

Bigger scale, higher standards

Employee safety is critical to achieving our business targets and achievements.





Our priorities

Continually improve our production management to ensure occupational and workplace safety

Address atmospheric safety issues

Guarantee safety of all CHPP equipment from fire and explosion

Ensure our production sites have the latest equipment (including PPE), safety systems and monitoring

Ensure our health and safety information system functions at a company-wide level

Introduce remote monitoring systems for industrial safety parameters

Improve the skills and capabilities of safety professionals

Reduce the negative impacts of coal production on employee health

Implement special preventative medical programmes



OHSAS 18001

Our approach

Employee health and safety is SUEK’s absolute priority. The LTIFR KPI, as well as the absence of group fatal accidents, are the top management’s bonus modifiers.

SUEK’s system for managing health and safety across the company is regulated by our internal Occupational Health and Safety Policy and aims to reduce the risk of injuries and accidents at our production plants. The industrial safety system, which we use at our coal, energy and logistics assets, complies with advanced international standards. Our coal-mining companies in Kuzbass, Krasnoyarsk and Khakassia undergo regular external audits for compliance with the requirements of OHSAS 18001.

In our efforts to ensure production safety and efficiency, we adhere to the following main **PRINCIPLES**:

Zero tolerance to injuries and accidents

We treat any injury or accident as an emergency and as a critical error in our control systems and safety processes.

Safety priority

Every production task should be considered from the point of view of its safety. If safety comes into conflict with the production task, the latter should be reviewed or abandoned.

Professionalism and competence

We do not assign any work to employees who do not have the necessary knowledge and skills.

Zero tolerance to dishonesty and concealment

Concealment of any information relating to occupational health and safety is unacceptable.

Industrial safety and labour protection management structure

Board of Directors
 – Monitoring the implementation of the industrial health and safety strategy

Suek Board Industrial Safety Committee
 – Monitoring the progress of the implementation of the industrial safety and labour protection strategy
 – Coordination of the development of activities to ensure industrial safety
 – Study of the causes of accidents and evaluation of the effectiveness of measures taken and preventive measures

Directorates of Industrial and Occupational Safety and Environmental Protection
 – Coordination and control of the implementation of safety programmes

Production facilities
 – Compliance with standards and procedures in industrial safety and labour protection

We continually monitor potentially hazardous situations throughout the entire business cycle. All emergencies and abnormal situations are thoroughly investigated by special commissions and industry experts. After any abnormal situation, we develop fresh strategies to prevent similar incidents from happening in the future.

SUEK adopts a comprehensive industrial safety management system to ensure it has a centralised methodology and control at all levels. The Industrial Safety Committee of SUEK's Management Board chaired by the CEO is the major body responsible for monitoring the implementation of the Group's health and safety policy. The Committee's ability to successfully address safety issues relies on setting strategic objectives, goals and areas of focus, and addressing material issues in industrial safety, labour safety and the environment.

Our internal standards apply to both company personnel and contractors involved in work at SUEK's units.

In 2018, SUEK also joined the Vision Zero (zero injury) campaign launched by the International Social Security Association.

Overview

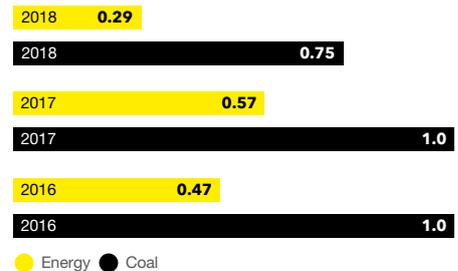
In 2018, the company had two separate industrial safety management systems in place for the coal and energy businesses, due to the different nature of their production processes. However, we plan to harmonise the health and safety compliance policies and standards for both businesses.

Certain aspects of work in the coal industry have unavoidable risks. The nature of mining means there is always a risk of accidents at production facilities, in underground development and during extraction activities, stripping and transport in open-pit mines due to natural factors.

In 2018, the company's overall lost time injury frequency rate (LTIFR) decreased from 0.88 to 0.55 year-on-year, while the Coal Segment's LTIFR fell from 1.0 to 0.75, and from 0.57 to 0.29 in the Energy Segment.

Total lost time decreased by 22% to 6,343 days. The lost time injury severity rate (LTISR), the number of days of disability per 1,000,000 hours worked, dropped by 34% to 61.6, including 88.3 in the Coal Segment and 26.8 in the Energy Segment.

LTIFR (ratio)



The company also recorded a 22% reduction in occupational injuries, from 73 injured in accidents during 2017 to 57 in 2018. Of these, 44 accidents occurred at coal production and logistics operations, whereas 13 employees were injured at our energy facilities.

In 2018, there were no group fatal accidents at SUEK's facilities. Unfortunately, there were six single fatal accidents: two accidents during open-pit mining in Zabaikalye and the Krasnoyarsk region, one accident during auxiliary earthworks in Khakassia, the fatality of a worker from Kuzbass in a road accident, one employee of the Murmansk Commercial Seaport fatally injured by a forklift and one person died of electrocution at a CHPP in the Altai region.

The main causes of these accidents were organisational issues, such as the violation of industrial and labour safety requirements and the breach of discipline in matters of occupational safety. To avoid the repetition of any accidents we thoroughly analyse the cause of each one before developing and implementing corrective actions drawing on the best international practices.

In 2018, \$81.8m was spent on occupational health and safety, \$59.9m of which was committed to the Coal Segment and \$21.9m to the Energy Segment.



In 2018, the company's industrial safety was also assessed as part of its Bettercoal audit.

Bettercoal experts commended the company for the following:

- Introduction of the GRANCH underground safety monitoring and control system
- Integrated planning of fire prevention and emergency response activities, taking into account regulatory framework requirements and including an adaptive response
- Identifying, managing and responding to the risk of spontaneous coal ignition
- Comprehensive medical care for workers through medical facilities equipped with modern equipment and technologies
- Continuous development of a mobile communication system to instantly register violations of industrial safety rules in our mines



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Measures to improve health and safety in coal and logistics

The main risks in coal mining are from potentially explosive concentrations of methane, and the accumulation of fine, explosive coal dust deposits in working areas. The company is therefore particularly focused on improving air quality, minimising airborne dust and diluting coal dust deposits to safe levels with inert dust.

Monitoring underground air and gas

Our mines are equipped with a multifunctional system that ensures the safety and control of our mining operations, continuous and automated remote control of harmful gas concentration, and the safe management of production processes under normal and emergency conditions.

Currently, the company's mines operate a number of subsystems as part of the general multifunctional health and safety system, including:

- Atmospheric safety system designed to:
 - Monitor air and gas conditions
 - Monitor and control permanent main fan systems, local ventilation fans, and gas extraction units
 - Monitor and control gas-drainage units and networks
- Systems for the monitoring and prediction of gas outbursts
- Systems for detecting early signs of spontaneous combustion of coal and open fires
- Systems for the monitoring and management of fire water supply and drainage systems
- Systems enabling workforce communication, warning and tracking, including:
 - Systems tracking the location of personnel in underground mines
 - Systems locating people caught up in accidents
 - Systems delivering emergency underground communication and alerts via loudspeakers

We have also developed a range of measures designed to improve the reliability of our multifunctional health and safety system. At the SUEK head office, our control centre remotely monitors industrial safety parameters in real time. It is the control centre's responsibility to analyse the information received and coordinate actions with regional units and production companies during emergencies.

Our centralised health and safety control and analysis centre also operates in Kuzbass. Here, the industrial safety manager automatically receives information about atmospheric conditions and gas levels and safety parameters of production processes in underground and open-pit mines of the regions. This means our miners' safety is monitored round-the-clock.

A pilot automated remote safety monitoring system in our Komsomolets mine in Kuzbass is at the final stage of implementation – the Industrial safety remote control system. The concept is based on the principle of transition to a risk-oriented approach in ensuring industrial safety, which should ensure the detection of threats at an early stage by remote monitoring of the state of industrial safety at work. We have decided to replicate this system and equip all of the company's mines with it during 2019-2020. This project will cost over \$2.1m.

Improving gas drainage

To reduce the risk of explosive concentrations of methane forming in our mines, we carry out comprehensive gas drainage where methane content exceeds 10 m³/tonne of coal. We remove methane from such mining areas via a system of integrated gas-drainage wells. Special pipes connected to surface vacuum pump units are used to drain methane from underground workings. Since 2010, the total vertical length of our gas-drainage wells has increased to 358.6 km.

We are constantly introducing new methods, equipment and technologies to maximise the efficiency of the gas-drainage process.

At the Kirov mine, we use advanced gas drainage technology based on hydraulic fracturing of the coal seam. These methods reduced the gas content of the longwall panel in the fractured area by 30%. We also drill gas-drainage wells and ensure that surface vacuum pump units are equipped with the most advanced equipment and provide drilling rigs manufactured by international producers.

To ensure we are as energy efficient as possible, we use some of the methane removed from the workings to generate heat and electricity at the mines. This also allows us to reduce our greenhouse gas (GHG) emissions.

Improving ventilation and gas control systems of coal mines

It is crucial that mines are well-ventilated, and that miners and rescue crews can be efficiently evacuated in the case of any emergency. To ensure this, new fan units were commissioned at the Ruban, Kirov, Polysaevskaya and Yalovsky mines in 2018.

At the November 7th New mine (Kuzbass), we upgraded the existing fan unit.

At our Yalovsky mine, we introduced a new gas control scheme, which includes the installation of two gas-suction fans in order to decrease the amount of methane-air mixture.

Reducing coal dust

To reduce the risk of coal dust explosions, we have introduced strict rules and requirements in our mines regarding stone-dusting using inert dust.

We have improved the quality of stone-dusting by using more than 350 mechanical stone-dusting units. At our mechanical and repair plants, we produce our own mechanical stone dusters.

We also strive to reduce dust at our aboveground facilities to create more comfortable working conditions for our employees:

- Upgrading aspiration and dust removal systems, introducing vacuum collection, transportation and discharge of fine coal dust at our washing plants and processing facilities
- Equipping production areas, warehouses and territories adjacent to Vanino Bulk Terminal with fog-generation units and foam generators, using a dust suppression unit, dust suppression system in the car dumper hall, along with unique foam generators that suppress dust with foam and water
- Introducing a fog-generation dust suppression system for coal piles at Murmansk Commercial Seaport, operating mobile vacuum collectors

Measures to improve health and safety at power facilities

There are several key risks associated with producing and transmitting electric power and heat and with repairing and installing equipment at power facilities. These are the possibility of generating a potentially explosive pulverised coal mixture in coal pulverisation units of TPP boilers, depressurisation of equipment operating under significant overpressure of the heat carrier, falling from height during repairs and electric shocks.

We pay special attention to operational safety in order to eliminate the risk of injuries and the occurrence of accidents and fires. In particular, we are careful to observe the correct procedures for carrying out power installations, admission to repairs and the installation and commissioning of equipment at power facilities.

From 2016 to 2018, we ran a fire safety improvement programme at SUEK's energy companies, which included the following:

- Installation of fire alarms and automatic fire fighting systems
- Installation of additional fire protection systems for personnel
- Application of fire-retardant coatings on electrical power cables
- Installation of flame arrestors in coal pulverisation units of TPP boilers

We will continue to improve our fire safety processes and have already developed a new programme for the next three years.

Tighter health and safety controls

SUEK has a zero-tolerance policy for violations of health and safety regulations. Preventing such violations is crucial to reducing the risk of accidents and injuries at our sites. We have developed and introduced specialised software to keep track of health and safety-related incidents at all sites across the company. This software ensures no task is issued for a shift assignment before all identified health and safety violations have been dealt with. We also introduced this software in all our service and auxiliary companies.

We continued developing two pilot projects which use adapted software in mobile devices (smartphones/tablets) to provide remote access to corporate systems. This system allows our employees working underground and in open-pit mines to record violations of industrial safety requirements and issue shift tasks. The pilot project is underway at the Tugnuisky open-pit mine and Ruban underground mine.

Personnel training and development

We work hard to ensure all employees have the necessary knowledge, skills and training to carry out their roles safely and responsibly. All equipment purchased by the company comes with a special training video demonstrating how to maintain high levels of health and safety during assembly, operation and maintenance.

Before work begins, each employee's occupational and industrial safety knowledge is tested in a pre-shift examination via computer terminals. We regularly update the databases of these training terminals and develop new tests.

To ensure the continual training of personnel at our power facilities, we use distance training platforms based on Moodle software and knowledge checks of TPP personnel. Additionally, during 2018 3,000 test questions were piloted in the energy sector with personnel at a thermal power plant in the Altai region (301 employees in total) undergoing subsequent testing of their specialised operational knowledge. We held informational and educational events for a variety of people in order to inform them about our industrial safety culture. During the year, 196 people, including directors and chief engineers of energy facilities, participated in training programmes at various levels.

Promoting health and safety

In order to promote safe working methods and to draw employees' attention to the mandatory safety requirements at our workplaces, the company identified the areas of work with the greatest risk of injury and used them as examples in occupational safety videos. These risks included working at height, in electrical installations, with equipment with explosion and fire potential and hot work. Video scripts include real accidents that have taken place in the company with a description of the mistakes and safety violations that led to them.

SUEK's production sites also feature an HSE feedback system called Alarm Sheet, where employees can write down any hazards associated with a specific workplace or process. In the reporting year, the feedback system helped eliminate more than 200 shortcomings identified by company employees.

Identifying employees who are prone to excessive risk-taking

We test all candidates applying for job vacancies and engineering positions to determine whether they are prone to excessive risk-taking. Our tests examine each candidate's risk appetite and their ability to learn and follow rules.

\$81.8m

SPENT ON OCCUPATIONAL HEALTH AND SAFETY IN 2018

Provision of modern work clothes and personal protective equipment

To minimise the negative impact of occupational hazards on our staff, the company has developed standard requirements for work clothes, footwear and other personal protective equipment.

All SUEK employees receive an up-to-date protective kit including special clothing and footwear, helmets, respirators and goggles. The company has also set up an automated system which accounts for personal protective equipment and enables us to systematically organise the processes of planning, purchase, storage, and timely and uninterrupted issue of personal protective equipment. In addition, our units carry out regular inspections to ensure compliance with corporate standards in this area. In 2018, SUEK's units conducted six workshops, which focused on the practical use of personal protective equipment, major changes to health and safety legislation and preventing occupational injuries and diseases.

Healthcare

Preserving the life and health of our employees, and mitigating the risk of occupational diseases, is an absolute priority for SUEK.

As part of our company-wide health programme, we work to identify occupational diseases in their early stages, carry out systematic healthcare work and promote healthy lifestyles. All our employees are offered medical services, education about various medical conditions, consultations, diagnostic services and treatment.

-22%

OCCUPATIONAL INJURIES COMPARED TO 2017

The main task of our cross-company medical services is to ensure the necessary conditions for the preservation, protection and promotion of workers' health, taking into account production risks and individual risks alike. The main areas of focus include:

- Providing emergency medical care
- Medical admission to work
- Preventing occupational diseases
- Treatment and rehabilitation
- Occupational health and industrial hygiene
- Promoting healthy lifestyles
- Developing practical recommendations based on scientific research
- Participating in a special assessment of working conditions and developing measures aimed at health preservation

At our units, we are introducing automated systems of pre-shift medical check-ups. From 2012 to 2018, the health statistics of SUEK's personnel improved by more than double, as time lost through sick leave across the company fell from 8.22 to 6.6 days per employee per year, while in 2018 the share of people with recurrent and long-term periods of illness was 3.73%.