG engineers. Liquid hazardous waste is filtrated in a special filtration unit which enables to both decrease the amount of hazardous residues and increase production capacity with filtrating refined oil from oil shale processing residues.

VKG Energia OÜ produced in 2009 7 860 tons hazardous waste and abt 10 tons in 2010. The decrease of amount of dangerous waste in 2010 is related to the stop of burning of oil shale and other solid fuels. As the power stations have switched from solid fuels burning to gas, the subsidiaries could stop evolution of solid residues.

The figure on the right reflects amount of hazardous waste per ton of produced shale oil. In 2010 production increased comparing to 2009 by 50 441 tons, and the amount of hazardous residues by 216 262 tons. Ratio increase results from start-up and commissioning of Petroter plant. 2010 ratio per ton of produced shale oil is a bit higher than 2009 showing as Petroter after its start in 2010 could not reach steady operation mode for regular running industry, which is one of the main objectives for 2011.

#### EVOLUTION OF HAZARDOUS WASTE PER PRODUCTION UNIT AT VKG OIL AS



#### EVOLUTION OF HAZARDOUS RESIDUES IN THE CONCERN

(VKG OIL AS, VKG ENERGIA OÜ)	2008	2009	2010
Hazardous residues(mln t)	1,12	1,11	1,33
i.a. fusses (t)	19 400	3 200	1 432
i.a. shale ash (t)	16 600	8 100	150 000
i.a. semicoke (t)	748 500	772 600	791 000

## HAZARDOUS SOLID WASTE

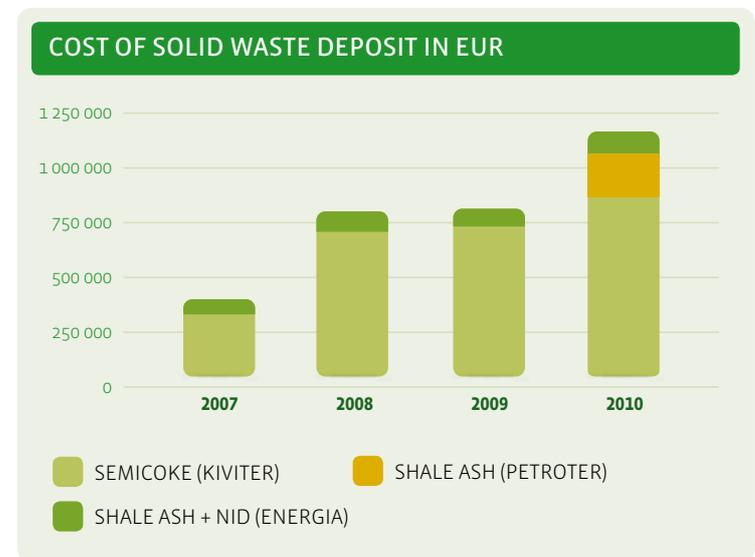
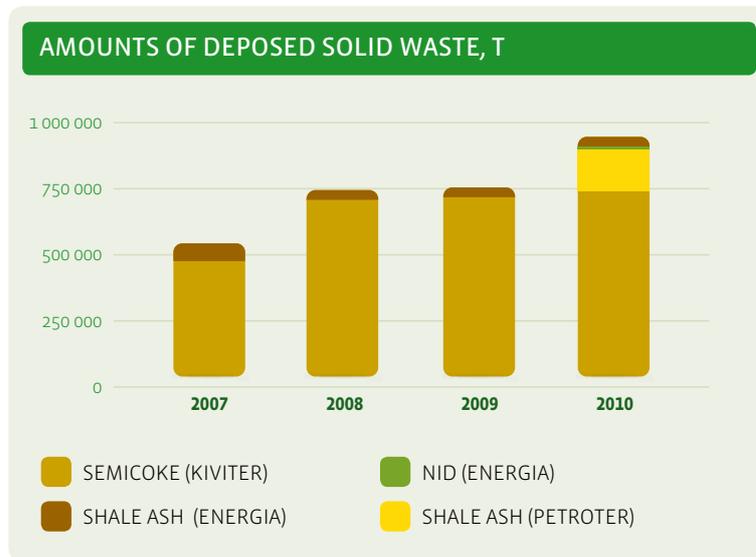
The major part of dangerous waste evolved in VKG production is solid waste. Solid waste, especially shale ash from Petroter plant and semicoke from units operating under Kiviter technology, is deposited on special waterproof deposit site on VKG territory.

In 2010 the amount of deposited solid residues was 948 113 tons. Increase in amounts to be deposited by 170 000 tons does mainly result from storage of ash from the operation of new Petroter plant in the hazardous waste deposit site. Also, comparing to 2009 the amount of waste evolving from sulphur recovery unit NID operation has increased.

The figure below on the left designates concern's amounts to be deposited within the period from 2007 to 2010. In the figure we can see the increase of shale ash amount in 2010.

In 2010 the cost of solid waste deposit was over 1,22 mln euros. Increase of pollution fee by 29% comparing to the previous year was mainly due to increase in pollution fee rate (same as in 2007 when a considerable rise in pollution fees took place), also the deposited amounts of Petroter shale oil from the process slightly increased.

The figure below on the right shows the cost of solid waste deposit for the concern in the years 2007–2010.



## NON-HAZARDOUS WASTE

In 2010 the concern produced 8 270 tons of non-hazardous waste what is approximately by 30% more than the year before. Main waste types are construction and demolition waste, domestic waste and calcium-based reactive residue from the sulfur recovery unit. Increase of waste formation is based on demolition of old buildings. All non-hazardous waste coming from demolition works was used in the project of closing down of semicoke hills. Demolition waste was used to fill in fuses ponds located in the territory of old semicoke hills from February to April, 2011.

## REUSED RESIDUES

In 2009 there were 336,5 thousand tons of hazardous waste reused within the concern, 4 % less than one year before. This decrease is related to an important decrease of fuses production.

Main product to be reused was phenol water from VKG Oil JSC, but also pitch residue, i. e. fuses, and used oil. Within next few years the reuse of residues will grow significantly due to semi-coke reuse when covering old semi-coke hills. The plans are to reuse 550 thousand tons of semi-coke.

EVOLUTION OF NON-HAZARDOUS WASTE IN THE CONCERN	2008	2009	2010
Non-hazardous waste (t)	7248	5469	8270
i.a. construction and demolition waste	1063	62	253
i. a. domestic waste	204	204	201
i.a. calcium-based reactive residue from the sulphur recovery unit	5980	5174	7352

REUSED RESIDUES, TONS	2008	2009	2010
Reused residues	349 800	336 500	386 976
i. a. phenols	347 700	336 500	385 544
i. a. fuses	2027	0	1432
i. a. old oil	100	0	0
i. a. semicoke	0	0	0

# Emissions

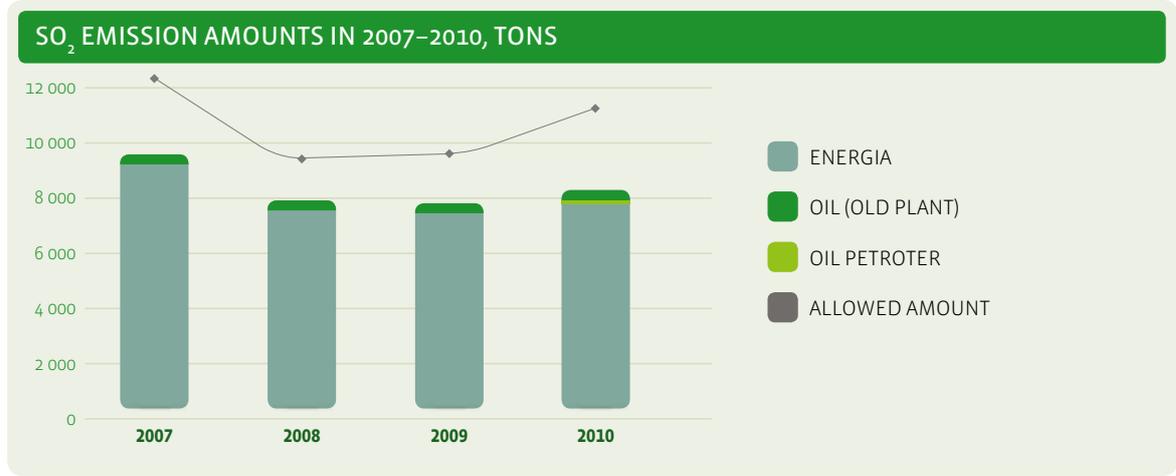
## AIR POLLUTANTS

All concern-belongs companies emitted in 2010 in whole a bit over 552 000 tons CO<sub>2</sub> what is appr. 89 700 tons more than in 2009. Increase of CO<sub>2</sub> emissions comparing to 2009 was related to increase of share of semi-coke gas from the new Petroter plant burnt at VKG Energia OÜ.

Major part of carbon dioxide emissions (423 240 tons in 2009 and 452 986 tons in 2010) originated from burning at VKG Energia OÜ of retort gas coming from thermal processing of oil shale and of semi-coke gas.

VKG Oil JSC produced 39 198 tons of carbon dioxide emissions in 2009 and 99 193 tons in 2010. These emissions were produced during the process of burning of natural and residual gas (retort gas, coke-oven gas, separator gas) in the oil distillation unit, the phenol rectification unit and the electrode coke production unit, also in operation of new Petroter plant.

Other subsidiaries did not emit any carbon dioxide into the air.



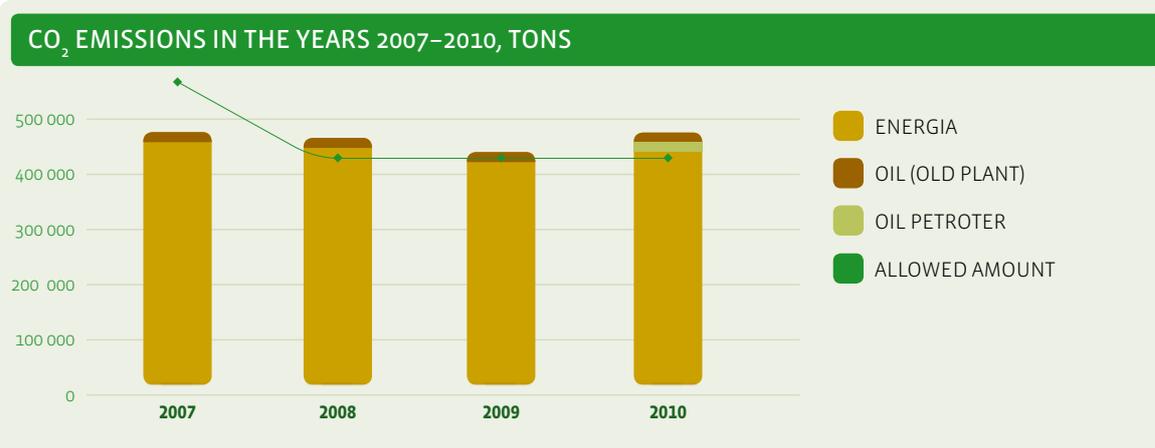
### SO<sub>2</sub> LEVEL: COMPARING THE YEARS 2006, 2008 AND 2009

In 2010 the concern emitted 7847 tons of sulfur dioxide, i. e. 484 tons more than in 2009. Increase of sulfur dioxide amount resulted from semi-coke gas from new Petroter plant which is burnt in boilers at VKG Energia OÜ and burning units at VKG Oil AS.

Most SO<sub>2</sub> emissions (7297 tons in 2010 and 6962 tons in 2009) were emitted at VKG Energia OÜ when firing retort and semi-coke gas produced in thermal processing of oil shale.

At VKG Oil AS 550 tons of SO<sub>2</sub> emissions were produced in 2010 and 400 tons in 2009. Emissions came from the process of burning of residual gas (retort gas, coke-oven gas, separator gas) in the oil distillation unit, the phenol rectification unit and the electrode coke production unit, also in operation of new Petroter plant.

Other subsidiaries did not emit any sulfur dioxide into the air.



### SPECIFIC EMISSIONS AT VKG ENERGIA OÜ PER PRODUCTION UNIT, TON / MW/h



SO<sub>2</sub> specific emissions per production unit have been constant at VKG Oil AS and VKG Energia AS, which indicates a regular operation of sulfur recovery unit at VKG Energia OÜ and use of gas with constant sulfur content at VKG Oil AS.

Increase of air pollution fees comparing to the previous year is mainly based on increase of emission fee rates and of emissions produced in operation of new Petroter plant.

Increase of emission fees in 2010 by 15% comparing to the previous year is mainly caused by increase of rate of pollution fees.

### VKG OIL AS: SO<sub>2</sub> SPECIFIC EMISSION PER PRODUCTION UNIT, TON / MW/h



### AIR POLLUTION FEE, EUR



# Resource use

## ELECTRIC POWER CONSUMPTION

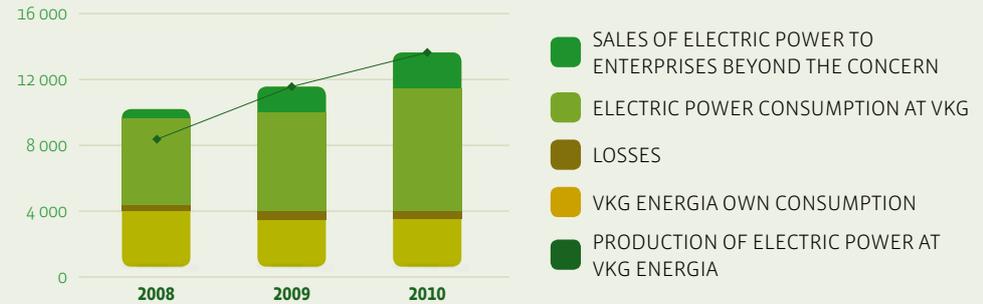
In 2010 the power consumption of the whole concern was 109 115 MWh, whereby the biggest power consumers were VKG Oil AS and VKG Energia OÜ. Comparing to 2010 the concern consumed 14 099 MWh less in 2009. Electric power consumption increased in 2010 due to new Petroter plant.

In 2010 VKG Oil AS consumed 55 072 MWh of electric power, whereas 14 122 MWh were consumed by the new oil shale processing plant Petroter. 3549 MWh of the total amount were consumed for lighting and 51 553 MWh for process units. In 2009 VKG Oil AS consumed 50 324 MWh, so 4748 MWh more than in 2010. Increase in power consumption in 2010 can be explained by constant operation of new Petroter plant.

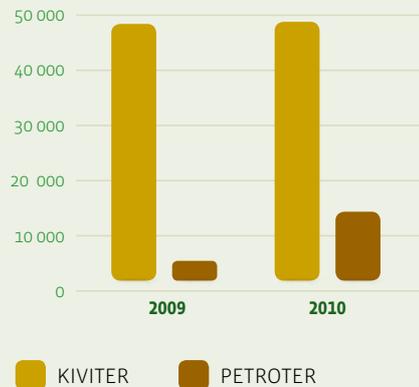
VKG Energia OÜ consumed in 2010 38 278 MWh of electric power. At the same time the enterprise produced 135 777 MWh of electric power.

In 2010 VKG Energia OÜ did not use solid fuels to produce energy. Use of semi-coke gas from new Petroter plant increased significantly, consumption of generator gas slightly increased, as well. In 2010 11 881 eft were consumed, as well as 110402 eft of generator gas.

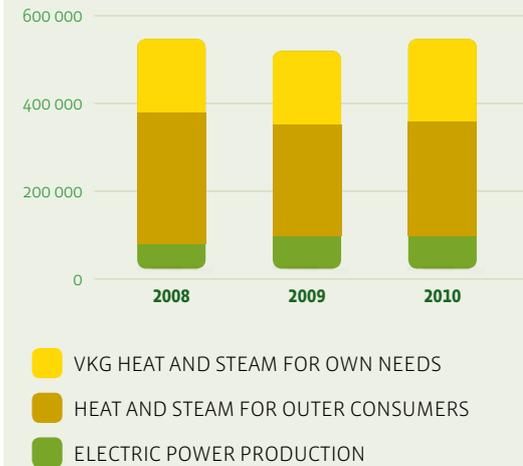
CONSUMPTION OF ELECTRIC POWER IN THE CONCERN, 2008–2010, MW/h



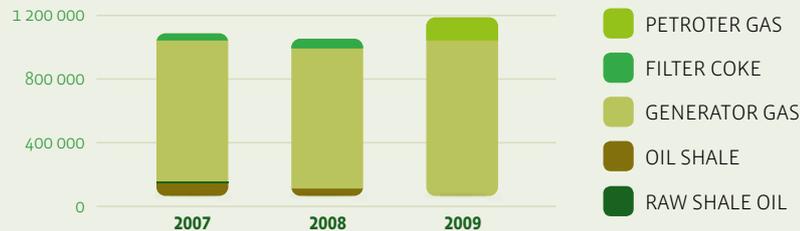
POWER CONSUMPTION AT VKG OIL AS, KW/a



ENERGY PRODUCTION AT VKG ENERGIA, MW/h



CONSUMPTION OF FUELS AT VKG ENERGIA, IN EFT



## WATER CONSUMPTION

### WATER CONSUMPTION IN 2009 AND 2010

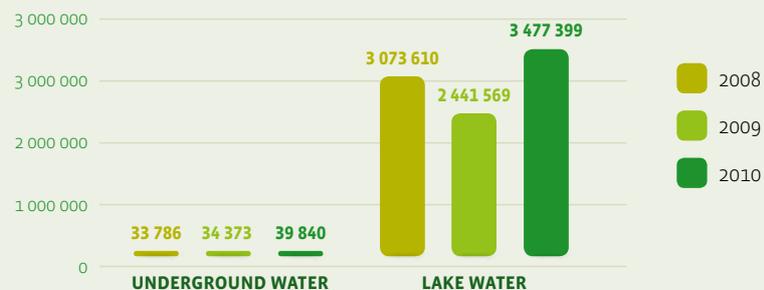
In 2010 total amount of water consumed was 3097,7 th m<sup>3</sup>, whereas 39,4 th m<sup>3</sup> was underground water and 3058 th m<sup>3</sup> lake water consumption. In 2009 total amount of water consumed was 2475,9 th m<sup>3</sup>, what is 621,7 th m<sup>3</sup> less than in 2010. Increase of water consumption comparing to 2009 is based on increase of production volume (new Petroter plant), which in its turn determined increase of cooling water demand.

### WATER DISCHARGE IN 2009 AND 2010

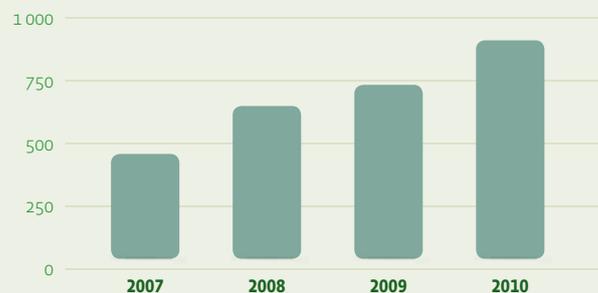
In 2010 the total amount of the concern's water discharge was 1,69 mln cubic meters whereas 0,92 mln m<sup>3</sup> were domestic wastewater and abt. 0,77 mln m<sup>3</sup> process wastewater. In 2009 the total concern's water discharge was 2,39 mln m<sup>3</sup>, 1,36 mln m<sup>3</sup> hereof were domestic wastewater and 1,03 mln m<sup>3</sup> process wastewater. Water discharge decreased by 552 th m<sup>3</sup>, due to the hot summer 2010.

Increase of pollution fee in 2010 by 17% comparing to the previous year is mainly based on increase of pollution fees rate.

### WATER CONSUMPTION IN THE CONCERN, M<sup>3</sup>



### VKG WASTEWATER AMOUNTS, TH M<sup>3</sup>/YEAR



### COST OF SPECIAL WATER CONSUMPTION AND WASTEWATER POLLUTION AT VKG, EUR/YEAR

