Integrated report 2016

Financial and non-financial results

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Contents

Introduction

Oleg Popov

Chairman of the Supervisory Boards of DTEK ENERGY B.V.,
DTEK OIL&GAS B.V., DTEK RENEWABLES B.V., CEO of JSC «SCM»

Dear colleagues and partners,

I am pleased to present the 2016 Annual Report of DTEK Group.

Today we are operating in a rapidly-changing environment, confronted by continuing challenges. But even these conditions should not stop us, we must keep on developing. It is equally important to us and to Ukraine to ramp up investments in the energy sector. Only an upgraded and efficient sector will make our country energy independent. DTEK Group's projects bring technological innovations and new experience to Ukraine. As before, the company is a change leader aiming to bring light and warmth to Ukrainians.

During the 2016 reporting year, the Group implemented a number of important projects to provide Ukraine with domestic coal, domestic electricity, and domestic gas. The company scaled up investments by 42% allocating more UAH 7 bln to develop its operations.

The coal mining business opened a new mine field by driving through the largest geological discontinuity – the Bohdanivskyi fault. Successfully driving through such large tectonic disruptions is a unique experience in the global practice.

The gas extraction division has successfully drilled new wells of more than 5 thousand metres deep. Boosting Ukraine's gas extraction is associated with the mastering of deep well drilling, and the implementation of such projects has once again proven DTEK's professionalism.

DTEK is also a company that consistently carries out sustainable development programmes, the value of which has increased even more in this time of crisis. The key objective of the social partnership projects is to improve the quality of life for people in cities, towns and villages where our companies operate by developing local communities. This is what we believe is at the heart of being a responsible business.

My special congratulations go out to the company's team and investors on the completion of DTEK Energy's loan portfolio restructuring. I'd like to extend my gratitude to our partners for their understanding and support all the way through the process and the company's team for a high level of professionalism! The agreed terms of restructuring made it possible to balance the company's financial capabilities to service debts, which means that DTEK can keep on developing its operating companies.

Over the recent years we have learnt to work in a complicated environment, achieve good results, and remain upbeat against all odds, never losing faith in tomorrow and themselves. What's the most important is that we have become a team of truly like-minded people. That's why I would like to thank each and every employee of DTEK Group for professionalism, loyalty, and moral strength. I am certain that there are new projects ahead, which will contribute to Ukraine's energy independence!

Maksym Timchenko
CEO of DTEK

Dear colleagues and partners,

In presenting the results DTEK Group achieved in 2016, I would like to thank our personnel for their well-coordinated efforts in such trying conditions, and our partners for their powerful support and trust. We are to start a new stage of the company development, and successful loan portfolio restructuring means we can progress in developing our operating companies.

We started the second stage of the 2030 long-term corporate development strategy. I would like to tell you what goals we set ourselves and which projects we plan to implement in each business area.

Energy

Global structure of electricity generation and consumption is changing radically, and Ukraine cannot stay on the sidelines of such processes. We see that many countries aim to fully switch over to the electricity generated by renewable sources. The tendency will get only stronger in future, for example, the EU's long-term goal is to have 50% of renewable energy in the general energy balance by 2030.

DTEK always welcomes innovations and new business directions. The company is actively diversifying its assets' portfolio. It creates a stable platform for long-term development.

Currently, our renewable energy portfolio reached 1.4 GW, and we plan to develop the wind energy business further: to construct the Primorsk Wind Farm. The second promising business direction DTEK is looking at is solar power. In 2017, we will start constructing a solar plant in Kherson Region. This pilot project will help us answer a number of questions and form a long-term vision of this segment development. We expect that by 2020 the company will have 1 GW of the 'green' installed capacities.

At the same time we understand that in the near future coal-fired generation will still play a significant role. Today, about 30% of Ukrainian electricity is coal-fired. It means that every year fossil-fired power plants need about 30 million tonnes of coal, and the demand for G grade coal is growing steadily. We are certain that even under such trying conditions Ukraine can fully satisfy its demand for steam coal. The company decided to ramp up G grade coal production, first of all by expanding the investment programme of DTEK Dobropolyeugol. By 2020, we will allocate over 4 billion hryvnias in the company's development, which will ensure production of 10 million tonnes of coal in 2018-2020.

Furthermore, we will continue the fossil-fired power plants' upgrading to ensure stable operations of the energy system of Ukraine. The retrofit will help extend the service life of power units for at least 15 years, increase the capacity and reduce dust emissions to match the European requirements.

In gas production DTEK is the leader among private companies not only from the stand point of volume, but of intellectual potential, too. We proved that we can efficiently drill very deep wells. In the last three years the company has drilled 13 wells 5.5 to 6.75 thousand meters deep. Each such project was exclusive from the point of view of management, process solutions and equipment. Our accumulated experience allows us to forecast that by 2020 the company will produce 3 billion cubic meters of gas per year. Furthermore, the company is ready to use its experience and expertise to manage projects of other companies, whose oil and gas sites have complicated geological conditions. We believe it is important to contribute our experience to the industry development, as it would be possible to consistently build up gas production in Ukraine only through intensive development of the new promising areas and depths of over 5,000 to 6,000 meters.

Consumers

Recently, the progress in the energy sector reforming has become more evident. Ukraine plans to transition to a liberalized market by 2020. The transition to a new model means tougher competition and more investments in the enterprises' development, and creation of a servicing market. The reform gives consumers the right to have high quality standards and guarantees it.

From the date of its establishment DTEK supported creation of a full-fledged electricity market. Our distribution companies will be the flagships of change. We will introduce a common contact centre with 24/7 customer support. It will help effective communications with consumers on all issues that arise. Furthermore, we will introduce a common billing platform that will, on one hand, make a number of processes automatic, thus ensuring cutting of operating expenses and, on the other hand, will promote on-line services development, including mobile applications that will offer consumers great opportunities in managing their personal accounts. To improve electricity quality parameters, we will build new substations and power lines.

In 2017 we revisited our project on developing the e-cars charging infrastructure. Currently, this sector enjoys higher demand in Ukraine on the back of the development of technologies that make use of e-cars easier and more affordable. The company is analysing opportunities of quick chargers' construction in Kyiv, where it will

take you no more than 30 minutes to charge your battery. The second part of the project we're looking at is gradually replacing our own car fleet with e-cars.

We would like to lead by example demonstrating opportunities for changes. DTEK ESCO implements energy efficiency projects in industrial and budget funded sectors, and in housing sector, too. For example, in 2016—2017 we have already invested over UAH 10 mln to modernize SCM Group companies. The projects' implementation will mean guaranteed savings of no less than 5 million kWh per year. As all projects use the energy servicing mechanism, the return on investment will be guaranteed through the energy resources savings and elimination of losses. By 2020, the aggregated investments of the company in improving the customers' energy efficiency will reach UAH 455 mln. UAH 125 mln will be allocated to the industry, UAH 300 mln to kindergartens and schools, UAH 30 mln to residential houses.

Society

The Company will continue its stable social partnership with the regions of our operations, to make those towns more comfortable to live in. As for social partnership, we focus our activities on five key areas: energy efficiency for public utilities, development of socially important infrastructure, health care, facilitation of local communities' engagement, and development of the business environment. At present, we are updating the selected strategies to better align them with the demands and needs of each region.

Today we can say that the company's project 'Make Your City Yourself' is in high demand. This project is aimed at helping active citizens to make life in their communities better. They submit applications describing their projects to take part in a contest for mini-grants, and the communities, together with the jury, select the best projects, which will be implemented. In 2016, we expanded the project geographical coverage: 38 populated areas took part in the contest. This year, we are not going to set any geographical boundaries for the project: residents from any Ukrainian city, town, village or settlement may take part. So, we have decided to rename the project to call it 'Make Your Community Yourself'. Furthermore, in 2017, the maximum amount of a mini-grant is increased to UAH 50,000; for the implementation of a big idea, the company is going to allocate a grant of up to UAH 200,000.

People

Occupational and labour safety will always remain our No. 1 priority. The company's goal at the second stage of the corporate long-term development strategy is to bring the lost time accident frequency rate to below 0.75. We want safe behaviour to become habitual for each of our employees.

We also want the desire to be the best in profession to be an integral part of the company's corporate culture. For this purpose, we have designed an employee continuous development concept – Agile Learning – to address the challenges the company faces and incorporate modern training formats. Following the digitalisation trend, we provide our employees with the widest possible range of training possibilities. Electronic learning has been provided by our corporate university, DTEK Academy, since the time of its foundation, and we plan to expand our knowledge database creating an electronic technical expertise platform. This will provide prompt knowledge access to help resolving operational challenges.

The company has gained large professional experience, which allows us to convey knowledge to future specialists. Our corporate standards designed for worker occupations are used as the basis for educational standards recommended by the Ministry of Education and Science of Ukraine to high and vocational schools for training students. This helps close the gap existing today between operational practices and educational programmes to make sure graduates adapt quicker to the professional demands of operational activities. We plan to prepare professional corporate standards for 65 key professions by 2020.

Efficiency

The efficiency of operations, investment and management is foundation for the successful development of DTEK Group.

In 2016—2017, we entered into an agreement with the Eurobond holders and banks on long-term restructuring of DTEK Energy's loan portfolio. In effect, this means the financial recovery of the company, which has helped us to balance our capabilities for servicing the debt and developing our companies. As part of the restructuring, we have structured our loans: our USD 436 mln loan has been transferred to the Mine Office Obukhovskaya, which will repay the loan out of its operating revenue. Furthermore, we have amended the financing terms for the construction of the Botievo wind farm: the EUR 215 mln suretyship and guarantees granted for the wind farm's construction have been reassigned from DTEK Energy to DTEK RENEWABLES.

Thus, the selected corporate governance model has made it possible for each operating holding company to get financing on the stand-alone basis for its respective business. This approach has restored DTEK Energy's borrowing capacity, which means the company will be able to increase investments in the operations. Modernisation is critically important for us. In Ukraine, the electrical networks and thermal power plants are 80% worn out.

We are going to invest in innovative technologies and projects to reduce per unit fixed costs and improve the competitive position of our products. The company continues rolling out the continuous improvement and lean production system - Novator. We have achieved the main project goal: to involve our employees in operational efficiency improvement. Our employees propose their ideas and participate in team-based task solving to identify and optimise resource-intensive processes and bottlenecks. Novator is delivering: we indeed continuously improve ourselves. The project's economic effect in 2016 reached UAH 1 bln.

Ukraine «plus»

The company is an active supporter of the synchronisation of the United Energy System of Ukraine with the Continental Europe Synchronous Area within the European energy system - ENTSO-E. The European integration of the energy sector means, first of all, technological advancement, which will improve the standards of our energy system. The main difference between our energy systems is the applicable frequency stability requirements, and, to comply with the European standards, we have to retrofit the transmission networks and implement modern automation systems at the generating capacities. A lot has to be done, but this will improve the quality of the Ukrainian electricity and its supplies.

The synchronisation of the energy systems also means the markets will be opened to both parties. European operators coming to the Ukrainian market will diversify the sources of electricity supplies, increase competition in the market and improve the customer service standards.

We expect the integration of the energy grids after 2020. Today, the company is preparing to operating in the new environment and re-equipping its thermal power plants to make sure they meet the ENTSO-E requirements.

At present we need change to promote global trends in the Ukrainian energy sector. It's the leader's duty to be the flagship of change and reform. We are ready to use this opportunity to build a new Ukrainian energy sector: clean, efficient, and competitive. This is our contribution to making Ukraine energy independent and energy efficient.

About DTEK Group

01 About DTEK Group

DTEK is a strategic holding company developing four business streams in the energy sector.

DTEK Group companies produce coal and natural gas, generate electricity at thermal power plants and wind farms, supply heating and electricity to end consumers, and provide energy services. Operating companies were established in each of the business streams to directly manage production enterprises.

In 2016, DTEK companies employed more than 110 thousand people in eleven regions of Ukraine. DTEK is one of the best employers in Ukraine according to international audit firm EY and Ukrainian business publications.

The company works openly and transparently. DTEK's Eurobonds are listed on the Irish Stock Exchange.

DTEK upholds the principles of sustainable social development and is a party to the United Nations Global Compact. Building a relationship of trust with society lies at the foundation of the company's activities. This objective is achieved by forming sustainable social partnerships with local government bodies and communities.

DTEK is part of the financial and industrial group System Capital Management (SCM). The shareholder of the group is Rinat Akhmetov.

Structure of DTEK Group

DTEK B.V.
Strategic holding company

Operating companies and areas of operation

DTEK ENERGY B.V.	DTEK RENEWABLES B.V.	DTEK OIL&GAS B.V.	DTEK ESCO
Coal production and processing Electricity generation Electricity distribution Others*	Renewable energy	Gas production	Energy efficiency and energy saving

Key tasks of the strategic holding company:

- long-term planning;
- development of new businesses;
- management of the investment portfolio and raising long-term financing;
- development of the managerial talent pool;
- reputation management;
- interaction with central government bodies.

Key tasks of operating companies:

- improving operating efficiency;
- development of industry-related expertise;
- implementation of investment projects;
- professional growth of employees;
- tackling operational and management issues independently.

The strategic holding company is responsible for long-term planning and management of the entire business, while each of the operating companies serves as a centre of industry expertise and focuses on operations. DTEK is the 100% owner of the operating companies: DTEK Energy, DTEK Renewables, DTEK Oil&Gas, and DTEK ESCO.

* Companies performing service and trading functions.

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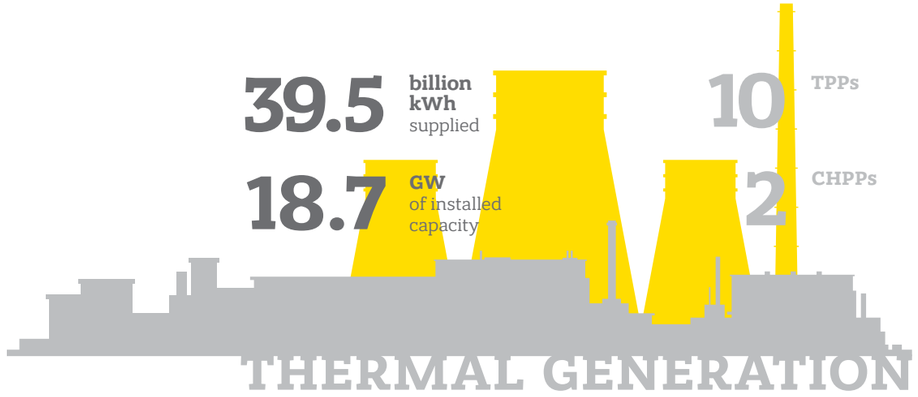
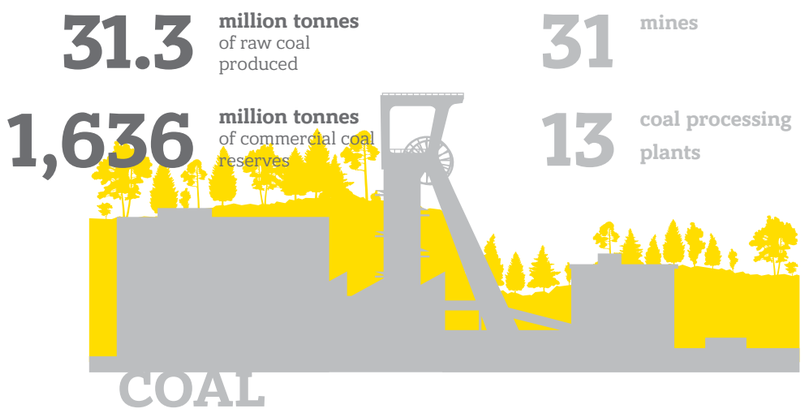
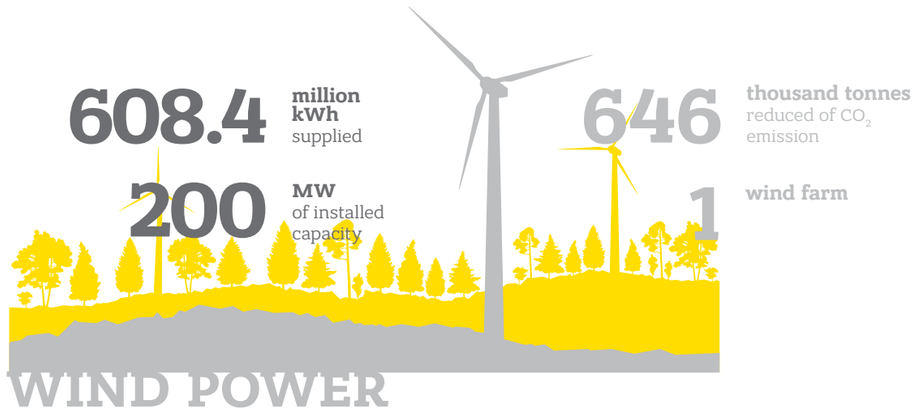
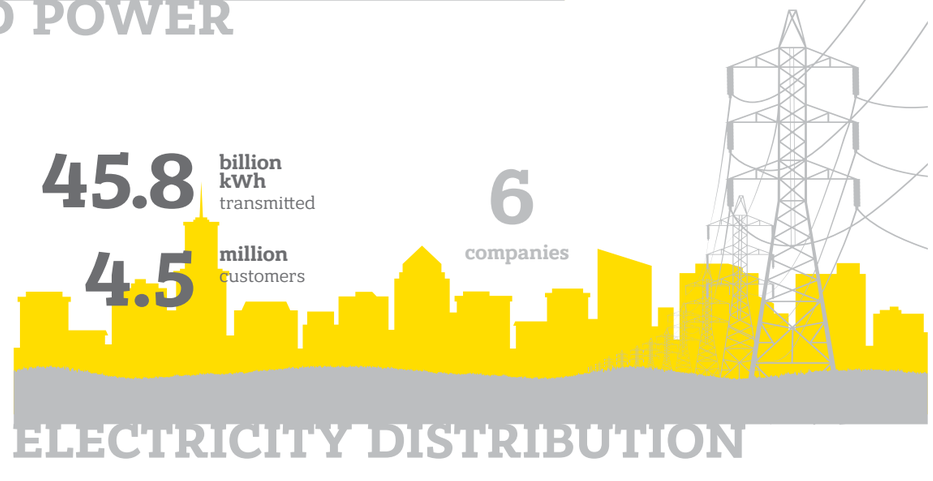
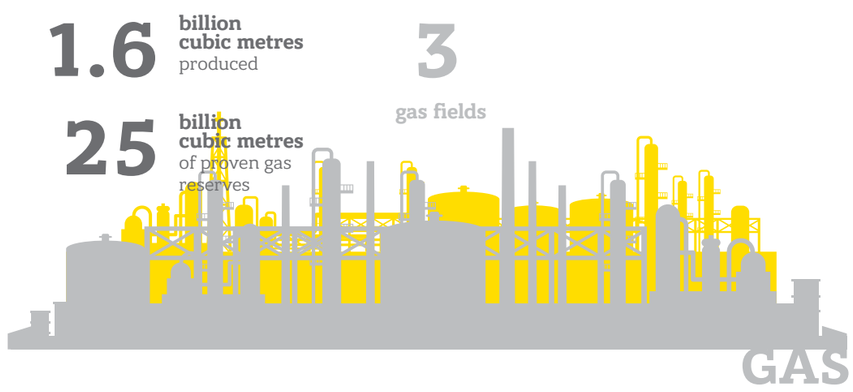
Key production and financial indicators of 2016











Key financial indicators

Revenue – UAH 131,815 mln

EBITDA – UAH 30,621 mln

Net loss – UAH 1,215 mln

Assets – UAH 140,597 mln

Capital investments – UAH 7,134 mln

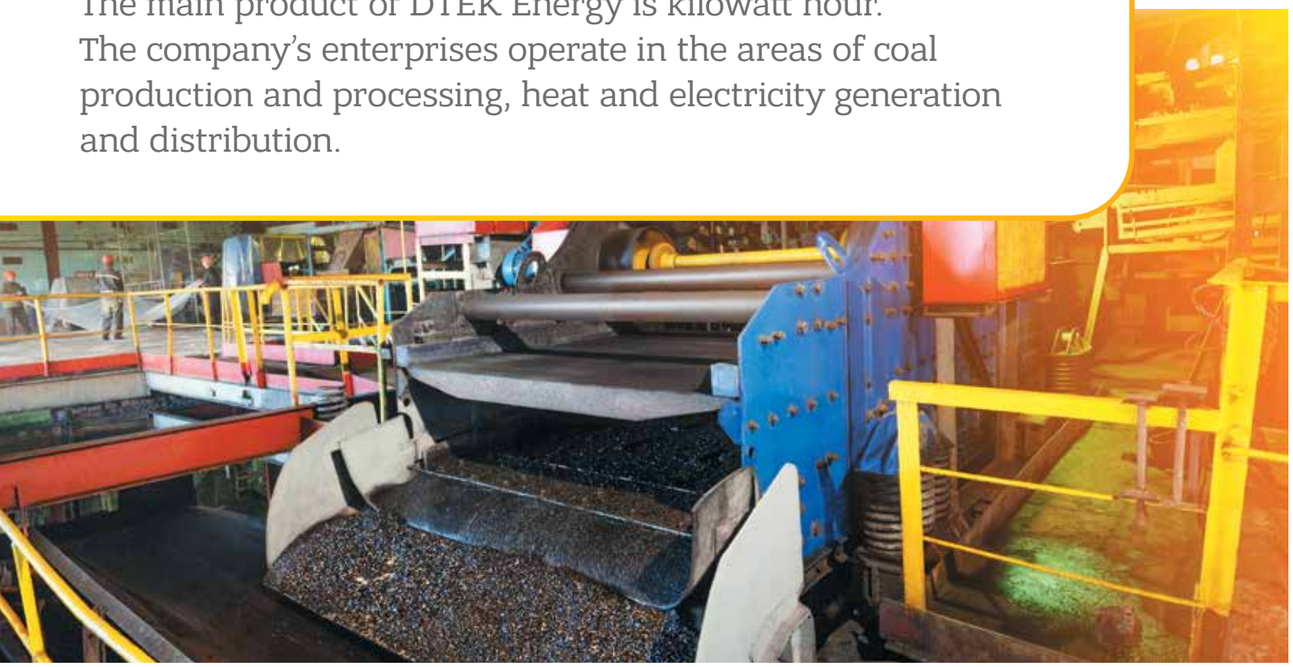
Taxes paid – UAH 17,961* mln, including UAH 7,446 VAT

*Excluding unified social tax, personal income tax and war tax withheld from salaries

Areas of business of the operating companies

DTEK Energy

The main product of DTEK Energy is kilowatt hour. The company's enterprises operate in the areas of coal production and processing, heat and electricity generation and distribution.



Coal mining and processing

DTEK Energy produces steam and coking coal. The commercial reserves of the company's deposits amount to 1,516 mln tonnes, of which high-volatile (steam) coal accounts for 1,004 mln tonnes, and anthracite and lean coal – for 511 mln tonnes. The company processes coal at its own preparation plants. Twelve coal preparation plants represent the company's preparation segment.

1.5 billion tonnes – commercial coal reserves of the company's deposits.

DTEK's coal is consumed by thermal power plants, as well as metallurgy, chemical, construction and agricultural enterprises in Ukraine, Europe, Asia, North America and Africa.

Company	Coal grade produced
DTEK Pavlogradugol	G-grade
DTEK Dobropolyeugol	G-grade
Mine Bilozerska ALC	G-grade
DTEK Rovenkyanthracite	A-grade
DTEK Sverdlovanthracite	A-grade
DTEK Mine Komsomolets Donbassa	T-grade

Electricity generation and heating

The company's thermal power generation facilities include DTEK Skhidenergo, DTEK Dniproenergo, DTEK Zakhidenergo, Kyivenergo, and the Myronivska TPP of DTEK Donetskoblenergo.

All generated electricity is supplied to the United Energy Systems of Ukraine, which is under dispatching control of the National Power Company Ukrenergo. At the same time, the supplied electricity is sold to the wholesale electricity market operated by State Enterprise Energorynok.

The electricity generated by the Burshtynska TPP and Dobrotvirska TPP, DTEK Zakhidenergo, is supplied to consumers in Lviv, Ivano-Frankivsk and Zakarpattia regions and exported. The DTEK Burshtynska TPP operates on an isolated energy island that is synchronised with ENTSO-E, the European energy system.

The main fuel for DTEK Energy's TPPs is coal. In 2016, the share of coal in the fuel mix of the power plants was 98.4%. Kyivenergo's CHPPs operate on natural gas.

DTEK Energy's TPPs and CHPPs supply heat to the cities and towns they are located in, while the heating pipelines are mostly owned by municipalities.

18.7 GW – installed capacity of DTEK Energy's thermal generation.

Company	Coal grade used
DTEK Skhidenergo	
DTEK Zuivska TPP*	G, DG
DTEK Kurakhivska TPP	G, DG
DTEK Luganska TPP	T, A
DTEK Dniproenergo	
DTEK Zaporizka TPP	G, DG
DTEK Kryvorizka TPP	T
DTEK Prydniprovska TPP	T, A
DTEK Zakhidenergo	
DTEK Burshtynska TPP	G, DG
DTEK Dobrotvirska TPP	G, DG
DTEK Ladyzhynska TPP	G, DG
DTEK Donetskoblenergo	
Myronivska TPP	T, G

Electricity distribution

Six distribution companies are part of DTEK Energy: Kyivenergo, DTEK Dniprooblenergo, DTEK Donetskoblenergo*, DTEK Power Grid*, DTEK Energougol ENE* and DTEK Krymenergo**.

DTEK Energy companies supply electricity to 4.5 mln customers.

The companies provide services to 4.5 mln customers: iron and steel plant, machine-building plants, mines and other industrial companies, as well as social facilities and households in Kyiv, Donetsk and Dnipropetrovsk regions. They purchase electricity from the State Enterprise Energorynok to supply it to consumers.

The total length of DTEK Energy distribution companies' networks 130 thousand km, and the total transformer capacity is more than 34 thousand MVA.

The district electricity sales units have been transformed into customer services centres, where customers can get advice and carry out all operations: from reconciliation of electricity bills to obtaining technical specifications for connections. The distribution companies have also set up contract centres to provide 24/7 customer support on energy supplies in the city of Kyiv and Dnipropetrovsk region. Customers can use their online Personal Accounts to manage their accounts.

*Energy companies located in the territories temporarily not controlled by the Ukrainian government operate under Resolution No. 263 of the Cabinet of Ministers of Ukraine ''On specifics of regulation of relations in the energy sector in the territories where government authorities either temporarily do not exercise or do not fully exercise their authority», dated 7 May 2015.

**On 21 January 2015, the Crimean self-proclaimed government started to consider the movable and immovable property of DTEK Krymenergo as the property of the Republic of Crimea.

Mine Office Obukhovskaya: coal mining and processing

The Obukhovskaya, Dalnyaya and No. 410 (mothballed) mines and the coal processing plant were combined into the Mine Office Obukhovskaya. DTEK B.V. (the Netherlands) holds the corporate rights to the company.

In September 2016, DTEK B.V. obtained direct control over the mine office. The transaction was part of DTEK Energy's loan portfolio restructuring and assigned the USD 436 mln loan servicing liabilities to the Mine Office Obukhovskaya.

DTEK OIL&GAS: gas production

Development of an oil and gas business is the key priority in DTEK's 2030 Development Strategy. DTEK Oil&Gas is responsible for the expansion of this business stream.

Its main operating asset is PJSC "Naftogazvydobuvannya". The company produces gas and gas condensate at the licence sites of the Semyrenkivske and Machukhske fields. Proven reserves of natural gas amount to 25 billion cubic metres (C1, C2 categories).

As of January 2017, the company operated 23 wells. The extracted gas is processed and brought to market standards at three gas processing facilities: Olefirivka preliminary gas processing terminal (PGPT), Semyrenkivska complex gas processing facility (CGPF) and Machukhska gas processing facility (GPF).

25 billion cubic metres –
proven gas reserves.

Neftegazrazrabotka LLC was established to explore and develop new sites. The company is developing the Khoroshevska site with estimated resources of 761 million cubic metres of natural gas and 495 thousand tonnes of oil (C3 category). In 2016, the company carried out geological and geophysical studies, and in 2017 it plans to start drilling the first prospecting well.

DTEK Oil&Gas explores opportunities for business expansion. The company's strategy envisages both participation in sub-soil use auctions and acquisition of already operating promising assets. Furthermore, the company is ready to use its experience and expertise to manage projects at other companies' oil and gas sites with complicated mining and geological conditions.

DTEK RENEWABLES: renewable energy

Construction of the 200 MW Botievo Wind Farm was DTEK's first investment project in the renewable energy sector. Today the wind farm is the largest one in Ukraine and is one of the top five onshore wind parks in Central and Eastern Europe. The environmental impact from the Botievo Wind Farm operation is an annual emission reduction of 646 thousand tonnes of CO_2 equivalent.

In 2017, the company plans to expand its wind power business: construction of the 200 MW Primorskaya Wind Electric Plant is expected to start in Zaporizhzhia Region.

Wind Power LLC operates the Botievo Wind Farm; Wind Electric Plant Limited Liability Company is implementing the Primorskaya Wind Electric Plant construction project; and Wind Tech LLC provides wind turbine maintenance services. All of these companies are subsidiaries of DTEK RENEWABLES.

The second promising business direction in the renewable energy sector being developed by the company is solar power. A pilot project for construction of a solar plant in Tryfonivka village of Kherson Region is planned for 2017.

Total portfolio of wind and solar energy projects is 1.4 GW

DTEK ESCO: energy efficiency

DTEK was the first Ukrainian energy company to offer comprehensive energy efficiency and energy saving services to consumers. This business area is being developed by DTEK ESCO, set up in November 2015.

The company provides services under energy service contracts and performance contracts. DTEK ESCO also performs energy audits, develops and implements turnkey comprehensive measures aimed at saving energy resources; assists in raising funds to implement energy efficiency projects for its customers; and educates its customers about the fundamentals of implementing energy management systems. The company carries out projects at industrial, residential, administrative and social facilities.

Actual ownership share in production companies, as of 1 January 2017, %

Coal mining and processing

Company	%
DTEK Dobropolyeugol LLC	100.0
DTEK Rovenkyanthracite LLC	100.0
DTEK Sverdlovanthracite LLC	100.0
Donskoy Anthracite JSC	100.0
Mine Office Obukhovskaya JSC	100.0
Sulinanthracite LLC	100.0
DTEK Pavlogradugol PrJSC	99.9
Mine Bilozerska ALC	95.4
DTEK Mine Komsomolets Donbassa PrJSC	95.3
DTEK CCM Kurahivs'ka LLC	99.9
CCM Pavlograds'ka LLC	99.9
Mospino CPE LLC	99.0
DTEK Oktyabrskaya CEP PJSC	60.9
DTEK Dobropil's'ka CEP PJSC	60.1

Service companies

Company	%
DTEK Scientific and Project Centre LLC	100.0
Interenergoservice LLC	100.0
Pershotravenskyi Repair and Engineering Plant LLC	99.0
Elektronaladka LLC	99.0
DTEK Service LLC	99.0
Sotsis LLC	99.0

Gas production

Company	%
Naftogazvydobuvannya PrJSC	60.0*
Neftegazrazrabotka LLC	100.0

*In March 2017, 15% of shares in Naftogazvydobuvannya were purchased, which increased the company's stake to 75%.

Electricity generation and distribution

Company	%
DTEK Skhidenergo LLC	100.0
Tehrempostavka LLC	100.0
DTEK Dniproenergo PJSC	73.5
DTEK Zakhidenergo PJSC	72.2
Kyivenergo PJSC	72.4
DTEK Power Grid LLC	100.0
DTEK Energougol ENE PrJSC	95.7
DTEK Donetskoblenergo PJSC	71.5
DTEK Krymenergo PJSC	57.7
DTEK Dniprooblenergo PJSC	51.7

Renewable energy

Company	%
Wind Power LLC	100.0
Primorskaya WEP LLC	100.0
Wind Tech LLC	100.0

Operating geography of the production companies*

Kyiv:

Electricity and heat generation and distribution
Kyivenergo

Vinnytsia region

Electricity generation
DTEK Zakhidenergo: Ladyzhynska TPP, Ladyzhynska HPP

Dnipropetrovsk region

Coal mining and processing
DTEK Pavlogradugol: Pershotravenske Mine Group, Pavlogradske Mine Group, Dniprovske Mine Group, Ternivske Mine Group, Geroiv Kosmosu Mine Group, CCM Pavlograds'ka

Electricity generation
DTEK Dniproenergo: Kryvorizka TPP, Prydniprovska TPP

Electricity Distribution
DTEK Dniprooblenergo

Donetsk region

Coal mining and processing
DTEK Dobropolyeugol and Mine Bilozerska ALC: Bilozerske Mine Group, Dobropilske Mine Group, DTEK Dobropilska CEP; DTEK Mine Komsomolets Donbassa: Komsomolets Donbassa Mine Group and CEP; Mospino Coal-Preparing Enterprise; DTEK CCM Kurahivs'ka; DTEK Oktyabrskaya CEP

Electricity generation
DTEK Skhidenergo: Kurakhivska TPP, Zuivska TPP; DTEK Donetskoblenergo: Myronivska TPP

Electricity Distribution
DTEK Energougol ENE; DTEK Donetskoblenergo; DTEK Power Grid

Zaporizhzhia region

Electricity generation
DTEK Dniproenergo: Zaporizka TPP;
Wind Power: Botievo WEP;
Primorskaya Wind Electric Plant: Primorskaya WEP (under construction)

Ivano-Frankivsk region

Electricity generation
DTEK Zakhidenergo: Burshtynska TPP

Luhansk region

Coal mining and processing
DTEK Rovenkyanthracite: Rovenkivske Mine Group, Yasenivske Mine Group, Komendantska CPP, Rovenkivska Processing Plant, Vakhrushevska Processing Plant; DTEK Sverdlovanthracite: Chervonopartyzanske Mine Group, Sverdlovske Mine Group, Sverdlovske CPP, Tsentrospilka Processing Plant, Chervonyi Partyzan Processing Plant

Electricity generation
DTEK Skhidenergo: Luganska TPP

Lviv region

Electricity generation
DTEK Zakhidenergo: Dobrotvirska TPP

Poltava region

Gas production
Naftogazvydobuvannya

Kharkiv region

Gas production
Neftegazrazrabotka

Kherson region

Electricity generation
Tryfanovka Energy: Tryfanovka SPP (under construction)

AR of Crimea

Electricity Distribution
DTEK Krymenergo

Russian Federation

Coal mining and processing
Mine Office Obukhovskaya; Donskoy Anthracite; Sulinanthracite: Mine Office and CPP Obukhovskaya

— Coal mining and processing
— Gas production
— Thermal generation
— Electricity distribution
— Wind energy
— Solar energy

* On 15 March 2017, the company declared that it had lost control of the companies located in the areas of Donetsk and Luhansk regions temporarily not controlled by the Ukrainian government. The company considers the requirement to re-registered in the temporarily uncontrolled territory unacceptable.

03 Key achievements and events of 2016

January

Tunnellers of the Samarska Mine successfully drove through the largest West Donbas geological fault: Bohdanivskyi fault

This fault ‘split’ the coal seams. The depth difference between the parts is about 300 vertical metres.

The Bohdanivskyi fault was a unique experience of successfully driving through such large faults. This will allow development of a mine field with 10 mln tonnes of coal reserves.

March

DTEK joined the Ukrainian Pact for Youth 2020

The initiative aims to create 10,000 apprenticeships and first-time jobs for youth by 2020.

This document is a follow-up to the European initiative adopted with a view to overcoming youth unemployment, create new apprenticeships and jobs, and strengthen partnerships between businesses and educational institutions.

DTEK is one of the best Ukrainian employers according to the EY study findings

The company ranks first among industrial companies and is rated as the top-five most attractive employers according to students of industry-specific educational institutions.

April

DTEK Dniprooblenergo revamped the dispatching centre in the town of Kryvyi Rih

A modern dispatching centre is a part of the SMART Grids programme.

A video wall manufactured by Mitsubishi displays electricity supply data for the town: from the overall plan to specific facilities. This reduces the time from identifying to remedying malfunctions, and in general preventing emergencies.

May

Professional standards for blue-collar jobs developed with DTEK’s participation were approved

The initiative seeks to improve the quality of vocational education.

The industry councils adopted the Winding Machine Operator, Cutting Machine Operator for Coal Mining Sector and Boiler Operator for Heat Sector standards. The next stage is to prepare the standards and have them approved by the Ministry of Education and Science of Ukraine. Then the vocational schools will be able to incorporate these standards in their curricula.

DTEK Renewables became a guarantor under the Botievo Wind Farm Construction Project

The alternative energy division is now able to raise funds for its business without assistance from DTEK Group’s other business divisions, which will result in their deleveraging.

In 2012–2014, a total of EUR 245 mln was raised from LandesBank Berlin AG (Germany) for the Botievo Wind Farm Construction Project. The guarantees and suretyships for the transaction were provided by DTEK Energy companies. An agreement was concluded to amend the terms and conditions of the loan, which allowed DTEK Renewables to become the guarantor.

June

Naftogazvydobuvannya implemented an automated dispatch control system (ADCS)

The system helped to reduce processing losses, to optimise the well workover time line, to reduce process equipment failures, and to improve control over industrial and environmental safety of the operations.

This system is currently unique to the Ukrainian gas production sector. Using telemetry systems, the ADCS accumulates performance data on wells, gas processing facilities, and metering points. It collects data from the systems intended for gas leakage localisation and early emergency detection. The ADCS has video surveillance systems connected to monitor production processes and GPS systems to track vehicles.

August

CCM Pavlograds’ka was retrofitted. The plant’s capacity was raised to 7 mln tonnes per year

Project implementation made it possible to stop using the plant’s sludge pond, which will have a positive impact on the region’s environmental situation.

The plant’s re-equipment made it DTEK Energy’s largest coal processing company in terms of capacity. The coal processing sections designed with the participation of the U.S. company CETCO are able to produce concentrate with an ash content of 10% and a calorific value of about 6,000 kcal. Previously the average ash content of the cleaned coal reached 22% at a calorific value of 5,400 kcal/kg.

The Yuvileina Mine has a new ventilation shaft in service

Construction of the shaft provides access to 19 mln tonnes of commercial coal reserves.

After 45 years of operation, the mine has almost depleted its coal reserves within the mine field and new deposits are at a significant distance from the main shaft. As a result, there were major difficulties in ventilating mine workings and delivering people and materials to the work site. The shaft will also be used for transportation of people and cargoes. The workers’ time underground will be reduced by 2 hours per shift.

Three gas wells over 5.7 thousand metres deep were completed in the Semyrenkivske field

The total gas flow rate is about 25 mln cubic metres per month. All wells are directional, with a deviation from the vertical axis of more than 1,000 metres.

September

The State Architectural and Construction Inspectorate issued a certificate to DTEK Burshtynska TPP Unit 5 for retrofit completion

Expected outcomes: an increase in the unit's capacity from 208 MW to 215 MW and improved equipment performance and reliability.

DTEK Energy transferred direct control over Mine Office Obukhovskaya to DTEK strategic holding company

As a result, loan servicing liabilities totalling USD 436 mln were transferred to the Russian assets of the holding, which will allow deleveraging of DTEK Energy.
Mine Office Obukhovskaya will service the loan using its operating profits.

DTEK is a partner of Poltava National Technical University named after Yuri Kondratiuk

There are three areas of cooperation. The first area is training of young specialists. Students can do internships at DTEK Oil&Gas companies, and there are plans to hire the best of them. The second area is improving the skills of oil and gas industry workers. The third area is joint research and development efforts, scientific and technical projects and studies.

October

DTEK ESCO set up an energy saving consultation centre for all Kyivenergo's customers

Consultations include displaying mockups of energy-efficient windows, heat-insulated floors, waste heat exchangers, individual heating substations and demonstrating infrared imagers in operation.

Each Kyivenergo's customer will be able to obtain professional advice at the Customer Service Centre on how to effectively save heat, gas and electricity, how to install heat meters and regulators, how to weatherise a house and where to get financing to improve energy efficiency.

Holding the International Conference entitled «Ukraine of my dream: international facilitation practices» jointly with ICA Ukraine

The goal of the conference is to present realistic projects, share experience and scale up successful practices.

DTEK Academy provided a platform for experts from Canada, the United States, Taiwan, and Poland to present 18 projects carried out using facilitation tools and methods in cooperation with local communities, unions and youth organisations in the area of education and business.

December

Eurobond holders and lending banks accepted DTEK Energy's proposal for long-term restructuring of the loan portfolio

Securities issued in 2013 to the amount of USD 750 mln with an interest rate of 7.875% p.a., and securities issued in 2015 to the amount of USD 160 mln with an interest rate of 10.375% p.a. were consolidated in a new Eurobond issue.

The issue also includes conversion of USD 300 mln bank debt. Since 29 December 2016, the new securities have been traded. Maturity: by 31 December 2024, coupon rate: 10.75% p.a.

Key events after the reporting period

On 15 March 2017, the company declared that it had lost control over its companies located in the temporarily uncontrolled territory of Donetsk and Luhansk regions: DTEK Mine Komsomolets Donbassa PrJSC, Mospino CPE LLC, DTEK Sverdlovanthracite LLC, DTEK Rovenkyanthracite LLC, Zuivska TPP (DTEK Skhidenergo LLC, Tehrempostavka LLC), Elektronaladka LLC, DTEK Energougol ENE PrJSC, DTEK Donetskoblenergo PJSC, DTEK Power Grid LLC, and DTEK Service LLC.

DTEK considers the demand to re-register its companies in the temporarily uncontrolled territory of Donetsk and Luhansk regions unacceptable and no form of pressure will force DTEK to change the jurisdiction of its assets. From this point on, DTEK does not control the operation of the above-mentioned companies.

DTEK together with SCM Group's businesses participated in the operation of the Rinat Akhmetov Humanitarian Centre established to provide as much help as possible to all civilian residents of Donetsk and Luhansk regions who suffered from hostilities.

Energy workers restored the grid, because the power supply is crucial for the survival of people in the military conflict zone.

04 Mission, vision, values

Mission

We are working in the name of progress and social prosperity.
Our energy brings light and warmth to people.

Vision

We are a dynamically developing Ukrainian company, that strives for leadership in the European energy markets. Our success is based on people, efficiency and advanced technologies.

Values

Professionalism

Our employees have extensive professional knowledge, carry out their duties responsibly and diligently, and accomplish their tasks in a timely and workmanlike manner.

We strive to achieve the best results while making the best possible use of human, natural and financial resources.

Responsibility

We are building our business on the understanding that all of our efforts should serve the interests of society. We bear responsibility for the quality of our work and the observance of corporate standards, for meeting our obligations, for using resources prudently, and for protecting the environment. We are responsible for the people who make the success of our company possible – our employees.

Pursuit of excellence

We create the right conditions for the development of talents and abilities of our employees, implement the latest technologies, and improve production and management processes. As we expand our business, we strive to instil confidence in our employees and contribute to the successful development of Ukraine.

Unity

We value team spirit, unity and solidarity. We can only achieve strong results as a team. We enjoy both working and socialising together. Our common potential comes from the diverse experience and knowledge of each employee. Our unity comes from the common pursuit of the same ideas and goals while understanding and supporting each other.

Openness

We are open and keep our employees, partners, shareholders and other external parties informed about important issues regarding our development, creating a foundation for working together in a spirit of trust. We conduct our business on the basis of principles that are clear to our employees and partners.

05 DTEK Group's 2030 Development Strategy

Development Concept

1 **DTEK will actively develop in Ukraine and enter the markets of neighbouring countries as a diversified energy company with secured fuel resources.**

2 **DTEK will focus on the sale of electricity to all categories of consumers while maintaining high standards of service and building a strong retail brand.**

3 **DTEK will support and develop key success factors: the talents and potential of its employees and efficiency of production, investments and management.**

4 **DTEK will participate in the reform and modernisation of Ukraine's economy, social development of regions where it operates, and promotion of best standards in industrial and environmental safety.**

Stages and priorities of DTEK Group's development strategy

In 2013, DTEK focused off from a 5-year planning horizon to more long-term planning, as considerable time and investments are needed for project implementation in the energy sector. The 2030 long-term corporate strategy determines key areas of business development, management projects and technologies.

Stage 1
2013—2015

Stage one of the corporate development strategy was completed in 2015. During this period, the Company became a major player in the renewable energy sector and the number one private company in the area of gas production.

However, DTEK had to revise the programme for the development of mines, thermal power plants, and distribution companies due to the military hostilities in Donbas and a crisis in the Ukrainian energy industry. The company's priority was to preserve the stability of its companies' operations to ensure stable tax payments to the state budget, secure full-time jobs for people and prompt payment of salaries. DTEK has accumulated specific experience in dealing with crisis situations and managed to reform itself without losing control, while retaining its personnel. DTEK ensured the urgent restoration of vital activities (electricity, heat, and water supply, transport infrastructure) in the regions affected by hostilities.

Distribution companies operating in the areas that were not affected by military hostilities set up a retail function, which allowed them to provide high-quality services to consumers and introduce new services. All regional electricity supply units were transformed into customers' service centres operating as «one-stop shops», and modern contact centres were established.

At this stage, the Company successfully completed implementation of the new corporate governance model, which allowed us to separate the strategic planning function and business operations. The Novator continuous improvement and lean production system aimed at improving the efficiency of operations was also implemented. The aim of Novator is to increase the efficiency of the Company's operations by developing the potential of its employees, continuous improvement of processes, reduction of losses, and improving product quality.

As far as occupational health and safety are concerned, in 2013–2015, the main focus for DTEK was on creating a culture of occupational safety and making safe behaviour at the workplace an ingrained habit of each employee. During this period, the lost time injury frequency rate decreased by 35% to 0.44. This exceeds the set target indicator of 0.53. Today, working conditions at almost all production facilities of DTEK Group comply with the OHSAS:18001 international standard.

DTEK completed the implementation of the three-year social partnership strategies developed in cooperation with local communities and aimed at finding comprehensive solutions to the most pressing problems in the territories, where the Company operates. In 2015, the company initiated and financed the mapping out of the strategies for development of the areas of the company's operation for the next three to five years. The strategies define the key points of growth capable of producing the maximum effect on the economy and social services of cities, making them more sustainable and wealthier.

Stage 2
2015—2020

Energy sector:

- increasing the efficiency of using generating capacities, completing retrofit projects at mines and coal processing plants, switching distribution companies to return on asset base tariff;
- organic development of the main assets in the gas production segment, development of existing and future priority sites from the unlicensed sites list;
- development and implementation of wind energy projects in Ukraine and neighbouring countries.

Society:

- reducing the workplace injury rate;
- implementing development strategies in the areas where the company operates;
- building an effective environmental risk management system;
- promoting best European practices aimed at reforming the energy industry and creating an efficient competitive environment.

People:

- establishing a personnel service centre based on a single IT platform;
- creating a system of continuous personal development for all employees from an entry-level employee up to top management;
- the majority of employees are aware of and share the company's corporate values.

Efficiency:

- reaching the optimal operation models of the load at TPP and mine capacity;
- successful rollout of the Novator's continuous improvement and lean production system at all companies;
- retaining a competitive position in terms of coal production cost;
- restoring borrowing capacity.

Customers:

- switching to a common billing platform for distribution companies;
- establishing a single customer service centre and implementing a customer relations management system;
- developing and implementing the retail brand.

Ukraine «plus»:

- active participation in ENTSO-E synchronisation;
- implementing the strategy for direct entry to the European energy markets;
- increasing the share of direct sales to end consumers;
- retaining leading positions in coal and electricity exports.

Stage 3
2020—2030

The final stage of the long-term strategy is aimed at using new technologies in all areas of the company's activities. Focus will be on the application of new technologies: safety of processes and automation, and sales of electricity and ancillary services. DTEK will continue expansion in both new business development and geographical diversification of business.

Six strategic vectors of development

Energy sector

The basis of DTEK's energy business is thermal generation with own fuel supply. DTEK will diversify its asset portfolio by developing renewable energy generation and gas production projects.

The company intends to maintain at least a 25% share of the electricity market until 2020.

It is expected that in 2017, an RAB-based tariff will be introduced in the distribution segment, which will increase the investment attractiveness of the business and create favourable conditions for further development.

The Company plans to continue developing the portfolio of Ukrainian wind energy assets, first of all, by implementing the Pryazovskyi Wind Park construction project.

In gas production, the Company will focus on active drilling of wells at the Semerenkivske and Machukhske fields under a long-term development programme. An exploration survey will be carried out in the Khoroshevska area, and the Company will participate in auctions to purchase new licence areas from the unlicensed site list.

DTEK's strategy is based on common goals of Ukraine in general and contributes to accomplishing the country's key tasks: energy independence, energy efficiency, and energy balance. The Company is actively engaged in promoting the best European practices aimed at reforming the energy industry and creating an effective competitive environment.

Society

One of the key tasks is to halve the workplace injury rate, which will be achieved by creating modern production facilities and processes where complex sections are automated and automatic control of safety indicators is implemented. Our primary task is to establish a culture of valuing one's own life.

DTEK will promote comprehensive development of Ukraine in general, with the primary focus on the regions where the Company's facilities operate. One of our primary goals is to establish partnership with society, to promote joint initiatives with local residents for urban development and to facilitate an understanding by local communities of the challenges the business faces. DTEK implements large-scale social programmes to raise living standards in the cities and towns where the Company operates, including those targeting environmental protection. To achieve this goal, DTEK plans to develop and implement an efficient system of environmental risk management. The Company outlined five main areas for cooperation with the regions where it operates: energy efficiency in the utilities sector, healthcare, support of socially important infrastructure, development of the business environment, and encouraging the initiatives of local communities.

Today, the Ukrainian energy sector is undergoing large-scale reforms that will result in liberalisation and openness of the market, establishing market coal pricing mechanisms and rates in the electricity generation and distribution segments. DTEK is actively engaged in supporting the reforms by participating in working groups on the development of draft laws.

The focus will be on preserving and improving the Company's reputation. DTEK has always shown that it does business transparently, and will continue to do so in the future.

Customers

Liberalisation of the energy market means that consumers have the right to choose their suppliers. In order to effectively operate in a free market, the transition from an electricity supply company to a customer-oriented business has become DTEK's key task.

The Company is developing common customer management standards for all distribution companies by replacing the obsolete service system with Western standard service. There are plans to expand our network of CSC and unify its operating principles. Online services are replacing consumer billing books. In the next few years, we will introduce a common centralised billing system, thus establishing the foundation for the large-scale deployment of Smart Grid and Smart Metering technologies.

The Company is expanding its range of services by adding energy efficiency services and upgrading the quality of products and services, which should increase customer satisfaction to 90% by 2030.

We will be actively developing DTEK's retail brand to make reliability and innovations available to everyone.

People

People are the backbone of the Company and the source of our greatest competitive advantages. DTEK will continue to invest in the development of our personnel and promotion of an innovation culture.

People are the Company's intellectual capital, and we are planning to train all managers in personnel management processes and create a system of continuous personal development for employees. The focus will be on the formation of a corporate culture that creates conditions for efficient achievement of business goals, employee engagement, building loyalty to the company and adopting the Company's values.

DTEK plans to use state-of-the-art IT technologies in the areas of human resources, benefits and incentives, and organisational management, which will help organise personnel management business processes in the most efficient manner, as well as cultivate and attract talents to the Company.

DTEK will continue with large-scale investments in the development of its personnel and will promote an innovation culture in production and management. The Company's goal is to use the Human Capital philosophy, according to which employees act as business partners.

Efficiency

DTEK strives not only to reduce costs, but to explore new opportunities to obtain maximum return from used resources. Our competitive ability and leadership will be based on the three pillars: efficiency of management, efficiency of production and efficiency of investments.

Efficiency of production is impossible without timely modernisation of our production companies, which requires investment efficiency. DTEK Energy's enterprises were established in the 1950s–1960s. Today they need total renovation. The Company determines investment priorities and chooses the best engineering solutions to minimise human involvement in the coal production process, upgrade and construct new power units and create modern electrical network.

For production efficiency, the Company is implementing the Novator continuous improvement system and developing a culture of lean production. Novator will become the basic model for employee conduct: each employee will have the right to make a reasonable suggestion for improving efficiency at his/her workplace. The best proposals will be implemented.

This approach is conducive to business development and has advantages for consumers and the economy in general. From the point of view of consumers, DTEK's efficiency means lower electricity consumption; for partners this means a lower energy component in product cost, while for Ukraine this means increased energy security, the implementation of innovations, a favourable investment climate, and increased effectiveness of the entire economy.

Business efficiency is a prerequisite for sustainable long-term development.

Ukraine «plus»

Ukraine is the key priority for DTEK's development. The company's largest investments are channelled into the development of Ukraine's energy sector and economy. We build new capacities, introduce new technologies, and set up new businesses. Effective operation on external markets is impossible when there is no strong production base at home.

DTEK tries to develop commercial relations with external markets. One of our main tasks is to expand technical and business opportunities to export electricity, implement modern and innovative commercial mechanisms, and reach end consumers on European markets. DTEK is ready to take part in the project for synchronisation with ENTSO-E, and will do everything necessary to get its power units and networks ready for integration into the European energy system.

In general, DTEK strives to represent the Ukrainian business sector to international partners as a transparent, responsible and efficient Company that is oriented toward long-term sustainable development.

06

DTEK Group top management

Maksym Timchenko

CEO of DTEK

Mr. Timchenko has been the head of DTEK since July 2005.

Under his leadership, DTEK has become the largest Ukrainian company. Since 2005, DTEK's portfolio has grown to 31 mines, 13 coal preparation plants, 10 TPPs, 2 CHPPs, and 6 distribution companies. In 2013, DTEK became a major shareholder of Naftogazvydobuvannya, the largest private gas producing company in Ukraine. In 2014, DTEK completed the construction of Botievo Wind Farm with capacity of 200 MW, which is one of the five largest wind power farms in Central and Eastern Europe. In 2015, DTEK successfully implemented a new corporate governance structure, which provides for effective unbundling of strategic planning and operational functions. In 2016—2017, DTEK restructured the loan portfolio of its operating companies. This allowed the company to balance its financial capabilities with respect to loan servicing and future development.

Along with 20 other leaders of the world's largest energy companies, Maksym Timchenko was a co-founder and signatory of Energy for Society, a global initiative of the World Economic Forum.

For years, he has maintained a leading position among top managers of Ukrainian companies according to ratings by Ukrainian business publications. In 2016, Business magazine ranked him among the «40 people who are changing the country''. In 2014, he ranked first in the "100 Best Top Managers of Ukraine". In 2012 and 2013, Forbes and Companion magazines positively assessed Maksym Timchenko's work: he made it into their lists of the top ten business executives of Ukraine.

From 2002 to 2005, Mr. Timchenko worked as a senior manager at SCM, where he was responsible for SCM's energy business until it was spun off into DTEK. Mr. Timchenko began his career as a consultant at PricewaterhouseCoopers (1998–2002), where he advanced to a senior auditor position.

He is a member of the Association of Certified Chartered Accountants (ACCA).

He received a degree in Production Management with honours from the Donetsk State Academy of Management in 1997. He continued his education at Manchester University and received a BA degree in Economics and Social Sciences with honours.

Dmitriy Sakharuk

Acting CEO of DTEK Energy

Mr. Sakharuk has been the head of the company since October 2016.

From August 2014, he was the Chief Operating Officer at DTEK Energy. From May 2011, he held the position of Head of the Legal Support Division. Dmitriy Sakharuk joined DTEK in March 2010 as the Deputy Legal Director. Before joining DTEK, he worked for Squire, Sanders & Dempsey LLP from 2008.

In 2000, he graduated with honours from Kharkiv National University of Internal Affairs (Ukraine) majoring in Law. In 2001, he received a Master's degree in Law Enforcement with honours from the same university. In 2002, he obtained a LL.M. degree in International and Comparative Law from the Chicago-Kent College of Law (USA). During his employment with DTEK, Dmitriy successfully completed the Energy of Leader programme, a joint programme of the London Business School (UK) and DTEK Academy.

Igor Shchurov

CEO of DTEK Oil&Gas

Mr. Shchurov has been working for the company since September 2011.

From April 2013 to September 2016, Mr. Shchurov was in charge of Naftogazvydobuvannya PrJSC, a key production asset of DTEK Oil&Gas. He joined DTEK Group from Novatek, Russia's largest independent gas producer, where he was the head of its subsidiary Novatek-Tarkosaleneftegaz (annual production: 14 billion cubic meters of gas). From 1998 to 2007, he worked at Samaraneftegaz (Yukos Oil Company, Russian Federation), where he rose from oil and gas production operator to deputy general director.

In 2002, he received a PhD in Technical Sciences at Ufa State Petroleum Technological University. In 2000, he received a second university degree in Finance and Credit at Samara State University of Economics. In 1998, he graduated from Samara State Technical University, where he received a degree in Oil and Gas Field Development.

Viktoriya Syromyatova

Director of Wind Power

Viktoriya Syromyatova was appointed the Director of Wind Power in April 2016.

Prior to her appointment, Ms. Syromyatova has been the company's Finance Director for five years. From 2007 to 2011, she held the position of manager in the Corporate Internal Audit Unit of DTEK. From 2003 to 2007, Victoria worked at DPA company where she rose from an economist to the Finance Director position. She started her career as a manager at the Donplastavtomat joint venture in 1997.

In 1997, she graduated from Donetsk National Technical University majoring in Manufacturing Engineering. In 2002, Ms. Syromyatova graduated from Donetsk State University of Economics and Trade named after Mykhaylo Tuhan-Baranovsky, with a major in Finance. In 2010, she received an MBA degree from a joint MBA programme of Kyiv-Mohyla Business School (KMBS) and DTEK Academy. Ms. Syromyatova also completed Energy of the Leader, a joint programme of INSEAD (France) and DTEK Academy.

Roman Fedorchenko

Director of DTEK ESCO

Mr. Fedorchenko has led the company since its foundation in November 2015.

Prior to this, from 2012, he was the leader of an energy efficiency project team at DTEK. The team created a portfolio of investment projects worth over USD 500 mln and conducted 12 energy audits at the Company's operations.

In 2005, he graduated from Kryvyi Rih Technical University with an International Business Manager diploma. In 2000, he received a Programmer diploma from Dnipropetrovsk College of Rocket and Space Engineering at Dnipropetrovsk State University.

Review of macroeconomic indicators and industries

01 Ukraine's macroeconomic indicators in 2016

02 Coal Market

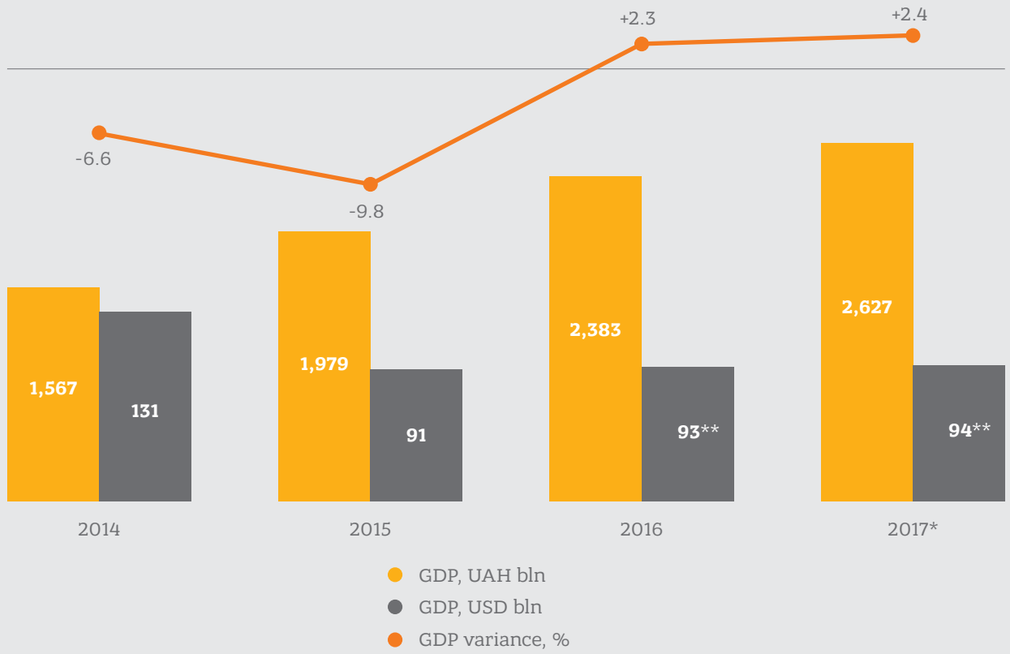
03 Electricity Market

04 Natural Gas Market

01 Ukraine's macroeconomic indicators in 2016

This is the first time in the last two years that Ukraine's macroeconomic indicators have stopped declining and showed slight growth in 2016. According to the Ministry of Economic Development and Trade, real GDP increased by 2.3% y-o-y, even though at the start of the year, in its consensus forecast based on the opinions of macroeconomic analysis and forecast experts, the ministry expected real GDP to be within the range of +2% to −0.3%. According to the ministry, the growth has been mainly supported by internal factors: investor and consumer demand.

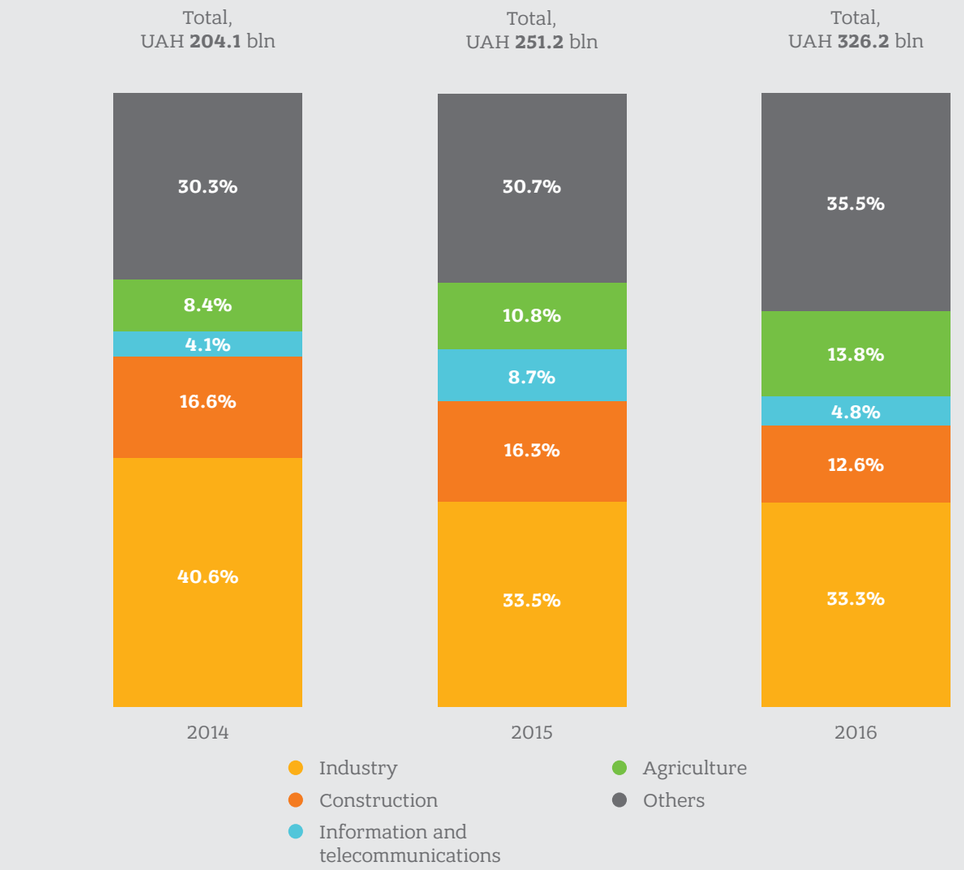
GDP trends



* Forecast of the Ministry of Economic Development and Trade of Ukraine.
** 2016 values are based on a USD/UAH exchange rate of 25.55; 2017 values are based on a USD/UAH exchange rate of 28.

In 2016, Ukraine's shadow economy showed a downward trend. According to the Ministry of Economic Development and Trade, the integral indicator of the shadow economy amounted to 41% of GDP (−5 percentage points over the same period in 2015) in 1Q and 38% (−4 p.p.) after 1H; from January to September, it amounted to 35% (−5 p.p.). At the time of the report's preparation, the annual shadow economy data had still not been published. The decreased share of the shadow economy was a result of the improved macroeconomic situation and business climate supported by the policies of deregulation of entrepreneurial activities and increased efficiency in the public sector, restoration of old and establishment of new inter-sector links in the national economy, and gradual legalisation of relations in the labour market due to the decreased rate of the single social contribution.

Structure of capital investments



Data from the State Statistics Service of Ukraine.

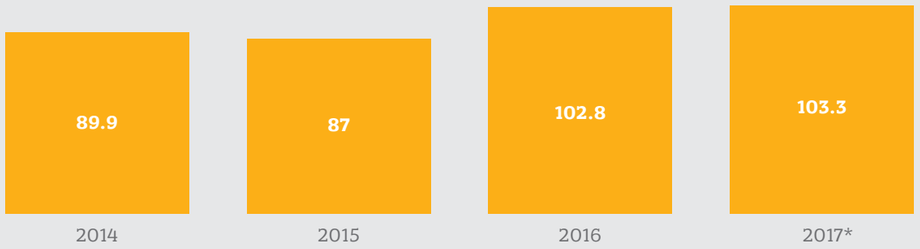
In the structure of capital investments, equity of companies and organisations accounted for 69.4%, budgets of all levels for 9.4%, private investments in housing construction for 8.9%, bank loans for 7.1%, and foreign investments accounted for 2.9%. In 2016, the shares of companies' and organisations' equity and budgets of all levels increased by 2 percentage points compared to 2015, while the share of private investments in housing construction dropped by 3.1 p.p.

Investments were allocated to acquire tangible assets, mainly for the construction of buildings and procurement of equipment. In the industrial sector, capital investments were allocated as follows: processing industries accounted for 50.6%, energy sectors for 27.5%, and the mining sector for 20%.

The trend toward increasing direct foreign investments and slower capital outflows continues. In 2016, the country received USD 4.4 bln in direct foreign investments compared to USD 3.8 bln in 2015. Five countries – the Russian Federation, Cyprus, the United Kingdom, the Netherlands and Austria – accounted for 70% of direct foreign investments. The Russian Federation remains the largest investor in the Ukrainian economy, with USD 1.7 bln, most of which was intended for Russian subsidiary banks to meet the capitalisation requirements of the National Bank of Ukraine.

In 2016, the slower capital outflow trend continued: the indicator stayed at the 2015 level of USD 0.9 bln. In aggregate, the reduction in shareholders' equity, including the reduction caused by exchange differences, amounted to USD 2.0 bln, while in 2015, this indicator was 5.2 bln.

Industrial production index, %



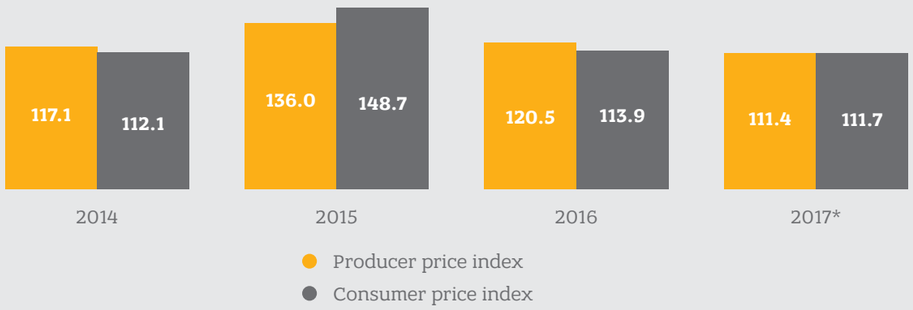
Data from the State Statistics Service of Ukraine.
* Forecast of the Ministry of Economic Development and Trade of Ukraine.

In 2016, global markets recovered the demand for metal goods and iron ore, which had a positive impact on the industrial production indicators in Ukraine. The domestic market also supported production: starting in April, it showed sustainable growth of retail sales turnover. Retail sales turnover amounted to UAH 1,159.3 bln in 2016, which in comparable prices, was 4% above the 2015 level.

In money terms, the sales of industrial goods grew by 18% to UAH 1,765.6 bln (UAH 1,496.0 bln in 2015), including an increase in exports of 11.4% to UAH 466.6 bln (UAH 418.8 bln in 2015). At the same time, intermediate consumption goods accounted for 36.5% of total sales, energy for 32.5%, and non-durable consumer goods for 23.4%.

Industry, together with construction, retail trade and agriculture, is one of the core sectors on which the national GDP primarily depends. In 2016, retail sales increased by 4%, agriculture by 6.1%, and the scope of completed construction work grew by 13.1%.

Producer price index and consumer price index, %



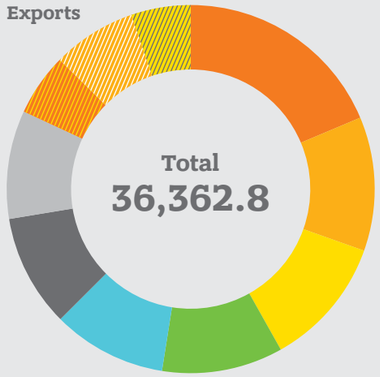
Data from the State Statistics Service of Ukraine.
* Forecast of the Ministry of Economic Development and Trade of Ukraine.

The average nominal wage of full-time employees went up by 23.6% to UAH 5,183. According to the State Statistics Service, in December 2016, the real wage index amounted to 111.6%, and the average nominal wage was UAH 6,475, which is 23.8% higher compared to the same period in 2015. The slower growth of the producer price index and consumer price index is due to relative stabilisation in the foreign currency market and stronger macroeconomic indicators.

Cross-border trade in commodities in 2016, USD mln

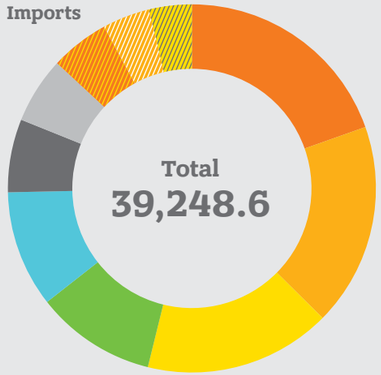
Number of foreign trading partners: 226

Exports



Russia	3,591.8
Egypt	2,266.2
Poland	2,200.2
Turkey	2,048.7
Italy	1,929.6
India	1,903.2
China	1,832.5
Hungary	1,053.1
Germany	1,423.7
Spain	1,004.5

Imports



Russia	5,148.3
China	4,688.5
Germany	4,318.6
Belarus	2,777.3
Poland	2,692.8
USA	1,687.9
France	1,530.3
Italy	1,358.2
Turkey	1,100.0
Switzerland	983.3

Data from the State Statistics Service of Ukraine.

The negative balance of foreign trade in commodities in 2016 amounted to USD 2,885.8 mln. The export-import coverage ratio decreased to 0.93 due to decreased supplies of Ukrainian goods to foreign markets by 4.6% and increased imports. Supplies primarily decreased to the Russian Federation: they accounted for 9.9% of total 2016 exports compared to 12.7% in 2015. Recovery of demand in the domestic market increased imports of goods by USD 1,732.2 mln. (In 2015, the balance of foreign trade was positive: exports exceeded imports in money terms by USD 610.7 mln.)

Exports of services in 2016 amounted to USD 9,631.4 mln; and imports, to USD 5,304.7 mln. The export-import coverage ratio was 1.82 compared to 1.76 in 2015.

As exports of services exceeded imports, the total foreign trade balance was positive in 2016. Exports of goods and services in 2016 amounted to USD 44,885.4 mln; and imports to USD 44,548.1 mln.

In 2016, the main Ukrainian exporting segments were: agricultural products – 35.3%, the iron and steel industry – 22.9%, engineering – 10.0%, mineral goods – 7.5%, prepared food – 6.7%, and the chemical and associated industries – 4.3%.

In imports, mineral goods accounted for 21.6% of the total amount of imported goods, engineering goods for 20.1%, goods of the chemical and associated industries for 14.3%, products of the transportation sector for 7.5%, the iron and steel industry for 5.9%, and prepared food for 4.4%.

The total amount of government and government-guaranteed debt as of 31 December 2016

	USD bln	UAH bln
USD	31.64	860.26
UAH	21.48	584.06
SDR*	13.08	355.53
EUR	3.93	106.92
JPY	0.55	14.95
CAD	0.30	8.03

Data from the Ministry of Finance of Ukraine.
* SDR: Special Drawing Rights.

The total amount of Ukraine's government and government-guaranteed debt in 2016 increased by 8.3% to USD 70.97 bln, or by 22.7% in UAH equivalent to UAH 1,930 trillion. The main growth factors were financing from public budgets due to public borrowing, capitalisation of PrivatBank and Deposit Insurance Fund, and devaluation of the national currency from UAH 24.00/USD 1 to about UAH 27.19/USD 1.

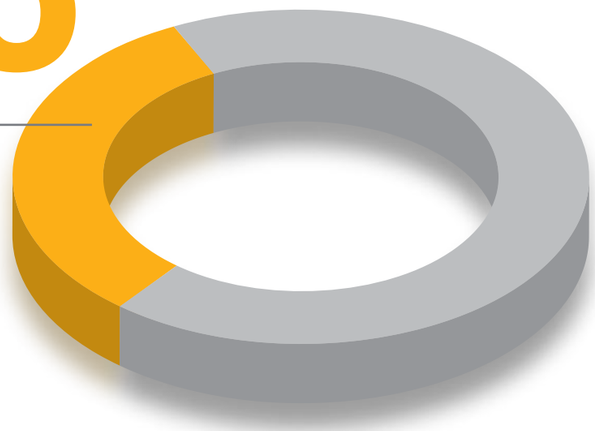
The National Bank of Ukraine's (NBU) international reserves increased by 17% to USD 15,539 bln as of 1 January 2017. Foreign currency interventions by the National Bank were one of the main sources of reserves growth: the government purchased 1.6 bln in USD equivalent from national exporters. Reserves growth was also supported by the third USD 1 bln tranche from the IMF under the Extended Fund Facility (EFF) and IMF programme-related financing of USD 1 bln from the placement of Ukraine's Eurobonds against U.S. guarantees.

The loss in the banking sector amounted to UAH 159 bln, caused by the provision made for PrivatBank's loan portfolio at the end of 2016. For other banks, allocations to provisions were significantly reduced, and aggregate losses decreased to UAH 23 bln compared to UAH 66 bln in 2015. In 2016, bank deposits increased by UAH 117.6 bln.

Coal Market

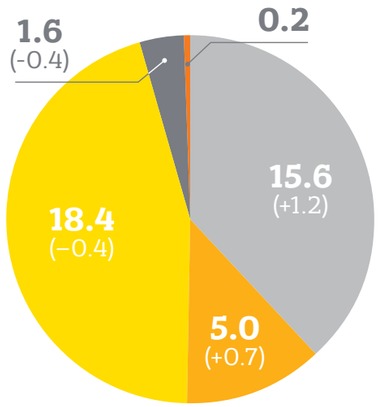
32%

of Ukrainian electricity is produced by coal-fired TPPs



40.9 mln tonnes

of all coal grades were produced in 2016 (**+2.8%** vs 2015)

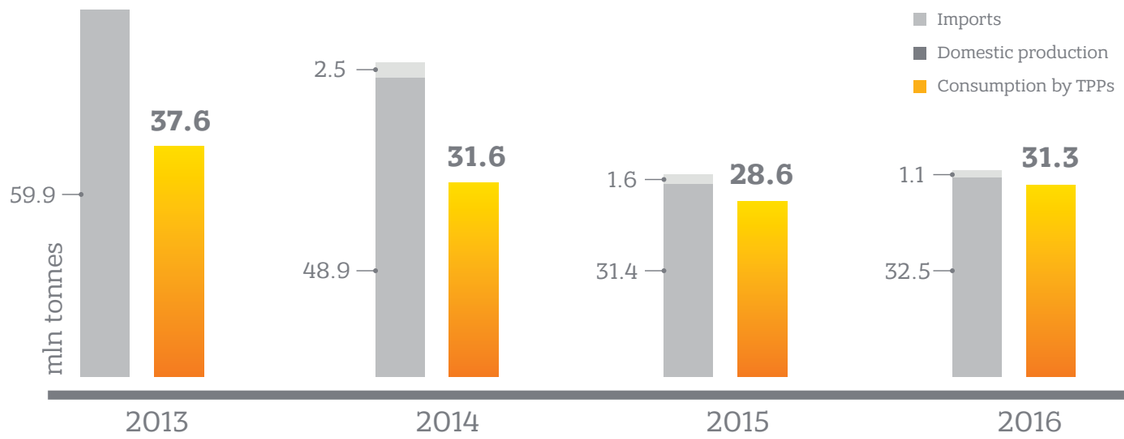


Coal production by region, mln tonnes (+/– vs 2015):

- Donetsk region
- Luhansk region
- Dnipropetrovsk region
- Lviv region
- Volyn region

Since 2014, Ukraine has been importing coal for the energy sector

All the mines producing anthracite and lean coal are located within the anti-terrorist operation (ATO) zone



The data is for the production of thermal coal grades.
Data from the Ministry of Energy and Coal Industry of Ukraine.

02 Coal market

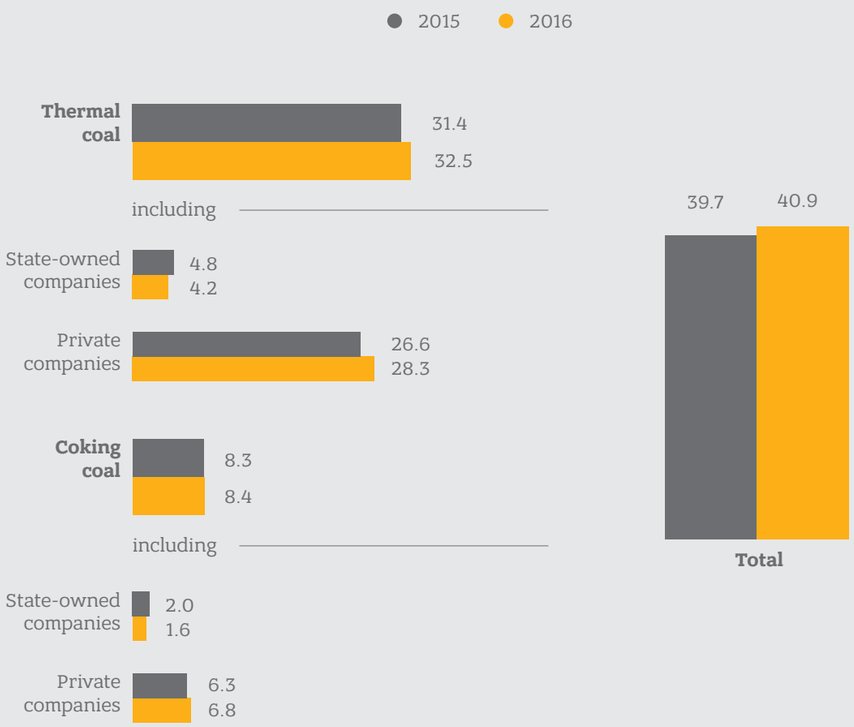
Coal fuels one-third of Ukraine's electricity demand.

Coal reserves in Ukraine are estimated at 56 bln tonnes, and proven reserves at 33.9 bln. The main reserves can be found in the Donetsk, Dnipropetrovsk and Lviv-Volyn coal basins, as well as in the Dnipro-Donetsk and Zakarpattia coal depressions. The deposits are characterised by deep occurrence and thin seams (0.8–1.0 m). Work is carried out at depths of 500 meters to 1,000 meters. Most of the reserves consist of thermal coal, and coking coals account for about 30%.

Thermal coal balance

In 2016, coal production in Ukraine increased by 2.8% to 40.9 mln tonnes. In the same period, coal consumption grew by 9.4% to 31.3 mln tonnes. According to the data from the Ministry of Energy and Coal Industry of Ukraine, the output of thermal coal increased by 3.4%, and the production of coking coal remained at the 2015 level.

Coal production in Ukraine, mln tonnes



Data from the Ministry of Energy and Coal Industry of Ukraine.

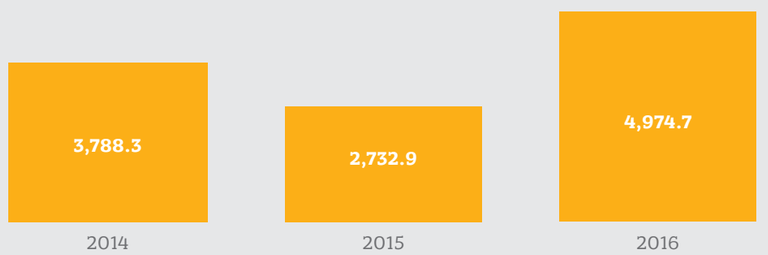
The coal production in Ukraine is heavily constrained by the ongoing military conflict affecting parts of Donetsk and Luhansk regions. There are 85 mines in the territory temporarily not controlled by the Ukrainian authorities, and 60 of them produce thermal coal. When the conflict started, Ukraine had 150 coal mines of all forms of ownership; and total coal output in 2013 was 83.7 mln tonnes.

Another negative factor is the industry's underfinancing in previous periods. Governmental financing for the development of state-owned mines is still low. In its report, the Antimonopoly Committee of Ukraine notes that in the public sector, funds were allocated in previous years to cover short-term needs, and no financing was provided for technical re-equipment and capital construction, which resulted in a major decline in production, increased production cost of finished marketable products, deterioration of the mining equipment fleet and use of obsolete machinery (90%).

Private companies are satisfying most of the demand for coal resources in the economy. However, in 2014-2015, the economic situation in the country caused a shortage of financing.

In 2016, total capital investments in the production of hard and brown coals increased to UAH 4,974.7 mln, according to the State Statistics Service of Ukraine. DTEK Energy accounted for 73.7% of the total investments: UAH 3.6 bln were allocated for the development of the company's Ukrainian mines in 2016 compared to UAH 2.1 bln in 2015.

Capital investments in the coal industry, UAH mln



Coal production is a technologically complicated and slowly evolving process, as the development of a new longwall alone takes 5 to 6 months. Development of the industry requires regular capital expenditures to implement new projects.

Data from the State Statistics Service of Ukraine.

There are 14 thermal power plants in Ukraine, half of which operate on high-volatile steam coal grades, and the remaining seven plants on anthracite. The production of high-volatile steam coal grades is not at risk of termination due to military hostilities, unlike the anthracite and lean coal mines located in the ATO zone. In 2016, coal supplies from the ATO zone amounted to 11.8 mln tonnes (in 2015, thermal generators received 8.5 mln tonnes of coal). Furthermore, 0.9 mln tonnes of anthracite and 0.1 mln tonnes of high-volatile steam coal (1.6 mln tonnes in 2015) were imported to meet the demand of the generating companies. In general, more coal was supplied for thermal generation this year than in 2015, which made up for the shortage of generating capacities in the United Energy System of Ukraine that occurred in 2H 2016.

Pursuant to governmental resolution No. 1176 dd. 30 December 2015, anthracite exports are subject to licensing.

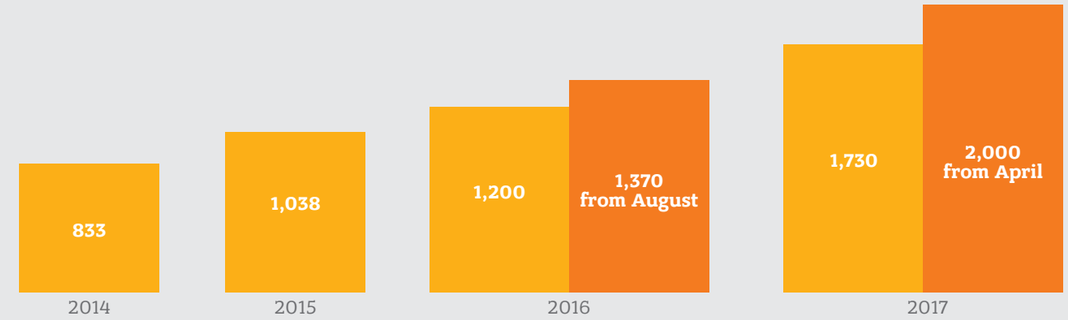
Pricing

Coal in Ukraine is sold under direct contracts between mining companies and consumers or via State Enterprise Derzhvuhlepostach, which acts as the wholesale coal market operator for some state-owned mines. The above state enterprise was established in 2016, and its functions are almost identical to those of State Enterprise Vuhillia Ukrainy (Coal of Ukraine):

- protecting national economic interests during coal market reform and development;
- participating in the preparation of fuel balances based on analysis of current demand and the available resource base;
- performing the functions of the Ukrainian Wholesale Coal Market operator;
- purchasing coal from coal-mining companies and supplying it to consumers;
- conducting coal export and import transactions;
- conducting independent monitoring of coal product quality.

The operator distributes coal products at fixed calculated prices. This results in cross-subsidisation of loss-making state-owned mines at the expense of profitable ones. Furthermore, the state allocates funds to support state-owned mines by partially covering some expenses in the production cost of coal, as the coal production cost is much higher than its selling price (for more details, see Sector Regulation). In 2016, state-owned mines increased the wholesale price of a tonne of marketable coal products by 15.5% to UAH 1,156, whereas the production cost grew by 4.4% to UAH 2,160. (In 2015, the wholesale price of a tonne of marketable coal products increased by 59.5% to UAH 1,001.5, whereas the production cost was up by 17.2% to UAH 2,069.3.)

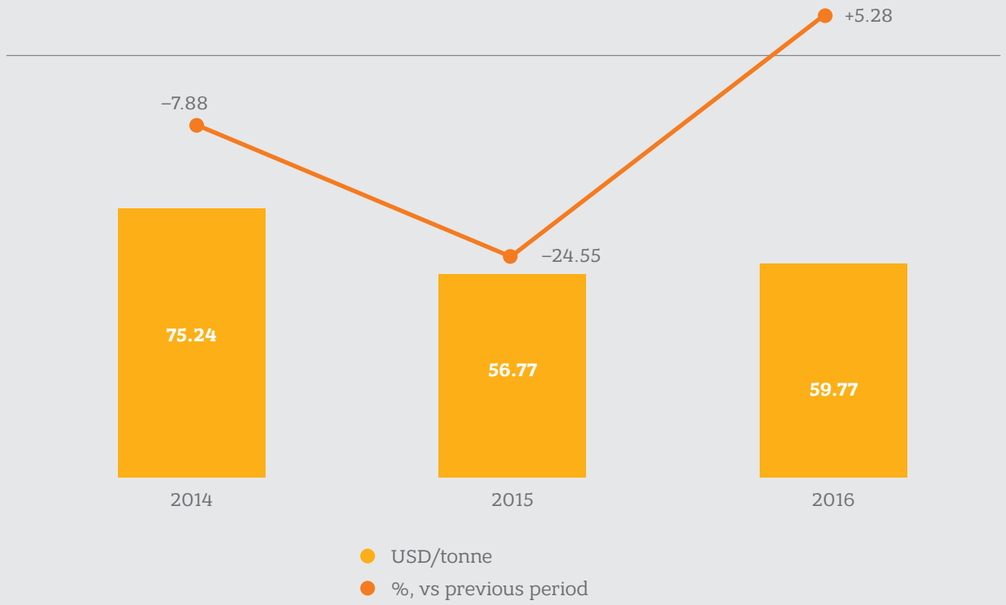
Average coal selling price of state-owned mines, UAH/tonne



Data: the Antimonopoly Committee of Ukraine, the Ministry of Energy and Coal Industry of Ukraine.

The selling price of coal for thermal generators is regulated by Resolution No. 289 dd. 3 March 2016 of the National Energy and Utilities Regulatory Commission (NEURC). Private companies set prices for coal products that are not used in thermal generation for electricity production based on supply and demand, taking into account general trends on international and domestic markets.

API2 index reflects the average annual price for thermal coal with a calorific value of 6,000 kcal/kg delivered CIF the ports of Amsterdam, Rotterdam, Antwerp



Data: McCloskey Sources.

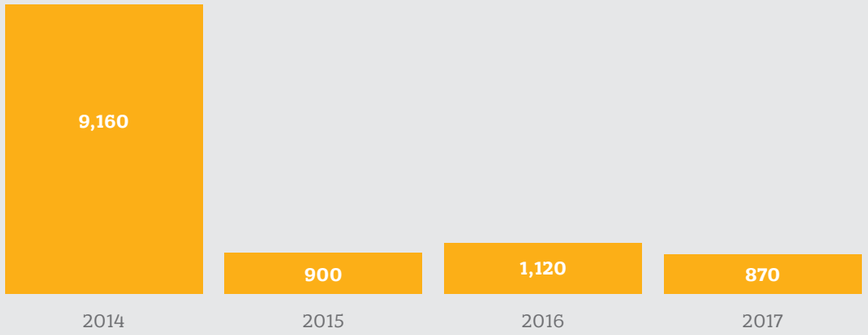
One of the key reasons for price changes on global coal markets was the shortage on the Chinese domestic market in 2H 2016 caused by internal policies of curbing production.

Sector Regulation

The Ministry of Energy and Coal Industry is the main governmental body determining policies in the coal mining sector. The ministry acts in accordance with the goals and tasks set by the Programme of Activities of the Cabinet of Ministers of Ukraine, the European Ukraine Parliamentary Coalition Agreement and the Ukraine 2020 Sustainable Development Strategy.

In 2016, the government continued supporting state-owned mines by providing subsidies. Initially, the national budget did not provide funds to cover the gap between the coal selling price and the production cost. However, due to salary arrears to miners at state-owned mines, it was decided to re-allocate funds originally assigned to the ministry to restructure the sector and settle debts. In particular, UAH 1,120 mln were taken from programmes for financing loss-making mine closure and restructuring and the budget reserve to settle the salary debt by covering the gap between the coal selling price and its production cost. Furthermore, UAH 100 mln were re-distributed for the construction of Mine Novovolynska 10. Consequently, according to the ministry's report, the government-financed Restructuring of the Coal and Peat Industries programme received UAH 108.8 mln in 2016; underfinancing was UAH 13 mln.

Funds for covering the gap between the coal selling price and production cost for state-owned mines, UAH mln



Data: Law of Ukraine "On the State Budget of Ukraine".

The 2017 national budget provides UAH 870 mln for state-owned mines to cover the gap between the coal selling price and production cost, UAH 150 mln for completing the construction of Mine Novovolynska 10, and UAH 846.3 mln for the Restructuring of the Coal and Peat Industries programme.

Key areas of development, reform, and restructuring of the industry:

- liberalisation of the coal market by introducing exchange trading and switching to direct coal sale contracts;
- privatisation of all coal-mining companies as required by the Law of Ukraine "On Specifics of Privatisation of Coal Mining Companies", shutting down or mothballing mines that have not been privatised (2015-2019);
- optimisation of state support to conduct efficient restructuring, ensuring financial sustainability, bringing subsidies to the minimum level needed for water drainage and environmental protection by developing the appropriate law (by 2020);
- establishing an effective social support system for employees of companies undergoing liquidation or mothballing.

Key legislative events of 2016

In view of the latest social, economic and political developments in the country, the Ministry of Energy and Coal Industry of Ukraine updated the draft Concept of the 2020 Governmental Target Economic Programme for Coal Industry Reform.

The Concept identifies the following areas that must be addressed to ensure efficient reforms in the coal industry:

- improvement of the regulatory framework to accelerate the restructuring of loss-making mines;
- optimisation of non-core assets of coal-mining companies;
- making coal-mining companies more attractive for investors;
- development of a social protection mechanism for employees who were made redundant and tackling environmental problems;
- quicker preparation of mines for privatisation;
- determining specific measures to reduce the production cost of marketable coal products;
- making the prices for marketable products economically sound.

To prevent corruption and meet the requirements of the anti-corruption laws, state-owned coal companies have adopted anti-corruption programmes. The developed programmes comply with the Constitution of Ukraine, Law of Ukraine "On Corruption Prevention", and Law of Ukraine "On the Principles of State Anti-Corruption Policy in Ukraine (the Anti-Corruption Strategy) for 2014-2017".

Electricity market

× 5 times

Green generating capacities increased by **120.6 MW**, which is 5 times above the 2015 indicator

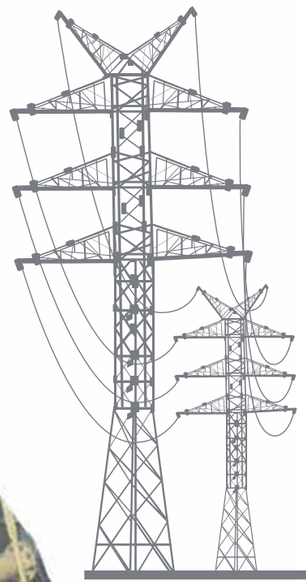
118.3

bln kWh

electricity consumption in 2016

-0.4%

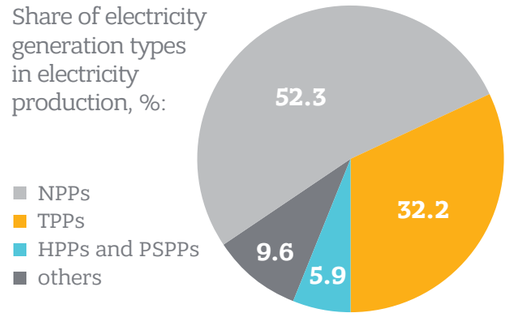
this is the first time since 2013 that the decline in demand has slowed down



Main electricity suppliers in the United Energy System of Ukraine:

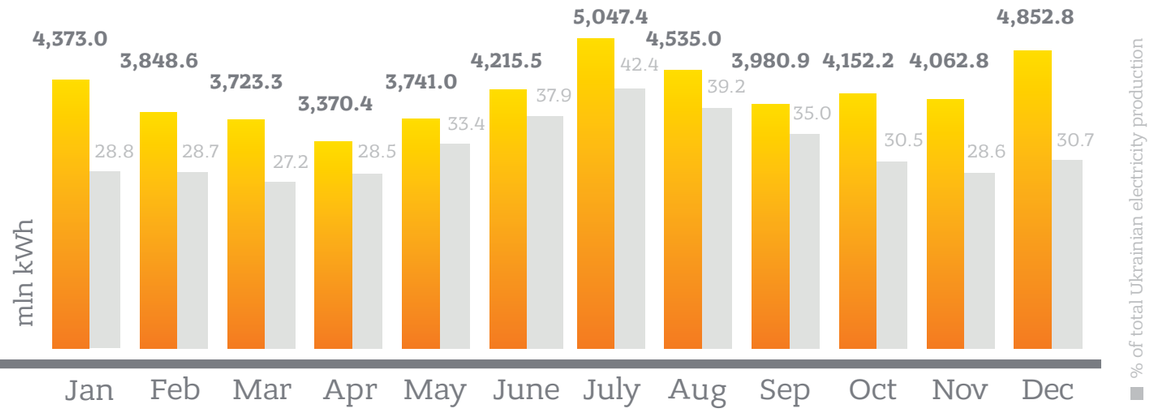
- Energoatom, an operator of 4 nuclear power plants (NPPs) in service in Ukraine
- 5 thermal generating companies (GenCos) operating 14 thermal power plants (TPPs)
- “Ukrhydroenergo” managing 7 hydro power plants (HPPs) and two pumped storage power plants (PSPPs)

Share of electricity generation types in electricity production, %:



Trends in electricity production by GenCos TPPs

At the start of the year, the electricity market had a surplus of generating capacities, while in May it faced a shortage of capacities. GenCos operating TPPs increased utilisation to cover the shortage.



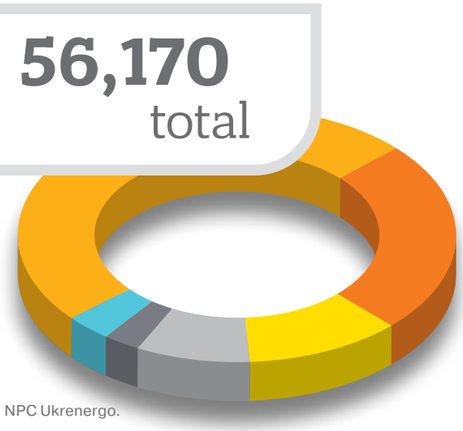
03 Electricity market

The Ukrainian energy system is united and structured on a regional basis. It comprises eight power systems operating in parallel: the Zakhidna (Western) power system (PS), Pivdenno-Zakhidna (South-Western) PS, Tsentralna (Central) PS, Pivdenna (Southern) PS, Pivnichna (Northern) PS, Dniprovska PS, Krymska PS, and Donbaska PS*.

Centralised operational and process control of the United Energy System of Ukraine (UES) is carried out by National Power Company Ukrenergo. The main task of the national company is to balance the production and consumption of electricity in the country and prevent violations of operational regimes and system-wide failures, thus ensuring uninterrupted operation of the UES of Ukraine.

All generated electricity is sold to State Enterprise Energorynok, which is the Wholesale Electricity Market operator. Distribution companies buy electricity on the Wholesale Market to supply it to end consumers. Ukraine is planning to switch from the existing "single buyer" market model to a liberalised market by implementing the requirements of the EU Third Energy Package. This will enable direct relations between power producers and consumers. The respective Law "On the Electricity Market" was signed by the President of Ukraine on the 8th of June.

Mix of generating capacities in UES of Ukraine as of 31 December 2016, MW



GenCos TPPs	27,703
NPPs	13,835
CHPPs, isolated generating plants	6,477
HPPs	4,726
PSPPs	1,509
RES	1,920

Data from NPC Ukrenergo.

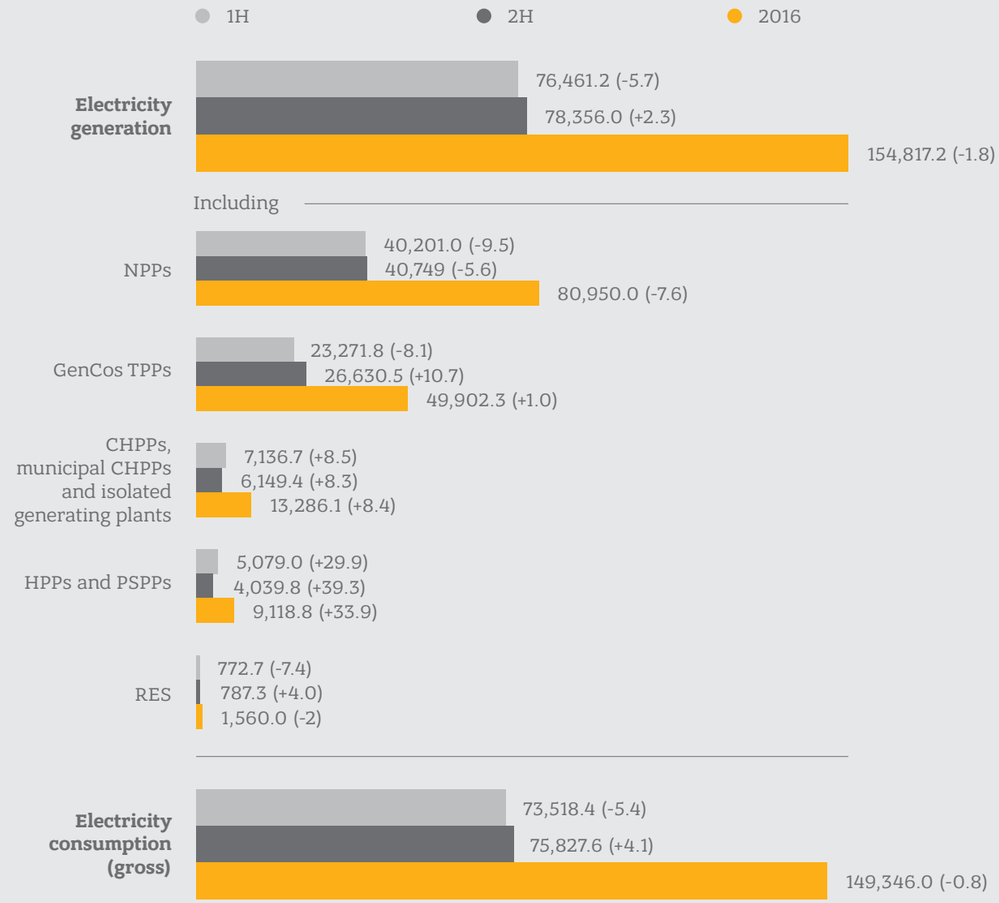
The generating mix to meet peak loads differs significantly from the mix of installed capacities. Coal-fired 100/200/300 MW units of TPPs are the main capacities used to level out the load profile in the UES of Ukraine. Due to the disadvantageous mix of generating capacities where the share of flexible capacities is small and the TPPs' regulation range is limited, the energy system uses the practice of shutting down from 7 to 10 TPP units at night and starting them up later to meet the morning and evening energy consumption peaks. However, this operation mode is detrimental to the equipment, leading to a shorter service life, more failures, and fuel overconsumption.

* By resolution of the Cabinet of Ministers of Ukraine No. 263 dated 7 May 2015 "On Specifics of Regulating Relations in the Electricity Sector in the Territory where Governmental Bodies are Temporarily Not or Not Fully Exercising Their Authorities", by orders of the Ministry of Energy and Coal Industry of Ukraine No. 273 dd. 8 May 2015 and No. 339 dd. 5 June 2015 "On Approval of the List of Electricity Producers", the Starobeshivska TPP (Donbasenergo) and DTEK Zuivska TPP were disconnected from UES of Ukraine.

Electricity balance

Conditions on the Ukrainian electricity market varied greatly in the first and second six-month periods. In 1H, the UES had a surplus of capacities, which is due to reduced electricity demand by all consumer categories and disconnection of the Autonomous Republic of Crimea from the Ukrainian grid. In this period, there was a high water inflow to the Dnieper and Dniester Rivers, and the hydro power plants increased electricity generation, which was an additional factor in reducing the output of the other generators.

Volume of Ukrainian electricity production and consumption in 2016, mln kWh (% y-o-y)



Data: Interfax-Ukraine based on data from the Ministry of Energy and Coal Industry of Ukraine.

In 2H, there was a shortage of capacities: electricity consumption soared while the nuclear power plants decreased output due to changes in and extension of their repair campaign.

On 22–23 June, due to high air temperatures, an electricity consumption peak of 17.5 GW was recorded in Ukraine. Ukrenergo, as the operator of the UES of Ukraine, asked consumers to help decrease peak loads on the grid by consuming power in a conscientious and rational way.

According to Energorynok's report, from 23 June to 7 August, during preparation of balanced daily load schedules, in eight cases, it was planned to limit electricity consumption by 650 MW on average during high consumption start/end hours. (From January to October 2015, there were 134 cases where it was planned to limit electricity consumption by 742 MW on average during start/end.)

The power shortages were caused by three main factors:

- low utilisation of NPPs due to emergency repairs at generating unit No. 3 at the Rivne NPP and units Nos. 1 and 2 at the Zaporizhzhya NPP;
- a low water level in the second half year in the water reservoirs of the Dnieper and Dniester, which constrained hydro generation;
- shortage of capacity of thermal generating units that submitted energy bids due to low coal stocks.

Some anthracite-fired power plants had low coal stocks. This was caused by the lack of coal supplies in June from the mines located within the anti-terrorist operation (ATO) zone due to suspended operation of the railway in the temporarily uncontrolled territory. Freight traffic across the demarcation line resumed on 25 June.

To make up for the resulting shortage of flexible generating capacities, plants that had enough anthracite and high-volatile steam coal increased output. Thus, all of DTEK Energy's TPPs increased generation in June by 14.4% month-over-month.

In 2016 in general, there were fewer limitations during preparation of daily load schedules compared to 2015, including due to increased production of anthracite and lean coal by DTEK Energy's mines and stabilised supplies from the ATO zone at a level of 17,000 tonnes per day.

In November 2016, amendments were made to the rules of the Wholesale Electricity Market, which set the minimum required level of coal stocks maintained at TPPs. Under the rules, TPP units with coal stocks above the required minimum were the first to be included in the merit order to cover the daily load.

Despite the difficult situation, Ukraine managed to balance electricity generation and consumption without external resources. It did not import electricity from the Russian Federation in 2016. In 2015, the Russian Federation supplied 2.3 bln kWh for a total of USD 84.9 mln.

According to Energorynok's data, in 2016, there were 519 emergency repairs at TPP units operating under price-based bids. This is 62 fewer repairs compared to 2015. The average duration of emergency repairs decreased by 30 hours. In 2016, NPPs had 19 emergency repairs of TPP units, or 6 more y-o-y.

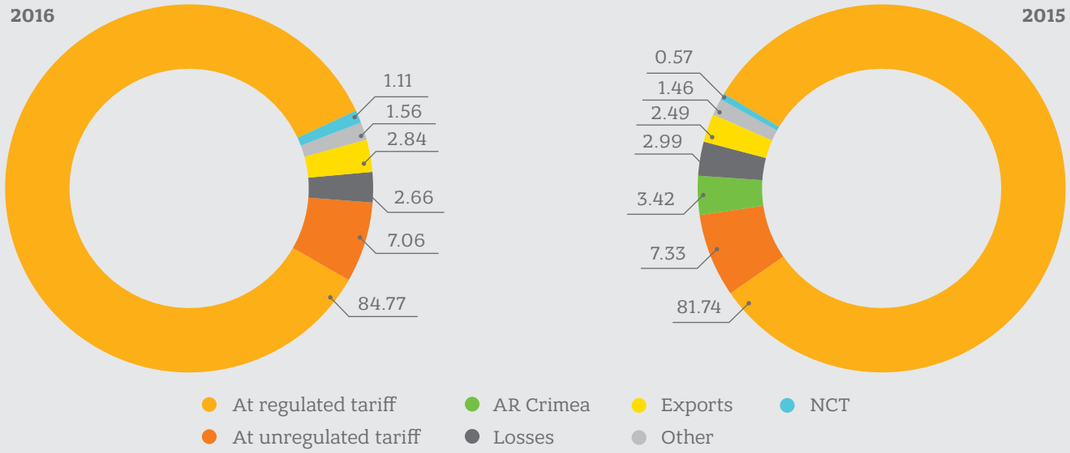
Electricity consumption in Ukraine

Consumer categories	Consumption, mln kWh				Share in total consumption, %	
	2016	2015	Change, +/-	Change, %	2016	2015
Consumption (gross)	149,346.0	150,485.9	–1,139.9	–0.8		
Consumption (net)	117,657.3	118,726.9	–1,069.6	–0.9	100.0	100.0
Including:						
Industry	**49,821.9**	**50,200.3**	**–378.3**	**–0.8**	**42.3**	**42.3**
Iron and steel	28,760.2	28,755.0	+5.2	0.0	24.4	24.2
Fuel	3,575.9	4,284.6	–708.7	–16.5	3.0	3.6
Machine-building	3,675.5	3,669.8	+5.7	+0.2	3.1	3.1
Chemical and petrochemical	2,968.4	3,084.7	–116.3	–3.8	2.5	2.6
Food and processing	4,214.2	4,066.2	+148.0	+3.6	3.6	3.4
Construction materials	2,204.3	2,067.4	+136.9	+6.6	1.9	1.7
Others	4,423.4	4,272.7	+150.7	+3.5	3.8	3.6
Agricultural consumers	**3,515.6**	**3,342.3**	**+173.3**	**+5.2**	**3.0**	**2.8**
Transportation	**6,745.5**	**6,807.0**	**–61.5**	**–0.9**	**5.7**	**5.7**
Construction	**806.5**	**747.6**	**+58.9**	**+7.9**	**0.7**	**0.6**
Utilities	**15,102.9**	**15,194.9**	**–92.0**	**–0.6**	**12.8**	**12.8**
Other non-industrial consumers	**5,971.7**	**5,954.9**	**+16.8**	**+0.3**	**5.1**	**5.0**
Households	**35,693.2**	**36,480.0**	**–786.8**	**–2.2**	**30.3**	**30.7**

Data: Interfax-Ukraine based on data from the Ministry of Energy and Coal Industry of Ukraine.

In 2016, electricity consumption in Ukraine remained almost the same as the previous year. Statistical data from January to April shows a monthly decrease in consumption by 6–10%, stabilisation of consumption in May, and 3–7% growth starting in June. (The 2016 data are compared to the 2015 values, which included consumption in the Autonomous Republic of Crimea, as electricity was supplied to the peninsula in that period.) Domestic electricity consumption recovered, as macroeconomic indicators in Ukraine stabilised and even edged up during the year.

Electricity purchase on the Wholesale Electricity Market, %



At regulated tariff – suppliers operating at the regulated tariff; at unregulated tariff – suppliers operating at an unregulated tariff; NCT – territory where governmental bodies temporarily are not or not fully exercising their authority.

Data: SE Energorynok.

Without including the AR Crimea, actual consumption growth was 3% in 2016. This is due to the recovery of industrial production and increased consumption in summer and winter due to air temperature variations compared to average temperatures.

Electricity exports from Ukraine, mln kWh

Country	2016	2015	Change, +/–	Change, %
Hungary	3,055.6	3,531.0	–475.4	–13.5
Slovakia	0.1	21.9	–21.8	–99.5
Poland	957.4	66.5	+890.9	14.4 times
Belarus	0.0	0.8	–0.8	–100.0
Moldova	3.7	17.6	–13.9	–79.0
Russian Federation	0.0	3.8	–3.8	–100.0
Total	**4,016.9**	**3,641.6**	**+375.3**	**+10.3**

Data: Interfax-Ukraine based on data from the Ministry of Energy and Coal Industry of Ukraine.

Electricity exports were adjusted depending on the situation on the domestic market. For instance, according to foreign economic contract, we exported 2.2 bln kWh in January – June and 1.8 bln kWh in July – December. According to the data from the State Fiscal Service of Ukraine, in money terms, electricity exports amounted to USD 152.1 mln (vs. USD 150.1 mln in 2015).

According to the Ministry of Energy and Coal Industry, Ukraine planned to resume electricity exports to Belarus, Moldova and Poland in large amounts as of 1 June. However, at the beginning of the second half year, the UES of Ukraine suffered a capacity shortage, which limited its export capabilities.

Sector regulation

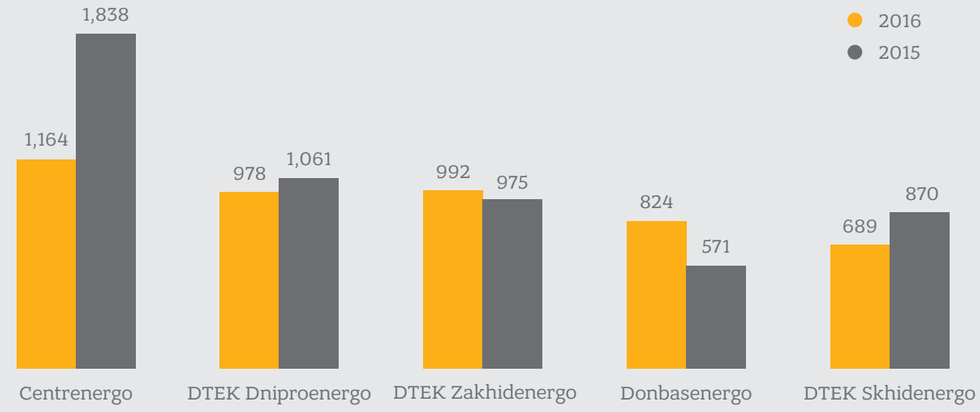
The National Electricity and Utilities Regulatory Commission (NEURC) is a collective body acting independently from any governmental and local government bodies. Its objective is to carry out governmental regulation, monitoring and supervision of business entities in the energy and public utilities sector. Regulation is exercised through the legislative and regulatory framework, licensing operations, and setting price and tariff policies for producers and consumers.

Law of Ukraine "On the National Energy and Utilities Regulatory Commission" No. 1540-VIII dd. 22 September 2016 determines the legal status, tasks, functions, authority and procedure for exercising authority by the commission.

Electricity tariffs

The electricity market in Ukraine is based on the "single buyer" principle, which is SE Energorynok. Producers sell all the electricity they generate to the state enterprise at the tariffs set by NEURC. At present, there is only one competitive segment in the electricity market – thermal generation. Each generating unit of each TPP submits a price-based bid for each hour of the next day. From October 2016, the pricing for GenCos operating TPPs was changed to include a mechanism limiting the system marginal price, differentiating between day hours and night hours. The limit set on the system marginal price is determined by SE Energorynok. Based on submitted bids and day-ahead forecast electricity demand, Energorynok prepares a merit order of generating units for each hour on the ascending principle, from the least expensive to the most expensive. Generating units that offered to produce electricity at the lowest price are the first to be included in the merit order. The last accepted bid sets the price for electricity for all TPP units included in the merit order for this hour.

Average producers' price-based bids, UAH/MWh



Data: SE Energorynok.

Regional electricity distribution companies (oblenergos) transmit electricity to all categories of consumers. There are also independent suppliers in the market that distribute electricity at an unregulated tariff, but do not own networks. NEURC sets fixed tariffs for end consumers. Electricity distribution companies supply electricity to their consumers at these tariffs.

In Ukraine, all consumers are divided into two classes: the first class is represented by consumers connected to networks with a voltage of 27.5 kV or more, and the second class is made up of consumers connected to networks below 27.5 kV. In 2016, the unified tariffs for first class of consumers amounted to 157.28 kop/kWh (December-over-December, +27% y-o-y), and the tariffs for the second class were 196.99 kop/kWh (+29.5%).

In 2016, NEURC raised tariffs for households twice: in March and September. In September, the tariffs increased by 5–25.3% depending on electricity consumption.

Subsidies to subsidised consumers, UAH bln

Preferential electricity tariffs were in effect for the following consumer categories:

- households and religious organisations;
- consumers paying for electricity at time-of-day-based tariff rates;
- companies supplying electricity for street lighting*;
- urban electric transport*;
- entities implementing innovative projects;
- Moloda-Gvardiya children's centre.

* The preferential electricity tariffs for street lighting in communities and urban electric transport were cancelled on 1 January 2017. Thus, electricity is sold at the retail tariff set for consumers of the respective voltage class.

To eliminate region-based cross subsidies, each region will set its own electricity tariff. This innovation will apply to all consumers, apart from households. It was formalised in NEURC Decree No. 1129 dd. 13 June 2016 "On approving the procedure for setting market-based retail tariffs for electricity sold to consumers". The document sets a mechanism for gradually moving away from unified retail electricity tariffs starting on 1 January 2017.

The transition of power supply companies to RAB regulation failed in spite of the regulatory document package adopted in 2013.

Under the RAB regulation, NEURC will set tariffs and the threshold value of returns for oblenergos once for several years ahead. Once a company starts using RAB regulation, it is obliged to annually invest 50% of its returns on the "old" regulatory asset base in the "new" one. The company can use the remaining part of the profit at its own discretion. Oblenergos must meet strict requirements: 100% settlements with Energorynok, asset valuations, and continuous monitoring and compliance with the set service quality requirements. Advantages of RAB regulation: the tariff is set for 3 to 5 years, allowing companies to forecast their expenses and revenues for several years ahead. This will help systematically reduce the critical depreciation rate of equipment.

Amendments to the Procedure for setting incentive-based tariffs came into force on 1 April 2016. The amendments make it possible to switch to RAB regulation on the 1st day of any quarter. In 2017, we expect the rate of return on the regulatory asset base to be revised.

Key legislative events

- **The Law of Ukraine "On the National Energy and Utilities Regulatory Commission" No. 1540 dd. 22 Sept. 2016 was adopted and came into force.**

  The legal status, tasks, functions and authority of the Commission that comply with requirements of the EU Third Energy Package have been formalised legislatively.

  The Commission consists of seven people, including the head of the commission, who are appointed for seven years by the Decree of the President of Ukraine on the results of an open competitive recruitment process. The head is elected by the commission members by secret ballot and re-elected every two years.

  The current members and head of the commission will be rotated, and the rotation plan must be approved by the President of Ukraine. By June 2017, three NEURC members are expected to step down from office, two more – no later than December 2017 and the other two – no later than May 2018.

  The Law states that the regulator, central body and territorial bodies will be financed from contributions to a special-purpose fund of the state budget. The contributions will be made by business entities that operate in the energy and utility services sector. This NEURC financing procedure will come into force on 1 January 2018.

  Furthermore, the Law focuses on procedural issues aimed at ensuring transparency in the regulator's activities and soundness of the decisions made.

- **Draft Law No. 4493 dd. 21 April 2016 "On the Electricity Market of Ukraine" was adopted by the Verkhovna Rada of Ukraine and was signed by the President.**

  The document is aimed at ensuring fulfilment of Ukraine's obligations under the Energy Community Treaty and implementation of some energy documents of the European Union: Directive 2009/72/EC concerning common rules for the internal market for electricity; Regulation No. 714/2009 on conditions for access to the network for cross-border transmission of electricity; Directive 2005/89/EC concerning measures to safeguard security of electricity supply and infrastructure investment.

  The draft law sets legal, economic and organisational foundations for functioning of the electricity market and regulates relations in production, transmission, distribution, sale and purchase and supply of electricity to ensure reliable and safe power supply to consumers, develop market relations, cut costs of electricity supply and minimise negative impact on the environment.

  The draft law takes into account individual provisions of the Laws of Ukraine "On Fundamentals of Ukraine's Electricity Market Operation" and "On Electric Power Industry". At the same time, the document makes significant changes in current electricity-related legislation in order to implement the EU Third Energy package. In particular, the draft law envisages introduction of a new market segment – the intra-day market; implementation of a mechanism of specific duties, which will ensure that public interests are met in the process of electricity market functioning; and full compliance with the requirements for legal and organisational unbundling of electricity distribution and transmission activities from other types of activities.

- **Draft Transmission System Code and Commercial Electricity Metering Code have been published.**

  The documents have been developed to implement the schedule for introducing the new electricity market model approved by NEURC. The Ministry of Energy and Coal Industry drafted the Transmission System Code and State Enterprise NPC Ukrenergo drafted the Commercial Electricity Metering Code.

- **The 2016–2025 development plan for the UES of Ukraine was amended and published by State Enterprise NPC Ukrenergo.**

  The 10-year development plan of the UES of Ukraine was analysed at public hearings, in which all interested market entities and non-governmental organisations participated. The final version of the document incorporated most of the submitted proposals.

- **Development of the new energy strategy of Ukraine will continue.**

  The meeting of the Steering Committee to coordinate the drafting of the updated Energy Strategy of Ukraine to 2035 decided to continue revising the draft strategy. On 28 April 2017, the expert council approved the revised document. After the Steering Committee has reviewed the document, it will be published on the website of the Ministry of Energy and Coal Industry of Ukraine and submitted for consideration to the central executive bodies.

Main tasks and challenges in 2017

- Adoption of the Law “On the Electricity Market of Ukraine” and implementation of its provisions. Development and approval of rules for the electricity market, auxiliary services, day-ahead, intra-day and retail markets; codes for transmission, distribution networks and commercial metering systems.
- Getting ready to work in the context of a new electricity market model. Preparing companies that simultaneously distribute and transmit electricity under the regulated tariff for unbundling.
- Implementation of provisions of the Law of Ukraine “On the National Energy and Utilities Regulatory Commission”. Development and approval of the current NEURC member rotation plan, establishing a competitive recruitment commission to select candidates to work on the commission; rotation of five commission members.
- Implementing incentive-based regulation for distribution companies.

Overview of the renewable energy sector

According to the State Agency on Energy Efficiency and Energy Saving of Ukraine, the installed capacity of Ukraine’s renewable energy generation is 1,612 MW. In 2016, renewable energy plants generated 1,560 mln kWh (excluding the ATO zone and the Crimea). Most of the green energy was generated by solar and wind power plants.

Largest renewable energy players, MW

Company	Capacity, MW
Activ Solar (SPPs)	441
CNBM (SPPs)	267
Wind Power (WPPs)	200
Wind Parks of Ukraine (WPPs)	180
Vindkraft Ukraina (WPPs)	31
Solar Energy Plus (SPPs)	15
Eco Optima (WPPs)	13.2
Tokmak Solar Energy (SPPs)	10

The Ukrainian segment of renewable energy sources (RES) comprises 230 companies. Most of them work in segment of solar generation and operate small solar power plants, with the exception of CNBM and Activ Solar. The wind power segment is represented by 13 companies.

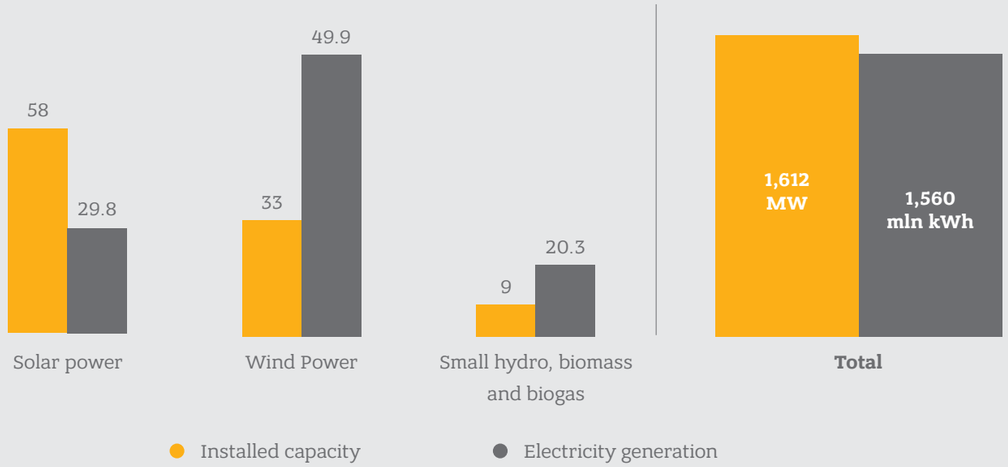
The smaller number of wind generators can be explained by different market entry thresholds: lower implementation costs for solar power projects compared to wind farm projects due to cheaper technologies, lower construction costs and less strict requirements for player experience and expertise.

SPPs – solar power plants,
WPPs – wind power plants.

Despite the rapid growth of renewable energy in 2012–2013, its share in the overall national energy balance still remains insignificant 3%, although Ukraine has the natural conditions and regulatory framework necessary for the development of renewable energy. If favourable conditions are created and maintained, RES share in the total energy balance of Ukraine can could reach 30% by 2035 after the implementation of solar and wind energy projects with an aggregate capacity of 15 GW.

Pursuant to Ukraine’s commitments under Directive 2009/28/EC, the target share of renewable energy (including large hydro power plants) in total consumption must be 11% by 2020. Today, the share of green energy is 6.9%, out of which large HPPs and PSPPs account for 5.9%.

Share of RES in installed capacity and electricity generation in 2016, %



The efficiency of any renewable energy project normally depends on three factors: country risk, cost of technology and level of governmental support.

In view of the current balance between the above factors, we can expect a future increase in renewable generation capacity.

Commissioning of capacities in the green energy sector, MW

	Before 2011	2011	2012	2013	2014	2015	2016	2017 (forecast)
WPPs	87	64	150	69	133	10	11.6	110
SPPs	3	185	130	433	68	9	99.1	150
Other	72	3	5	18	32	7	9.9	10
Total	**162**	**252**	**285**	**520**	**233**	**26**	**120.6**	**270**

The year 2009 became the starting point for the development of renewable energy in Ukraine. That year, the Government introduced feed-in tariffs to support the industry. A drop in green energy generation in 2014–2015 was caused by the hostilities in eastern Ukraine, as well as the restrictions imposed on the sector, i.e. reduction and non-revision of the feed-in tariffs against the EUR exchange rate.

In 2016, the renewable energy sector saw rapid growth resulting from proper management of the country risks, governmental support in the form of the guaranteed feed-in tariffs, a favourable regulatory environment, and the impact of global trends towards lower technology costs.

120.6* MW – increase in RES capacity in 2016. This is five times more than in 2015.

* In fact, the companies obtained a feed-in tariff for 103 MW of new installed capacity.

Industry regulation

Ukraine encourages development of the alternative energy segment through the system of feed-in tariffs. The tariffs for companies producing electricity from renewable energy sources are denominated in euros and differentiated depending on the type and capacity of power generating units, and are limited in duration for facilities commissioned prior to 2030. The state undertakes to purchase electricity produced by power plants at the feed-in tariff.

Ukraine started to actively develop its renewable energy sector in 2009, when it introduced feed-in tariffs in the Law of Ukraine “On the Energy Industry”. Further legislative amendments that influenced the development of the Ukrainian alternative energy industry passed through two stages.

The first stage began in the autumn of 2012, when the Government changed the overall approach to the feed-in tariff factor calculations, the effective date of the local component requirement and the mechanisms for feed-in tariff factor calculations. Furthermore, the feed-in tariff factor was reduced for solar power capacities, and increased for micro and mini hydro power plants.

The second stage started in 2015. This stage had been preceded by severe restrictions on the revision of feed-in tariffs resulting from the introduction of emergency measures on the electricity market. The amended Law of Ukraine “On the Electric Power Industry” formalised quarterly euro indexation of the feed-in tariff, introduced a mark-up on the feed-in tariff when components of local (Ukrainian) origin are used, increased tariffs for small hydro and biopower plants and established tariffs for geothermal electricity.

The key legislative event in 2016 was the adoption of Law of Ukraine No. 1804-VIII dd. 22 December 2016 “On Amendments to the Law of Ukraine on the Electric Power Industry Specifying the Feed-in Tariff Factors for Renewable Energy Generators”.

The law linked the feed-in tariff factors to the installed capacity of onshore solar power plants. In particular, for SPPs with a capacity over 10 MW commissioned before 31 June 2015, the factor was reduced by 1.8 times.

Tasks and challenges for the renewable energy sector in 2017:

- **To restore trust and interest of foreign investors in the Ukrainian renewable energy sector.**
- **To secure conditions for the development of renewable energy within the new model of the Ukrainian energy market.**

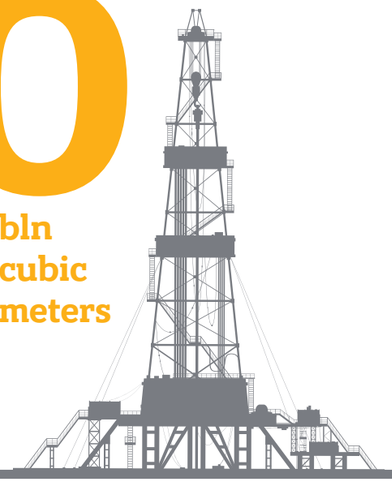
Natural Gas Market

Ukraine's natural gas consumption has dropped to an all-time low

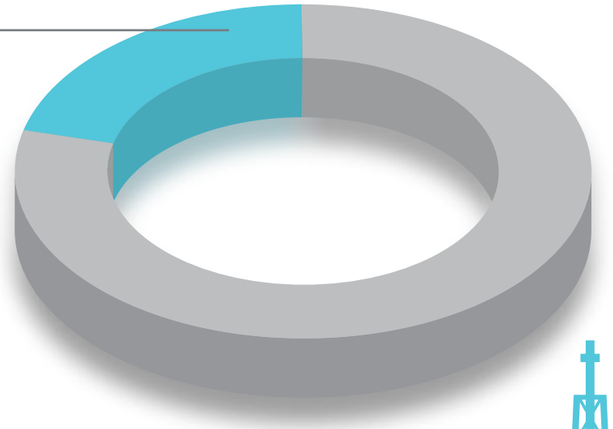
of **33.2** **bln cubic meters**

For the first time since Ukraine's independence, natural gas has not been imported from the Russian Federation

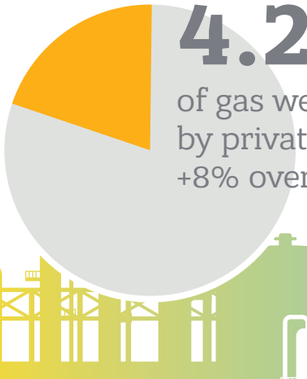
0 **bln cubic meters**



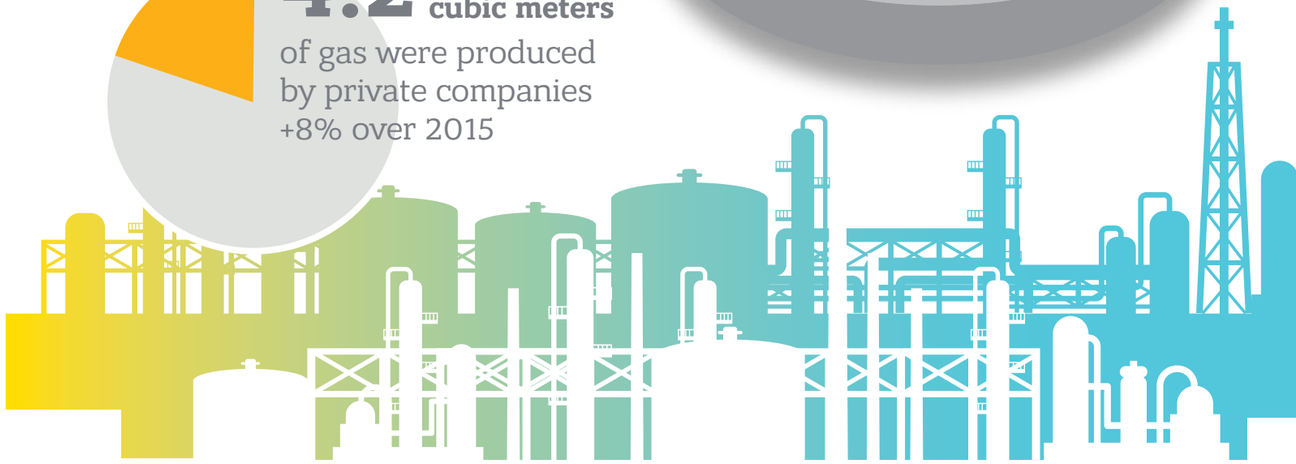
21% **of natural gas was produced by private companies**



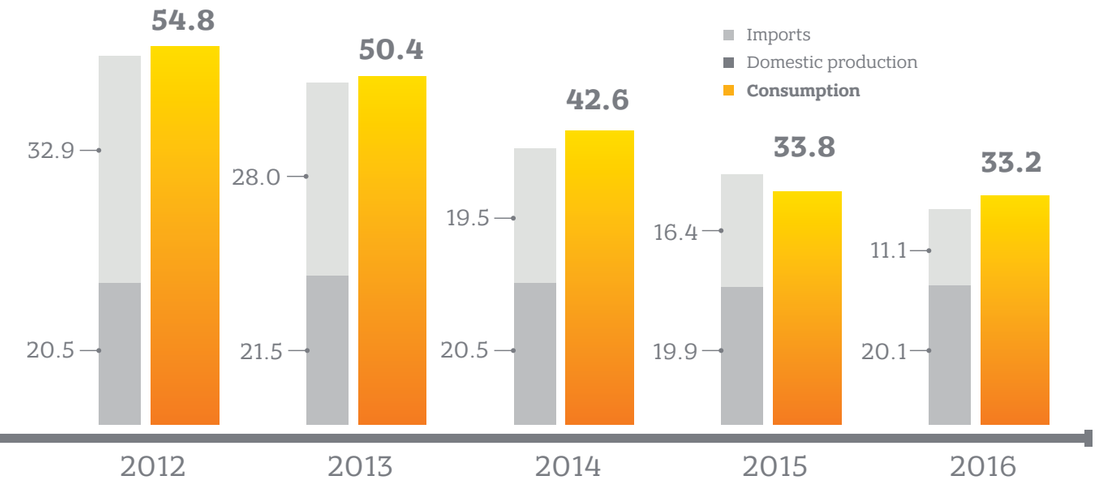
20.1 **bln cubic meters**
of gas were produced in Ukraine
+1% over 2015



4.2 **bln cubic meters**
of gas were produced by private companies
+8% over 2015



Natural gas consumption in Ukraine, bln cubic meters



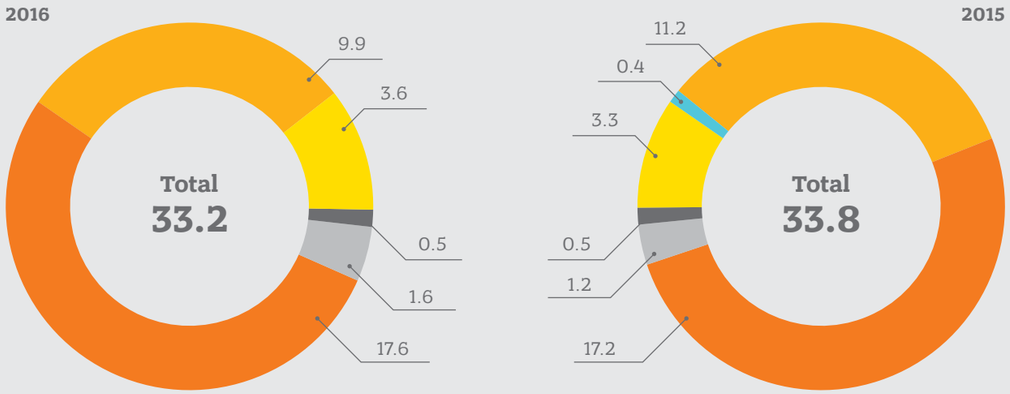
Data: NJSC Naftogaz of Ukraine, Ministry of Energy and Coal Industry of Ukraine.

04 Natural Gas Market

Natural Gas Consumption

In 2016, Ukraine reduced its natural gas consumption to the next all-time low of 33.2 bln cubic meters (bcm) since independence.

Structure of natural gas consumption in Ukraine, bcm



- Industry
- Households (direct use and delivery through district heating companies)
- District heating for state-funded organisations and industry
- State-funded organisations
- Process gas
- Unauthorised tapping in the ATO Zone

Data: NJSC Naftogaz of Ukraine.

Consumption has primarily fallen due to industry, even though according to data provided by the State Statistics Service of Ukraine, in 2016, industrial output rose for the first time in the last four years. However, the stagnation of industry and a decline in industrial capacity due to the hostilities in Eastern Ukraine still persist.

Nonetheless, for the first time in several years, the use of natural gas for domestic purposes has increased by 5% to 11.9 bcm. Meanwhile, district heating companies have lowered gas consumption by 3% to 5.7 bcm.

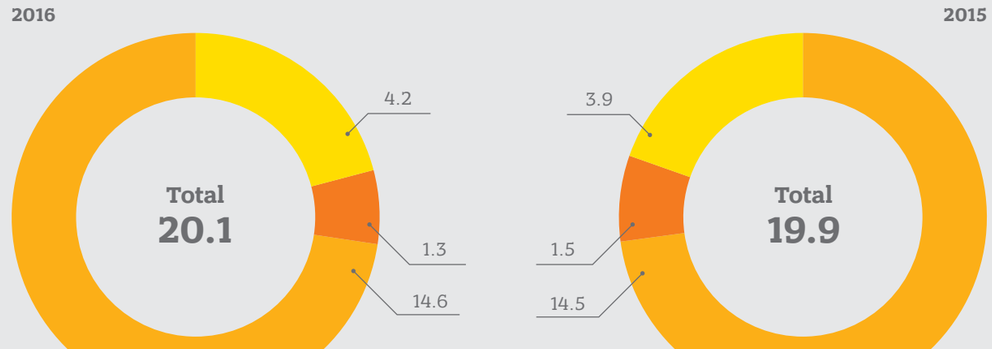
Natural gas consumption for the needs of pipeline transportation and process losses has also risen. Consumption is nearly 11% of total natural gas use nationwide. NJSC Naftogaz of Ukraine explains this rise by the increase in transit volumes of Russian natural gas through Ukraine.

In 2015, natural gas consumption by residential users decreased, mainly because of the warm winter. Weather conditions were less favourable in 2016, and this was reflected in the statistics. The high correlation between consumption and weather conditions shows the slow rate of advance of energy-saving technology. Energy efficiency has not yet had a significant impact on gas consumption in Ukraine.

Natural Gas Production

Natural gas production in Ukraine in 2016 was 20.1 bcm, which is on par with the previous year's level. The share of own produced natural gas with respect to the overall consumption pattern has risen to 61%, primarily due to the drop in demand.

Structure of natural gas production in Ukraine, bcm



- Ukrgazvydobuvannya
- Ukrnafta
- Private companies

Data: NJSC Naftogaz of Ukraine, Ministry of Energy and Coal Industry of Ukraine.

Stagnation persists in the public sector of the industry. The decrease in state-owned companies' performance indicators has been counterbalanced by private producers. They have managed to preserve an upward development trend under adverse conditions – the share of private business in total gas production in Ukraine has reached nearly 21%.

A major contribution to preserving the upward trend in the sector was made by PJSC Naftogazvydobuvannya, a company of DTEK Group. The company managed to increase production by 25% to 1.6 bcm – an all-time high in the history of private gas production in Ukraine. Without Naftogazvydobuvannya's numbers, the natural gas production trend in Ukraine in 2016 would have been downward. However, the company's production growth was inertial – it was a result of completion of long-term projects started in the first six months of 2014. In all other aspects, the past year was characterised by further deterioration of the investment and regulatory environment (see Regulatory Environment for details) both for the company and for the industry as a whole.

Whereas in 2015, the production growth rate for private companies was 17%, in 2016, it was 8%. A key disadvantage contributing to this outcome was decreased investment in exploration and production during the previous periods due to high gas royalties amid the deteriorating pricing environment.

Natural Gas Imports

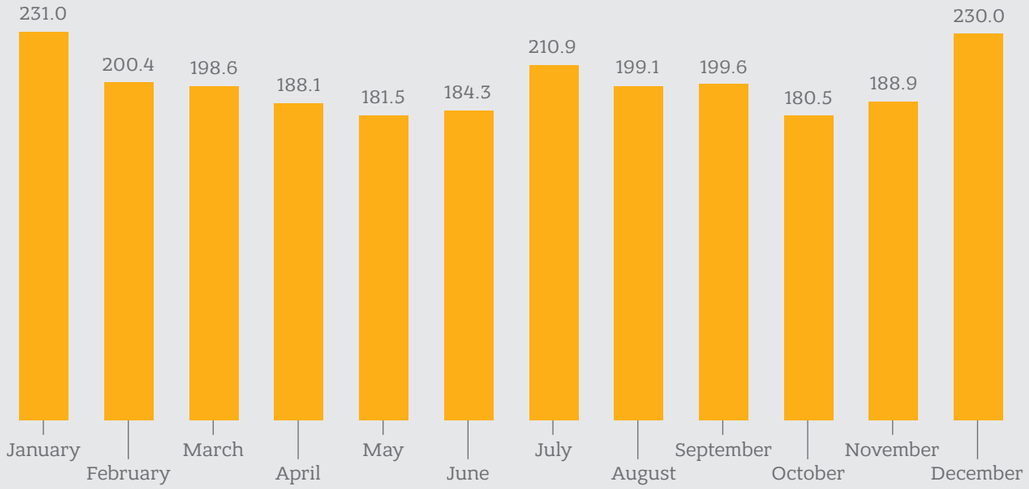
In 2016, Ukraine's natural gas imports amounted to 11.0 bcm, which is 32% lower than the figure for 2015. However, the increase in self-sufficiency and independence from external suppliers is not being achieved through the growth of domestic production, but rather through the reduction of consumption levels, primarily due to economic and political factors.

For the first time since its independence, Ukraine did not directly import natural gas from the Russian Federation. All volumes came from Europe (including reverse-flow gas): from Slovakia, Hungary and Poland. In 2016, NJSC Naftogaz of Ukraine was the major importer. According to the company's sources, natural gas was imported from 15 different suppliers, while none of them supplied more than 30% of the total volume.

Volumes of natural gas imported by private traders and direct consumers kept rising: from 1.1 bcm in 2015 to 2.9 bcm in 2016. Thus, the share of these importers rose from 7% in 2015 to 26% in 2016.

For the first time since its independence, all of Ukraine's natural gas imports came from Europe. The average price for imported natural gas in 2016 remained relatively stable, fluctuating within the range of USD 181–231 per thousand cubic meters.

Average price for imported natural gas in 2016, USD/thousand cubic meters



Data: Ministry of Economic Development and Trade of Ukraine.

Pricing

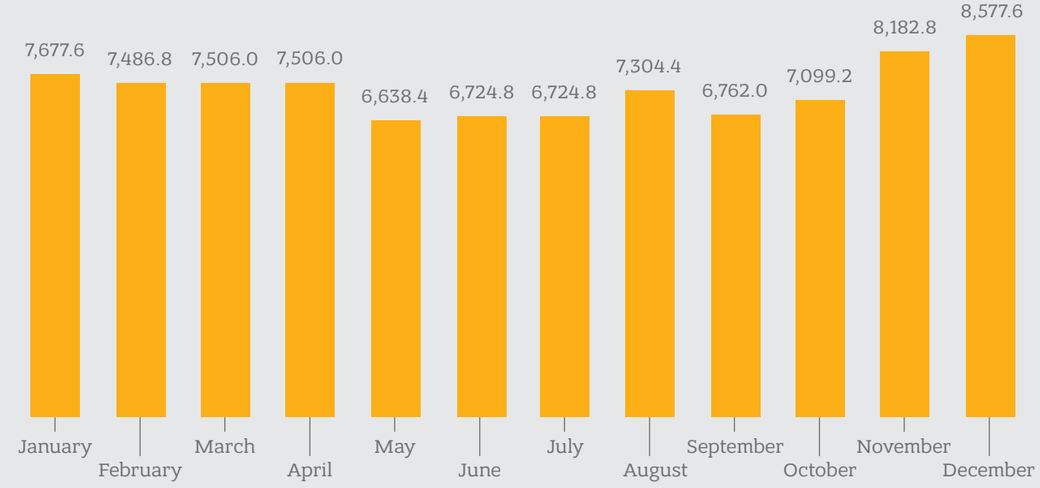
2016 was characterised by continuing growth of gas prices for industrial consumers, district heating companies and state-funded organisations. Although world market gas prices experienced minor changes, Ukrainian prices went up in the latter half of the year due to the devaluation of the Ukrainian hryvnia.

Government price lists served as a reference for private traders, who were selling their assets at a similar or slightly discounted price.

Gas prices for households have been reviewed on one occasion. Before May 2016, two tariffs were in effect in Ukraine: general – 7,188 UAH/thousand cubic meters, and the so called social price for limited consumption levels – 3,600 UAH/thousand cubic meters. The social price was used by district heating companies.

From 1 May 2016 to 31 March 2017, NERC imposed a uniform tariff on all residential consumers and district heating companies – 6,879 UAH/thousand cubic meters. In the meantime, promises were made regarding subsidies for the price increase for low-income households. According to the Minister of Social Policy of Ukraine, as of 2 February 2017, 7.4 million households received subsidies.

Natural gas prices for non-domestic consumers in 2016, UAH/thousand cubic meters



Data: NJSC Naftogaz of Ukraine, from this point onward all prices include VAT.

Regulatory Environment

Introducing fiscal incentives

Introduction of a fiscal mode is necessary for the development of natural gas production in Ukraine. This fiscal mode would encourage an inflow of investments adjusted for the domestic market's poor business environment. In 2016, government authorities, business and experts worked together to develop proposals for improving the situation in the sector. These proposals were included in Draft Law No. 5132. Specifically, an incentive ad valorem rate of 12% for gas production from new wells was proposed.

According to the estimates of the Association of Gas Producers of Ukraine, this innovation would not result in lower tax revenues, while at the same time it would initiate drilling of new wells for a further increase in production. However, officials of a number of government agencies excluded this provision from the Draft Law. Ad valorem rates for oil production were lowered to 29% and 14% (depending on well depth); however, the high ad valorem rates for gas condensate were preserved.

In 2017, gas producers intend to continue their dialogue with the government regarding the need to introduce fiscal incentives. Fulfilment of the government's plan to increase natural gas production in Ukraine to 27 bln cubic meters by 2020 depends on this key factor.

Decentralization of payments

The largest royalties – ad valorem payments – are being paid to the state budget in full. The villages and districts where gas is produced do not receive any part of it. This often complicates co-operation between companies and local communities. In December 2016, Draft Law No. 3038 was adopted, providing for a 5% ad valorem payment transfer to local budgets. However, this innovation, according to amendments made by the Verkhovna Rada, would only come into effect after 1 January 2018.

Distribution of special permits for exploration and production

One of the key issues in the oil and gas industry is in providing a simple, transparent and competitive system for distribution of special permits for exploration and production of hydrocarbons. However, the legislation for regulating operation in the oil and gas industry has become obsolete. This has led to instances where the conditions for licence distribution are not specific – there is no open tendering, and preferences are used instead.

The Sectorial reform and the inflow of investments can be achieved by adopting a new Natural Resources Code of Ukraine. The current code was adopted in 1994 and has become obsolete. Numerous attempts have been made to create a new code, including prolonged negotiations with government authorities; however, this new document was never adopted. Private companies in partnership with government authorities and European institutions are planning to continue the development of this new updated code in 2017.

Deregulation

A key issue of the industry's development is deregulation of the approval system for land allotment, mining allotment, construction project registration and so on. At present, these processes are quite difficult and not always transparent. Draft Law No. 3096, which includes a number of proposals for improving regulatory legislation, has been registered in the Verkhovna Rada. At the time this report was being prepared, this Draft Law had not been introduced for consideration by Parliament.

Performance Results

01 Operations

02 Investment projects

03 Analysis of financial results

01 Operations

In 2016, DTEK Group companies produced 31.3 million tonnes of coal (+8.9% year-on-year), generated 40.1 billion kWh of electricity (+4.7%), transmitted 45.8 billion kWh of electricity via networks (+1.6%), and produced 1.6 billion cubic metres of natural gas (+25%).

DTEK Group production indicators

Indicators	Units	2016	2015	Change, +/–	Change, %
Coal production*	ths tonnes	31,250.6	28,692.0	+2,558.6	+8.9
Coal processing					
ROM coal processing*	ths tonnes	23,731.0	19,965.8	+3,765.2	+18.9
Coal concentrate production*	ths tonnes	15,006.5	12,279.4	+2,727.1	+22.2
Electricity generation (net output)	mln kWh	40,071.0	38,284.1	+1,786.9	+4.7
including DTEK RENEWABLES	mln kWh	608.4	634.0	–25.6	–4.0
Electricity transmission by networks	mln kWh	45,809.2	45,086.4	+722.8	+1.6
Electricity exports	mln kWh	3,983.9	3,555.1	+428.8	+12.1
Coal exports**	ths tonnes	1,333.1	1,387.1	–54.0	–3.9
Coal imports	ths tonnes	222.2	404.1	–181.9	–45.0
Gas imports	mcm	15.4	23.7	–8.3	–35.0
Natural gas production	mcm	1,630.9	1,304.6	+326.2	+25.0
Gas condensate production	ths tonnes	56.1	45.3	+10.8	+23.8

***Including Mine Office Obukhovskaya**

Indicators	Units	September — December, 2016
Coal production	ths tonnes	513.2
ROM coal processing	ths tonnes	523.5
Coal concentrate production	ths tonnes	315.5

* In September 2016, operating company DTEK Energy transferred Mine Office Obukhovskaya under the direct control of DTEK strategic holding company. This transaction was carried out as part of the restructuring of the DTEK Energy loan portfolio and is aimed at balancing the opportunities for the development of enterprises and servicing of loans. Since of September 1, 2016, the production indicators of Mine Office Obukhovskaya are not consolidated with DTEK Energy reports.
** Including trading operations outside Ukraine.

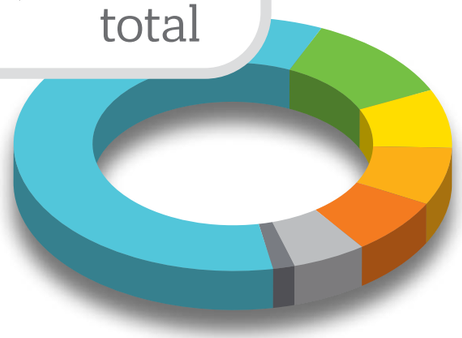
DTEK Energy

Coal production and preparation

In 2016, the company's miners produced 30.7 million tonnes of coal, which is 7.1% more than in 2015. This allowed the coal preparation plants to increase the volumes of run-of-mine coal preparation and concentrate production to 23.2 and 14.7 million tonnes, respectively.

Coal production by DTEK Energy companies in 2016, thousand tonnes

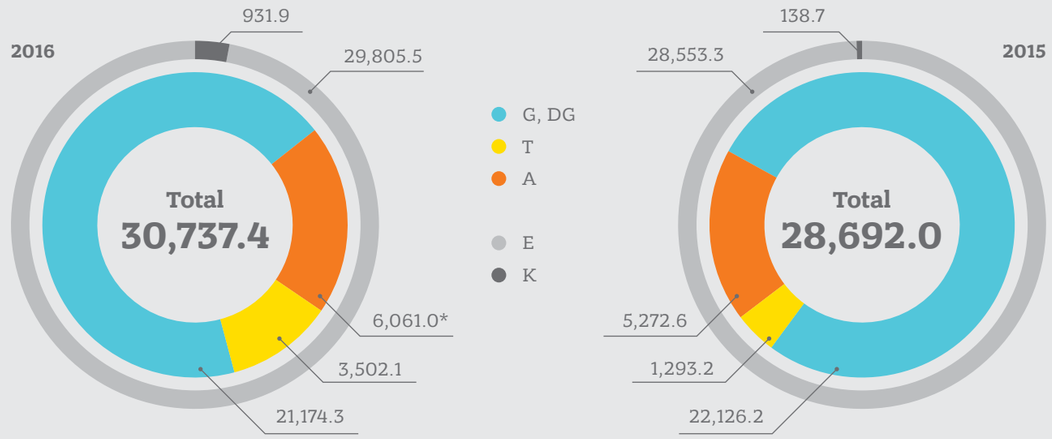
30,737.4 total



DTEK Pavlogradugol	(G, DG)	18,409.4
DTEK Komsomolets Donbassa	(T)	3,502.1
DTEK Sverdlovanthracite	(A)	2,305.6
DTEK Dobropolyeugol	(G, DG)	2,271.8
DTEK Rovenkyanthracite	(A)	2,224.6
Mine Office Obukhovskaya*	(A)	1,530.8
Mine Bilozerska ALC	(G, DG)	493.1

G — high-volatile steam coal
DG — long-flame coal
T — lean coal
A — anthracite

Structure coal production by DTEK Energy in 2016–2015, thousand tonnes



G — high-volatile steam coal, DG — long-flame coal, A — anthracite, T — lean coal, Th — thermal coal, K — coking coal.

Coal concentrate production by DTEK Energy in 2016–2015, thousand tonnes

	K		Th		Change (K)		Change (Th)	
	2016	2015	2016	2015	+/–	%	+/–	%
G, DG	460.4	76.0	8,002.6	8,062.4	+384.4	+505.7	–59.8	–0.7
A			3,498.2	3,248.8			+249.4	+7.7
T			2,729.9	892.2			+1,837.7	+206.0
Total	460.4	76.0	14,230.7	12,203.4	+384.4	+505.7	+2,027.3	+16.6

G – high-volatile steam coal, DG – long-flame coal, A – anthracite, T – lean coal,
K – coking coal, Th – thermal coal.

Main factors that affected the production indicators:

1 Production of 21.2 million tonnes of high-volatile steam coal grades (G-grade), which is lower than last year's indicator by 4.3%, or 951.9 thousand tonnes.

At the beginning of the year, the United Energy Systems (UES) of Ukraine experienced a power surplus, so there was less than full demand for thermal generation power units. This caused a decrease in demand for coal and a reduction in production of high-volatile steam coal grades by 13.7%, or 1.5 million tonnes in the first half of the year.

However, in the second half of the year, the UES of Ukraine experienced a power shortfall, as electricity generation at the nuclear power plants decreased, while consumption increased. Since June, DTEK Pavlogradugol and DTEK Dobropolyeugol have increased production of high-volatile steam coal grades. In the second half of the year, the increase was 17.6%, or 1.7 million tonnes, compared to the first half. This allowed DTEK Energy TPPs to increase electricity generation, thus preventing a power shortfall.

Miners of DTEK Pavlogradugol made a considerable contribution to the increased output: their productivity in 2016 was as high as 100.3 tonnes/person per month.

2 Production of anthracite and lean coal at the company's mines in Ukraine amounted to 8.0 million tonnes, which is 74.0%, or 3.4 million tonnes more than output in 2015.

Increased production at DTEK Mine Komsomolets Donbassa, DTEK Rovenkyanthracite and DTEK Sverdlovanthracite contributed to the growth of electricity generation by DTEK Dniproenergo plants where these coal grades are used.

In 2016, these enterprises supplied 4.8 million tonnes of anthracite and lean coal to the company's thermal stations, which was 49%, or 1.7 million tonnes, more than in 2015.

In 2016, the average labour productivity of miners of DTEK Energy was 65.2 tonnes/person per month, which is 17.0% more than in 2015.

The growth is due to the resumption of operations of the company's Ukrainian mines in the ATO zone and stabilisation of coal supplies to thermal power plants.

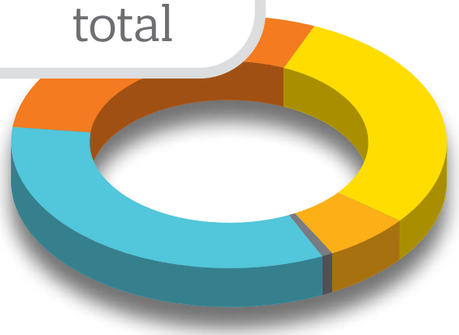
Electricity generation

In 2016, 39.5 billion kWh of electricity were generated by DTEK Energy TPPs and CHPPs, which is 4.8% more than in 2015.

TPPs operate on coal of high-volatile steam and anthracite grades. Natural gas and fuel oil are used to ignite the coal. In general, the thermal generation industry provides more than a third of Ukraine's electricity needs.

Generation (supply) of electricity by DTEK Energy in 2016, million kWh

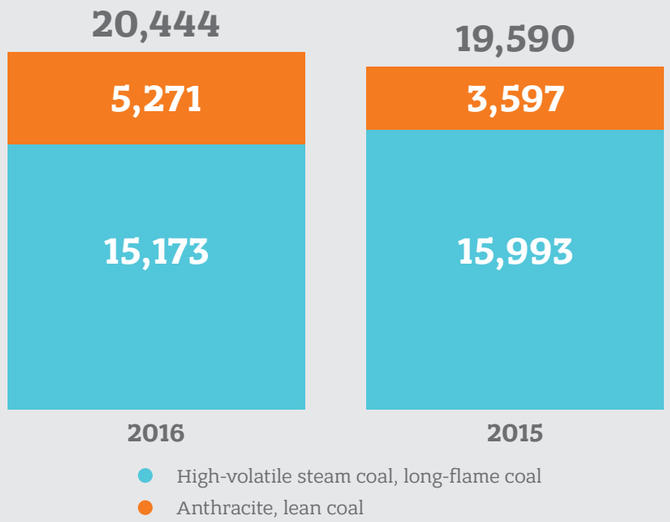
39,451.6
total



DTEK Zakhidenergo	(G, DG)	13,366.9
DTEK Dniproenergo	(G, DG, A, T)	11,676.9
DTEK Skhidenergo*	(G, DG, A)	11,541.5
Kyivenergo	(gas)	2,547.9
Myronivska TPP	(G, T)	318.4

G – high-volatile steam coal
DG – long-flame coal
T – lean coal
A – anthracite

Coal consumption for electricity generation at DTEK Energy TPPs by grade in 2016–2015, thousand tonnes



* The main electric grids of NPC Ukrenergo were damaged by military hostilities, which disconnected DTEK Luganska TPP from the UES of Ukraine. From September 2014 to April 25, 2017, the plant operated in island mode. DTEK Zuivska TPP was separated from the UES of Ukraine by the Resolution of the Cabinet of Ministers of Ukraine No. 263 dated May 7, 2015 "On the regulatory aspects of relations in the electric power industry in the territory where the powers of public authorities are temporarily not exercised or not exercised in full".

Main factors that affected the production indicators:

1 A decline in NPP electricity generation of 7.8%, or 6,457.0 billion kWh, caused by a change in and extension of repair campaign periods, among other things.

2 Low readiness of other thermal generation operators to compensate for the decline in generation by nuclear power plants due to insufficient coal reserves and lack of fuel during certain periods.

From October 2015 to May 2016, the UES of Ukraine experienced a power surplus. Availability of free capacities caused a decrease in energy consumption, while generation at HPPs and HPSPs increased.
Starting in June, NPPs significantly reduced generation, due to extension of repair work, while electricity consumption increased. To cover the shortfall, DTEK Energy increased the load on its TPPs and ramped up electricity generation by 4.3 billion kWh in the second half of the year.

3 Increase in electricity generation by DTEK Dniproenergo, DTEK Skhidenergo and Kyivenergo by 18.5%, or 4 billion kWh, according to the year-end results.

DTEK Dniproenergo contributed most to the increase in electricity generation. Supply of electricity increased by 30%, or 2.7 billion kWh. This was made possible by increased anthracite and lean coal supplies from DTEK Mine Komsomolets Donbassa, DTEK Rovenkyanthracite and DTEK Sverdlovanthracite.

4 A drop in electricity generation by DTEK Zakhidenergo of 14.5%, or 2.3 billion kWh. By the end of the year, the performance indicators were affected by the negative results of the first half of the year, when due to the existing power surplus in the UES of Ukraine, electricity generation was reduced by 20.4%, or 1.7 billion kWh, compared to the same period in 2015.

82.51%* – technical availability factor of DTEK Energy power plants in 2016 shows their ability to cover the load schedule of the UES of Ukraine.

* Excluding Myronivska TPP and power units under mothballing or retrofitting, and oil/gas units.

Generation, ICUR* and specific fuel consumption of the Ukrainian thermal generation companies

Companies	Generation, billion kWh		ICUR, %		Specific fuel consumption, g/kWh		Change, +/–		
	2016	2015	2016	2015	2016	2015	Generation	ICUR	Specific fuel consumption
DTEK Energy**	40.6	39.4	26.8	25.9	400.8	396.4	+1.2	+0.9	+4.4
Centrenergo	9.9	8.4	14.6	12.5	412.4	403.3	+1.5	+2.1	+9.1
Donbasenergo	8.1	6.9	31.7	22.7	396.8	407.3	+1.2	+9	–10.5

* Installed capacity utilisation rate.
** Excluding Kyivenergo and Myronivska TPP.

Key operational indicators of DTEK Energy TPPs

Company	Indicators	2016	2015	Change, +/–
DTEK Kurakhivska TPP	Electricity generation mln kWh	5,985.6	5,969.4	+16.2
	Busbar output, mln kWh	5,341.9	5,303.2	+38.7
	ICUR, %	44.5	44.9	–0.4
DTEK Zuivska TPP	Electricity generation mln kWh	3,552.9	3,274.7	+278.2
	Busbar output, mln kWh	3,273.2	3,005.0	+268.2
	ICUR, %	31.9	29.4	+2.5
DTEK Luganska TPP	Electricity generation mln kWh	3,338.4	2,591.1	+747.3
	Busbar output, mln kWh	2,926.3	2,250.8	+675.5
	ICUR, %	25.4	19.9	+5.5
DTEK Prydniprovska TPP	Electricity generation mln kWh	2,669.7	1,490.4	+1,179.3
	Busbar output, mln kWh	2,308.8	1,266.1	+1,042.7
	ICUR, %	17.2	9.6	+7.6
DTEK Zaporizka TPP	Electricity generation mln kWh	5,216.7	5,895.1	–678.4
	Busbar output, mln kWh	4,815.7	5,442.4	–626.7
	ICUR, %	47.5	54.3	–6.8
DTEK Kryvorizka TPP	Electricity generation mln kWh	5,018.9	2,578.3	+2,440.6
	Busbar output, mln kWh	4,552.4	2,279.7	+2,272.7
	ICUR, %	19.8	10.2	+9.6
DTEK Burshtynska TPP	Electricity generation mln kWh	8,499.1	9,727.9	–1,228.8
	Busbar output, mln kWh	7,624.1	8,771.3	–1,147.2
	ICUR, %	41.3	47.6	–6.3
DTEK Dobrotvirska TPP	Electricity generation mln kWh	2,275.5	2,245.5	+30.0
	Busbar output, mln kWh	2,053.7	2,024.7	+29.0
	ICUR, %	50.8	50.3	+0.5
DTEK Ladyzhynska TPP	Electricity generation mln kWh	4,048.7	5,287.6	–1,238.9
	Busbar output, mln kWh	3,689.1	4,839.7	–1,150.6
	ICUR, %	25.6	33.5	–7.9
DTEK Donetskoblenergo Myronivska TPP	Electricity generation mln kWh	386.2	317.5	+68.7
	Busbar output, mln kWh	318.4	260.8	+57.6
	ICUR, %	16.0	13.2	+2.8

* Data does not account for oil and gas units.

Production capacities of DTEK Energy TPPs as of January 1, 2017

Power unit No.	Installed capacity, MW	Year of commissioning/ last major overhaul or retrofit	Hours in service	Results/plans retrofit or last major overhaul
		DTEK Zuivska TPP		
1	325	1982/2009	202,525	Retrofit was completed in 2009; increase in installed capacity – by 25 MW
2	320	1982/2016	195,859	Retrofit was completed in 2008; increase in installed capacity – by 20 MW
3	300	1986/2006	165,821	The power unit is undergoing retrofitting
4	325	1988/2013	170,899	Retrofit was completed in 2013; increase in installed capacity – by 25 MW
Total	**1,270**			

Production capacities of DTEK Energy TPPs as of January 1, 2017

Power unit No.	Installed capacity, MW	Year of commissioning/ last major overhaul or retrofit	Hours in service	Results/plans retrofit or last major overhaul
		DTEK Kurakhivska TPP		
3	200	1972/2007	287,478	Retrofit is planned for 2024–2025; expected increase in installed capacity – by 25 MW
4	210	1973/2008	261,466	Retrofit is planned for 2022–2023; expected increase in installed capacity – by 15 MW
5	222	1973/2015	243,566	Retrofit was completed in 2009; increase in installed capacity – by 12 MW
6	225	1973/2013	240,971	Retrofit was completed in 2013; increase in installed capacity – by 15 MW
7	225	1974/2016	252,828	Retrofit was completed in 2010; increase in installed capacity – by 15 MW
8	225	1974/2012	250,487	Retrofit was completed in 2012; increase in installed capacity – by 15 MW
9	225	1975/2015	246,725	Retrofit was completed in 2015; increase in installed capacity – by 15 MW
Total	**1,532**			
		DTEK Luganska TPP		
9	200	1962/2007	328,209	Mothballing starting in 2020 is being considered
10	210	1962/2012	314,307	Retrofit was completed in 2012; increase in installed capacity – by 35 MW
11	200	1963/2004	317,571	Retrofit is planned for 2021–2022; expected increase in installed capacity – by 10 MW
12	175	1963/1996	–	Mothballed
13	210	1967/2014	292,770	Retrofit was completed in 2014; increase in installed capacity – by 35 MW
14	200	1968/2006	286,131	Retrofit is planned for 2024–2025; expected increase in installed capacity – by 10 MW
15	200	1969/2005	299,031	Retrofit is planned for 2022–2023; expected increase in installed capacity – by 10 MW
№4	100	–	–	Mothballed
Total	**1,495**			

Production capacities of DTEK Energy TPPs as of January 1, 2017

Power unit No.	Installed capacity, MW	Year of commissioning/ last major overhaul or retrofit	Hours in service	Results/plans retrofit or last major overhaul
DTEK Zaporizka TPP				
1	325	1972/2012	282,453	Retrofit was completed in 2012; increase in installed capacity – by 25 MW
2	300	1972/2006	275,454	Retrofit is planned for 2022–2023; expected increase in installed capacity – by 30 MW
3	325	1972/2014	277,250	Retrofit was completed in 2014; increase in installed capacity – by 25 MW
4	300	1973/2016	260,221	Retrofit is planned for 2020–2021; expected increase in installed capacity – by 30 MW
5	800	1975/1995	148,998	Gas/oil unit on standby
6	800	1976/1993	–	Gas/oil unit mothballed
7	800	1977/1992	133,190	Gas/oil unit on standby
Total	**3,650**			
DTEK Kryvorizka TPP				
1	282	1963/1993	297,496	It is planned to complete the retrofit in 2017; expected increase in installed capacity – by 33 MW
2	300	1964/1998	309,554	Retrofit is planned for 2025–2026; expected increase in installed capacity – by 15 MW
3	300	1965/2013	269,905	Retrofit was completed in 2013; increase in installed capacity – by 18 MW
4	300	1966/2005	251,069	A major overhaul is planned for 2019
5	282	1967/1994	298,260	Retrofit is planned for 2024–2025; expected increase in installed capacity – by 33 MW
6	282	1968/1995	246,410	Mothballing starting in 2017 is being considered
7	282	1970/1991	–	Mothballed
8	282	1969/1996	262,198	Mothballing starting in 2018 is being considered
9	282	1972/1994	–	Mothballed
10	300	1972/2016	206,378	A major overhaul is planned for 2021
Total	**2,892**			

Production capacities of DTEK Energy TPPs as of January 1, 2017

Power unit No.	Installed capacity, MW	Year of commissioning/ last major overhaul or retrofit	Hours in service	Results/plans retrofit or last major overhaul
DTEK Prydniprovska TPP				
7	150	1958/2013	334,630	A major overhaul is planned for 2019
8	150	1958/2014	358,567	Mothballing starting in 2020 is being considered
9	150	1959/2012	327,759	Retrofit was completed in 2012 without an increase in capacity
10	150	1960/2006	329,614	A major overhaul is planned for 2018
11	310	1962/2016	265,198	A major overhaul is planned for 2021
12	285	1964/1990	–	Mothballed
13	285	1964/1997	299,528	Mothballing starting from 2018 is being considered
14	285	1966/1993	–	Mothballed
Total	**1,765**			
DTEK Burshtynska TPP				
1	195	1968/2010	295,982	A major overhaul is planned for 2017
2	185	1965/2014	280,497	A major overhaul is planned for 2020
3	185	1966/2013	294,413	A major overhaul is planned for 2019
4	195	1966/2014	314,604	A major overhau is planned for 2018
5	215	1967/2013	305,370	Retrofit was completed in 2013 and 2016; increase in installed capacity – by 20 MW
6	195	1967/2015	308,854	Major overhaul was completed in 2015; increase in installed capacity – by 10 MW
7	206	1968/2012	290,557	Retrofit was completed in 2012; increase in installed capacity – by 21 MW
8	195	1968/2009	306,641	Retrofit is planned for 2021–2022; expected increase in installed capacity – by 13 MW
9	195	1968/2016	288,768	Retrofit is planned for 2023–2024; expected increase in installed capacity – by 13 MW
10	195	1969/2004	306,212	In 2017 it is planned to complete the retrofit; expected increase in installed capacity – by 15 MW
11	195	1969/2011	270,669	Retrofit is planned for 2025–2026; expected increase in installed capacity – by 13 MW
12	195	1969/2012	262,602	Retrofit is planned for 2027–2028; expected increase in installed capacity by 13 MW
Total	**2,351**			

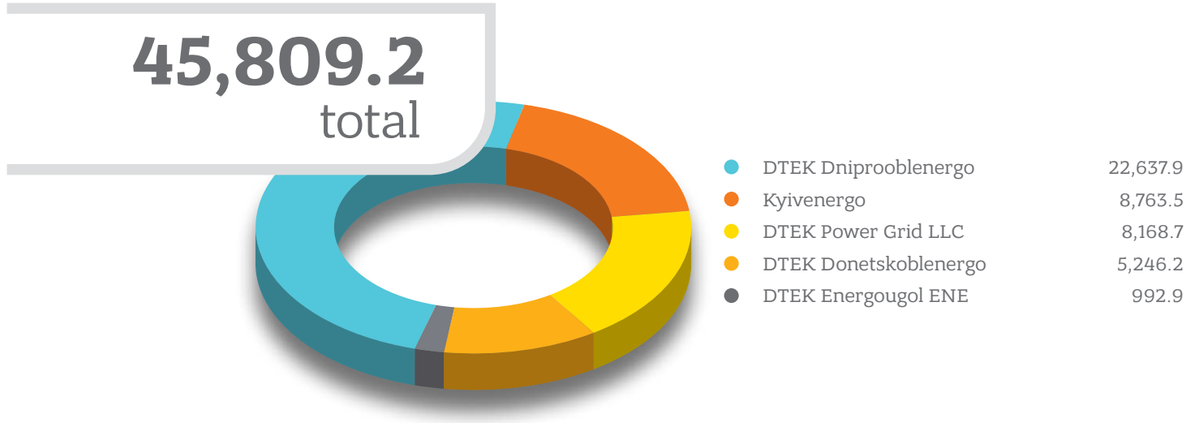
Production capacities of DTEK Energy TPPs as of January 1, 2017

Power unit No.	Installed capacity, MW	Year of commissioning/ last major overhaul or retrofit	Hours in service	Results/plans retrofit or last major overhaul
DTEK Dobrotvirska TPP				
5	100	1960/2010	342,253	A major overhaul is planned for 2020
6	100	1961/2015	334,484	Mothballing starting from 2018 is being considered
7	150	1963/2011	346,284	Retrofit is planned for 2018–2019; expected increase in installed capacity – by 10 MW
8	160	1964/2014	319,356	Retrofit was completed in 2014; increase in installed capacity – by 10 MW
Total	**510**			
DTEK Ladyzhynska TPP				
1	300	1970/2007	251,048	A major overhaul is planned for 2017
2	300	1971/2009	246,741	A major overhaul is planned for 2018
3	300	1971/2011	235,585	A major overhaul is planned for 2019
4	300	1971/2001	238,627	Retrofit is planned for 2018–2019; expected increase in installed capacity – by 25 MW
5	300	1971/2003	220,060	Mothballing starting in 2017 is being considered
6	300	1971/2004	–	Mothballed
Total	**1,800**			
DTEK Donetskoblenergo Myronivska TPP				
№2	100	1953/2004	285,814	Out of service for repairs
№3	60	1954/1998	335,195	Mothballed
№5	115	2004/2013	69,631	A major overhaul is planned for 2018
Total	**275**			

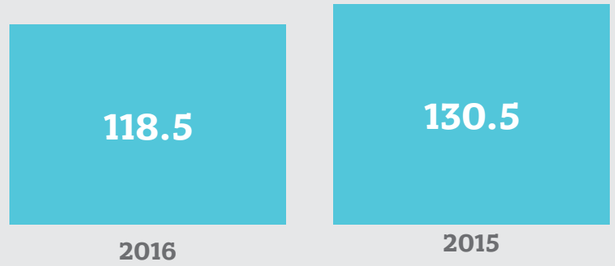
Electricity transmission

In 2016, 45.8 billion kWh of electricity were transmitted through grids by the company's distribution enterprises, which is 1.6% more than in 2015.

Transmission of electricity by DTEK Energy in 2016, mln kWh



Customer Average Interruption Duration Index (CAIDI) for DTEK Energy, min.



CAIDI is the ratio of the total duration of interruptions to the total number of disconnected points.
This indicator is measured in minutes.

The data is provided for all distribution companies of DTEK Energy, including Kyivenergo.
The data does not include force majeure and de-energisation based on emergency shutdown schedules.

Main factors that affected the production indicators:

1. Increase in electricity consumption starting in the second half of the year (excluding Crimea).

   By the end of the year, real energy consumption growth rates amounted to 3%, or 1.2 billion kWh. This is explained by recovery of demand by the industry and increased consumption in summer and winter months due to variation of air temperature from the average values. Industrial demand rose by 4%, or 0.8 billion kWh, while demand from households and municipal services increased by about 2.8%, or 0.3 billion kWh.

2. Increase of 3.8%, or 1.1 billion kWh in electricity transmission by DTEK Dniprooblenergo and Kyivenergo.

3. Decrease of 2.9%, or 426 million kWh in electricity transmission by DTEK Donetskoblenergo, DTEK Power Grid LLC and DTEK Energougol ENE, due to the hostilities and unstable socio-economic situation in the region.

Characteristics of DTEK Energy distribution companies as of January 1, 2017

	Total length of power transmission lines, km	Total number of substation, units	Total capacity of substation, MVA	Number of customers
DTEK Donetskoblenergo	62,260	13,069	12,381	1,834,176
DTEK Dniprooblenergo	50,116	12,618	11,323	1,509,764
Kyivenergo	13,243	3,998	7,861	1,138,616
DTEK Power Grid	2,705	91	2,447	950
DTEK Energougol ENE	1,234	425	462	27,135
DTEK Energy	**129,558**	**30,201**	**34,474**	**4,510,641**

Actual losses in the grid: DTEK Energy companies, %

	2016	2015	Change, +/–	Change, %
DTEK Donetskoblenergo	30.94	24.28	+6.66	+27.42
DTEK Energougol ENE	24.17	8.33	+15.84	+190.15
Kyivenergo	7.47	7.07	+0.4	+5.65
DTEK Dniprooblenergo	4.67	4.57	+0.1	+2.18
DTEK Power Grid	2.75	1.49	+1.26	+84.56
Average for DTEK	**9.36**	**7.53**	**+1.82**	**+24.2**
Average for Ukraine	**11.74**	**11.5**	**+0.24**	**+2.08**

Kyivenergo

PJSC Kyivenergo provides energy and heat supply to the capital of Ukraine. The total installed capacity of the electricity generation company is 1.2 GW, and heat energy is 8.8 thousand Gcal/h.

Electricity is generated at two combined heat and power plants CHPP-5 and CHPP-6. Due to the extensive network of cable and overhead power transmission lines, the company completely covers the needs of Kyiv for electricity.

Heat energy is produced by the company's CHPP-5, CHPP-6, four heat supply stations and 178 boiler facilities. The company's share on the Kyiv market of centralised heat and hot water supply is 75%. At the same time, heating mains are mostly communal.

The main fuel of Kyivenergo CHPPs is natural gas. In 2016, 1,947 billion cubic metres of gas were consumed, including 1.543 billion cubic metres for NJSC Naftogaz of Ukraine, 0.379 billion cubic metres for DTEK Trading LLC, and 0.025 billion cubic metres for DTEK Oil&Gas LLC.

In addition, the CHPPs consumed 108.8 thousand tonnes of fuel oil, and district boiler houses used 923 tonnes of coal to generate heat energy.

The main factor that affected production indicators:

In 2016, due to adjustment of the forecast balance of electricity aimed at ensuring reliability of the Kyiv energy hub, Kyivenergo increased electricity generation by 16.2%, or 0.4 billion kWh.

Electricity transmission through the grid increased by 2.8%, or 235.3 million kWh.

Key operating indicators of Kyivenergo CHPPs

	Indicators	2016	2015	Change, +/–
CHPP-5	Electricity generation, mln kWh	1,494.6	1,449.1	+45.5
	Electricity supply, mln kWh	1,198.1	1,157.1	+41.0
	Electricity consumption for own needs (for electricity generation), %	8.1	8.0	+0.1
	Electricity consumption for own needs (for heat generation), kWh/Gcal	51.5	55.5	–4.0
	ICUR, %	24.3	23.6	+0.7
CHPP-6	Electricity generation, mln kWh	1,554.3	1,190.4	+363.9
	Electricity supply, mln kWh	1,349.9	1,034.9	+315.0
	Electricity consumption for own needs (for electricity generation), %	5.4	4.8	+0.6
	Electricity consumption for own needs (for heat generation), kWh/Gcal	51.0	56.5	–5.5
	ICUR, %	35.4	27.2	+8.2
Total	Electricity generation, mln kWh	3,048.9	2,639.5	+409.4
	Electricity supply, mln kWh	2,547.9	2,192.0	+355.9
	Heat energy generation, thous. Gcal	6,580.5	6,004.0	+576.5
	Heat energy supply, thous. Gcal	6,238.7	5,736.3	+502.4
	Electricity consumption for own needs	525.1	494.7	+30.4
	ICUR, %	28.9	25.1	+3.8

Production capacities of Kyivenergo CHPPs as of January 1, 2017

Equipment	Installed capacity	Year of commissioning/ last major overhaul or retrofit	Hours in service	Major overhaul/ retrofit
		Electricity generation, MW		
CHPP-5				
Unit 1	100	1971/2014	306,237	2014/2015
Unit 2	100	1972/2012	308,003	2012/–
Unit 3	250	1974/2013	273,822	2013/–
Unit 4	250	1976/2014	216,768	2014/–
Total	**700**			
CHPP-6				
Unit 1	250	1982/2013	219,029	2013/–
Unit 2	250	1984/2016	205,441	2016/–
Total	**500**			
		Heat energy generation, Gcal/h		
CHPP-5				
Unit 1	160	1971/2014	306,237	2014/2015
Unit 2	160	1972/2012	308,003	2012/–
Unit 3	324	1974/2013	273,822	2013/–
Unit 4	330	1976/2014	216,768	2014/–
PTVM-180, Plant No. 1	180	1972/2008	34,465	2008/–
PTVM-180, Plant No. 2	180	1972/1994	26,242	1994/–
PTVM-180, Plant No. 3	180	1977/2016	46,200	2016/–
PTVM-180, Plant No. 4	180	1992/–	57,793	–/–
PTVM-180, Plant No. 5	180	1998/–	42,436	–/–
Total	**1,874**			
CHPP-6				
Unit 1	330	1982/2013	219,029	2013/–
Unit 2	330	1984/2016	205,441	2016/–
KVGM-180, Plant No. 1	180	1981/2010	63,391	2010/–
KVGM-180, Plant No. 2	180	1982/2011	53,400	2011/–
KVGM-180, Plant No. 3	180	1983/2011	53,460	2011/–
KVGM-180, Plant No. 4	180	1986/2010	55,112	2010/–
KVGM-180, Plant No. 5	180	1998/2016	11,389	2016/–
NAS-209-150, Plant No. 6	180	2004/–	10,343	–/–
Total	**1,740**			

Commercial activity

Coal sales on external and domestic markets

1.3 million tonnes of coal products were delivered to foreign markets, which is almost the same amount as in 2015. The company increased its deliveries to consumers in Europe, Canada and India. Export deliveries are carried out mainly from Mine Office Obukhovskaya reserve, including 0.3 million tonnes of anthracite delivered to Ukraine.

Coal deliveries to industrial consumers in Ukraine have increased by 2.8 times — up to 2.6 million tonnes. The company supplies coals of “G” and “A” grades to the domestic market.

Electricity sales on external markets

In 2016, the company supplied 4 billion kWh under foreign economic contracts. This is 12.1%, or 429 million kWh, more than the results of the previous year. Deliveries were made to Poland and Hungary.

Main factors that affected the indicators:

1 Surplus generating capacities in the UES of Ukraine in the first half of the year.

25–44 power units of GenCos TPP of Ukraine with a total capacity of 9 to 12.9 GW were on standby daily.
Availability of free capacities was caused by a general decrease in energy consumption, while generation at HPPs and HPSPs increased.

Deliveries of anthracite and lean coals from DTEK Rovenkyanthracite, DTEK Sverdlovanthracite and DTEK Mine Komsomolets Donbassa at the beginning of the year stabilised at 11–13 thousand tonnes per day. This made it possible to provide coal to the company’s thermal power plants in the required amount and observe the resource accumulation schedule.

Thus, prerequisites were created for resumption of exports of Ukrainian electricity. In January as a whole, the company supplied 2.2 billion kWh of electricity to foreign markets. This is 24.5%, or 428.7 million kWh, more than in the same period in 2015.

2 An increase in electricity consumption in the second half of the year, while nuclear electricity generation decreased.

From June to September 2016, baseload electricity generation decreased significantly due to a change in and extension of the repair campaign period at the nuclear power units. At the same time, demand for electricity from households, industry and utilities increased. In the second half of the year, DTEK Energy TPPs increased electricity generation and reduced supplies under foreign economic operations by 17%, or 371.5 million kWh, compared to the first half of the year in order to cover the needs of the domestic market.

Higher load at DTEK Energy TPPs caused an increase in coal combustion; therefore, the company decided to import resources to form a contingency reserve of fuel at thermal power plants in order to have a margin of safety in case of an additional load increase. In 2016, a total of 222.2 thousand tonnes of coal were imported.

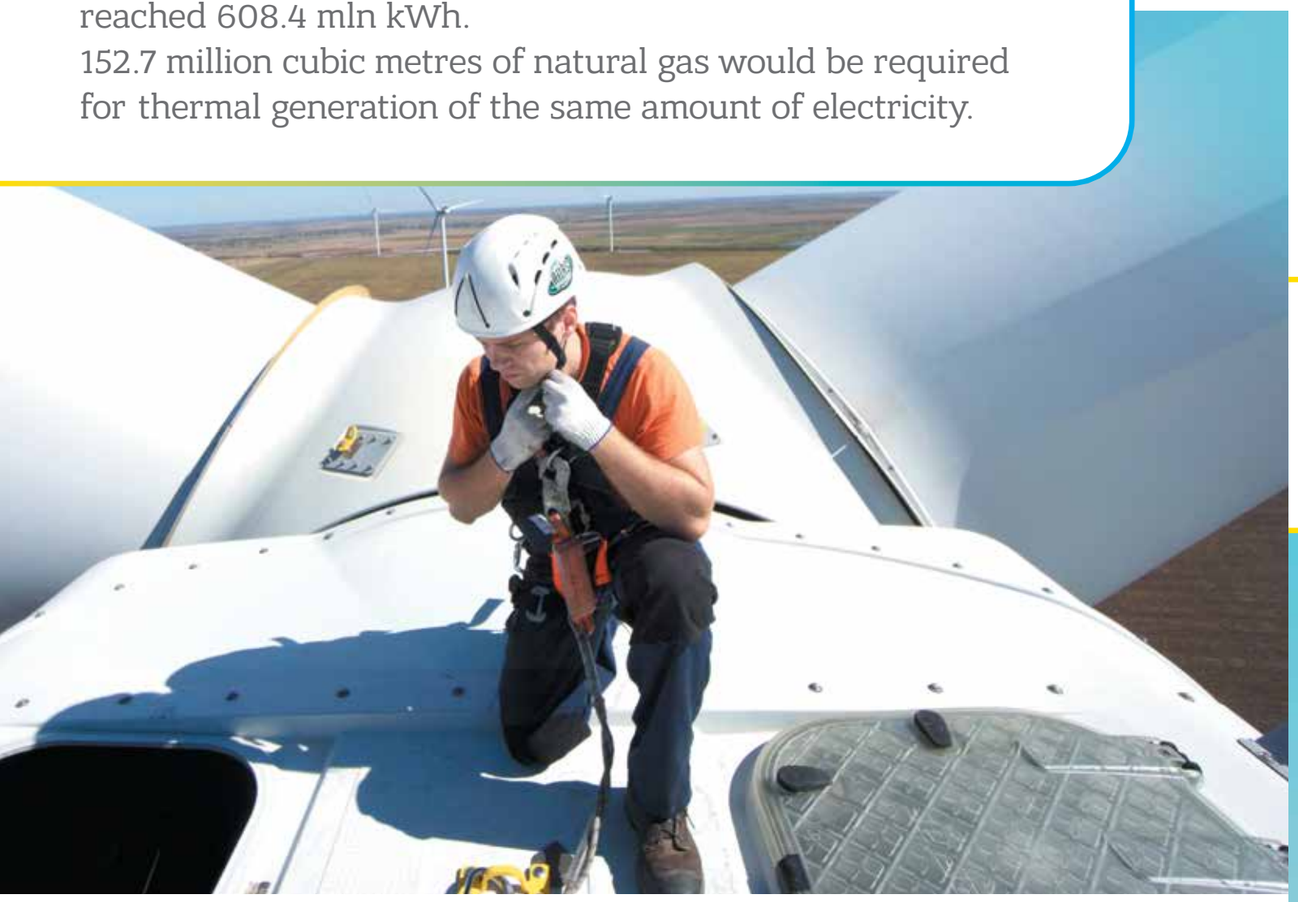
Natural gas imports

In 2016, the company imported 15.4 million cubic metres of natural gas from Europe.
The main volume of 97% was delivered from Hungary, and the remaining volume — from Slovakia.

Resumption of supplies from Europe was facilitated by lower prices for natural gas in the second half of the year, due to the surplus gas balance, seasonal decline in consumption and a decrease in oil prices.

DTEK Renewable.
RES energy

In 2016, the green energy supply from Botievo wind farm reached 608.4 mln kWh.
152.7 million cubic metres of natural gas would be required for thermal generation of the same amount of electricity.



The availability factor was 98.71% for wind power plants, and 99.15% — for infrastructure facilities. These figures exceed the targets (98% and 98%, respectively), indicating well-organised operation and high reliability of the plant.

During the year, DTEK RES was focused on improving the operational reliability of the plant. The Wind Tech division was created to perform maintenance of the wind farms in cooperation with the turbine manufacturers. The main task of Wind Tech is to develop internal expertise for maintenance.

In addition, a contract for servicing wind farm infrastructure with high-availability guarantee was concluded with ABB, a global leader in the field of power and automation technology.

Operation of Botievo wind farm has reduced carbon dioxide emissions into the atmosphere by **646 thousand tonnes**.*

* Generation of electricity from fossil fuels is accompanied by emission of greenhouse gases into the atmosphere. To estimate these emissions, the "CO_2 equivalent" is used to bring all greenhouse emissions to a common denominator. To calculate the contribution of renewable energy sources to reducing emissions, the conversion factors for specific CO2 emissions per 1 kWh from the averaged calculation for thermal power plants are used. In 2010, the National Environmental Investment Agency of Ukraine approved a value of 1.063 kg of CO_2 per 1 kWh for this indicator.

DTEK Oil&Gas.
Hydrocarbon production

In 2016, PJSC "Naftogazvydobuvannya" produced 1.6 billion cubic metres of natural gas and 56.1 thousand tonnes of gas condensate, which exceeds the figures for 2015 by 25% and 24%, respectively.

Main factors that affected the production indicators:

1. Completion of drilling and commissioning of wells Nos. 71, 73 and 52 at a depth of 5,700 m to 5,770 m at the Semyrenkivske gas condensate field.
   The new wells provide a total of 25 million cubic metres of gas per month.
2. Major overhauls of wells Nos. 10, 70, 68 and 17 at the Semyrenkivske gas condensate field.
3. Successful implementation of measures aimed at intensifying production rates at the existing well stock.

Naftogazvydobuvannya has increased its natural gas and condensate production 3.2 times and 2.8 times, respectively, since it had entered the DTEK Group.

02 Investment projects

In 2016, DTEK Group increased its capital investments, thus preserving and ramping up production volumes.

In coal production and preparation, the funds were mainly used for restoring mine operations in the ATO zone, preparation of new longwalls and de-bottlenecking. In thermal power generation, we invested in an overhaul programme to maintain the high availability of the power plants; and in electricity distribution, in improving the reliability and quality of power supply.

In 2014–2015, the Company had to optimise its capital expenditures, and about half of the planned amount was invested in production. Any further reduction of investments would have critically affected performance indicators and resulted in a higher breakdown rate of power plant equipment, lower coal production caused by late development of longwalls and considerable wear of equipment.

Investments, UAH mln (IFRS, excluding VAT)*

Business segment	2016	2015	Change, +/–	Change, %
DTEK Energy	6,194	4,061	+2,133	+52.5
Coal mining and preparation	3,912	2,460	+1,452	+59
Electricity generation	588	466	+122	+26.2
Electricity distribution	827	418	+409	+97.8
Kyivenergo	769	644	+125	+19.4
Other	98	73	+25	+34.2
DTEK Renewables	8	7	+1	+14.3
DTEK Oil&Gas	932	947	-15	-1.6
Total	**7,134**	**5,015**	**+2,119**	**+42.3**

* Excluding cost of intangible assets.

DTEK Energy.

Coal mining and preparation

DTEK Energy is implementing investment projects aimed at developing domestic coal production. In 2016, we completed three projects that increase coal mining and preparation capacities in Dnipropetrovsk Region: upgrading of Pavlogradska CPP, commissioning of a fresh air shaft at Yuvileina Mine and driving through the Bohdanivskyi fault at the Samarska Mine.

- The plant's coal preparation capacity was increased to 7 mln tonnes per year and it can now produce products with high calorific value. This became possible after upgrading of the first section was completed (the second section had been modernised in 2014). A highly efficient coal preparation production line designed with the participation of CETCO was installed in both sections. Furthermore, implementation of the project allowed the plant to stop using the sludge pond. Now liquid waste will be desiccated by filter presses, which are also part of the upgraded sections, and then either taken to a waste rock tip or used for land reclamation purposes.
- The new fresh air shaft at Yuvileina Mine opened up access to 19 mln tonnes of commercial coal reserves. Over the years of its operation, the mine has almost exhausted its coal reserves within the mine field and new deposits are at a significant distance from the main shaft. Shaft construction actually meant construction of a new mine, as it supplies air to the new reserves, thus ensuring the mine's sustainable operation. The shaft will be used for personnel transfer, which means the miners will spend two hours less underground during every shift. A man riding winder has been operating since August 2016. It is expected to start transporting "cargo" in the summer of 2017.
- Tunnellers of the Samarska Mine successfully drove through the largest West Donbas geological fault — Bohdanivskyi fault. This fracture discontinued the horizontal coal seams: the depth difference between the parts is about 300 metres vertically. In order to drive through the Bohdanivskyi fault, research was carried out and a new safe rock-securing technology was designed, which makes it possible to drive through underexplored and unpredictable sections of the mine field. DTEK Energy worked on the project in cooperation with the National Mining University, the Polyakov Institute of Geotechnical Mechanics under the National Academy of Sciences of Ukraine and leading scientists specialising in geomechanics. It was a unique successful experience of driving through such a large tectonic fault. Later three more workings will be driven through the Bohdanivskyi fault, which will allow us to develop a mine field with reserves of 10 million tonnes of coal.
- In 2016, we drove 31 km of permanent roadways. This helped prepare breakage faces for the near future (1.5–2 years) and enabled us to prepare new sections of mine fields at Geroiv Kosmosu, Pavlogradska and Samarska mines for development and improve ventilation and underground transportation.

The company supports R&D in coal mining to improve the efficiency of underground works and design state-of-the-art equipment. It is necessary to constantly modernise mines and introduce new equipment at them for efficient operation.

- A new-generation stable hole machine has been put into operation at Stashkova Mine. It is a Road Cutter System for installation chambers where breakage equipment is being assembled. System productivity is higher than that of similar old equipment, and means driving of mine workings can be accelerated, including through hard rock. The equipment has been designed and manufactured by Corum Group, with the participation of leading R&D institutes at the request of DTEK Energy. In future, the system will replace the obsolete KH-78 cutting machines.
- We completed testing of the new technology at Stepova Mine: rock mass in the face is loaded into containers with bottom discharge and then taken to the reloading point by diesel-hydraulic locomotives along the overhead monorail road. Experimental models of containers were designed and manufactured by Ferrit plant. The results proved that application of this absolutely new method of rock mass transportation is justified and reasonable. The mine will continue to use this technology.
- A new system for stabilising reused workings has been successfully tested. This innovative technology is based on the use of a combined two-tier anchor and roof support and active reinforcement support in the longwall approach area. Application of the technology is regulated by the Company's internal process standard compiled by the Technical Development Department of DTEK Energy and has passed an expert review by the Polyakov Geotechnical Mechanics Institute under the National Academy of Sciences of Ukraine. In 2016, the system was tried out by 10 of the company's mine groups, which made it possible to considerably increase the safety of mining operations. In 2017, we plan to roll out and put this system into commercial operation at DTEK Energy's other mines.

Electricity generation

Upgrading and retrofit of TPPs is a pressing issue for the Ukrainian energy sector, as its equipment is quite old and worn out. Thermal power plants can quickly increase or decrease electricity output according to peaks and drops in power consumption. DTEK Energy ensures high availability of its power plants so that they can generate electricity when requested by the operator of the United Energy Systems of Ukraine.

In 2016, DTEK Energy completed the second phase of the DTEK Burshtynska TPP, Unit No. 5 retrofit. The project helped increase the unit's capacity from 208 MW to 215 MW and improve equipment performance and reliability. Furthermore, a new pneumatic ash-removal system was implemented at the unit precipitator as part of the upgrading process.

In December, we started the retrofit of Unit No. 10 at DTEK Burshtynska TPP. It is planned to replace the turbine, boiler drum and boiler furnace with a gas-tight one, to implement a full-scale automated unit monitoring and control system, upgrade the generator and electrical equipment, including replacement of the auxiliary transformer. Such large-scale rehabilitation activities will help increase the installed capacity of the unit by 15 MW and considerably improve technical, economic and environmental performance indicators. We plan to recommission the unit after the upgrade in December 2017.

The company has also resumed the retrofit at Unit No. 1 of DTEK Kryvorizka TPP, that began in 2013. The completed retrofit will allow the plant to run efficiently and reliably. The retrofit is intended to increase the unit's capacity from 282 MW to 315 MW, expand the flexibility range to enable smooth regulation of electricity consumption peaks and drops, and reduce fly ash emissions into the air by 16 times — to 50 mg/m3, as required by the EU environmental standards.

Since 2012, during retrofit of any of the Company's generating units, their electrostatic precipitators have been upgraded to achieve the dust emission levels required in accordance with Directive 2001/80/EC. In 2016, the next stage of "Re-equipping the pneumatic ash-removal system (2nd stage) at DTEK Burshtynska TPP" project was completed. Installation and start-up were completed on the pneumatic ash-removal system at the electrostatic precipitators of Unit No. 7. The upgraded system will help increase dry ash shipments to 40,000 tonnes per year.

Electricity transmission

DTEK Energy distribution companies are consistent in their efforts to improve reliability and quality of power supply. Improving the quality of customer services is also an integral part of the companies' activities.

In 2016, operating distribution companies built 36.8 km and retrofitted and repaired 3,632.6 km of overhead and cable lines, replaced 1,244.2 km of overhead line wire and restored 6,945 units of damaged cable lines.

They built 28, retrofitted 100, repaired 2,192 transformer substations and distribution substations, and repaired 769 power transformers and 2,474 circuit breakers.

The largest investment projects in 2016:

DTEK Dniprooblenergo

- The company opened a modern Customer Service Centre in the settlement of Solone, designed to service up to 300 customers per day. Its customers can get advice on power supply issues and conduct all transactions: from settlements to obtaining technical specifications for connections.
- A new dispatching office started operating in Kryvyi Rih. A video wall manufactured by Mitsubishi displays electricity supply data for the town — from the overall picture to specific facilities. This helps reduce the time from identifying malfunctions to repairing them and prevent emergencies in general. The modern dispatching office is part of the general SMART Grids Implementation Programme for the company's electricity grid.
- The company continues to implement an automated electricity metering system in the cities of Dnipro, Kryvyi Rih, Kamianske, Novomoskovsk and Nikopol. The system already covers over 130 thousand household metering points.
- The new 150/10/6 kV Naddniprianska substation is being designed to provide additional capacity for connecting new consumers and substations to be built and for improving the reliability of the existing substations powering Dnipro subway lines.

DTEK Donetskoblenergo

- Access to Personal Account online service has been fully restored. All customer service centres and all of the company's customers in 30 towns and 24 villages have been connected to the common database. In 2014, a missile hit the main dispatching centre, which caught fire and as a result was destroyed. Engineers of the distribution company have been gradually restoring the service.
- The company renewed rehabilitation efforts on the City 5 substation situated in downtown Mariupol. There are plans to install a modern electrical module based on D-12P bays with 10 kV vacuum switches.

Power workers of DTEK Energy carried out emergency repairs and restoration on the electricity transmission lines and substations damaged by the military hostilities. Power availability became crucial for the survival of people in the military conflict zone. Power workers installed a new electricity transmission line to secure power supplies to the village of Verkhnetoretske (Yasinovatskiy District, Donetsk Region) and to reduce power supply interruptions caused by shelling damage to the line.

Kyivenergo

In its investment activities Kyivenergo focuses on developing projects that raise the quality of customer services and improve energy and heat supply in the capital of Ukraine.

Heat metering points in buildings help make relations between consumers and the service supplier more transparent. In 2016, the Company installed over 700 heat meters in buildings and connected them to the heat metering system. Furthermore, over 1,500 metering points have been installed and are being equipped with computational modules.

In two years Kyivenergo installed 4.5 thousand heat meters, and as a result 90% of Kyiv resident pay for heat according to actual readings. The company intends to equip 100% of residential buildings with heat meters in its servicing area.

To accommodate its customers, Kyivenergo changed the format of the heating bills to include the date of the heat meter readings, how much heat the building consumed, and the overall building area. This enables each customer to check the correctness of the amount charged for heating. This innovation reduces the risks of non-payments related to mistrust from city residents.

In 2016, the Personal Heating Account on-line service was launched for households. This is a personal customer service centre that makes it possible to enter hot water and heat meter readings, make payments, view the history of payments and charges based on the readings of individual heat meters in apartments and common heat metering points in buildings.

To increase customer awareness, the company implemented the «Heat meter map» and «Energy efficiency map» services on its website. The maps let the Kyiv residents know if there is a heat meter installed in their building and what potential savings can be achieved for their building through energy efficiency measures. Furthermore, the company together with DTEK ESCO offers an energy audit service, which is the first step towards efficient energy use. Depending on the building type, the reduction in energy costs can reach 20–50%.

Kyivenergo implements infrastructure projects on an annual basis to improve the quality of heat supply. This is a pressing issue for Kyiv, because as of today, the extent of wear and tear of Kyiv's heating network is 67%. For this reason, the Company completely replaces and repairs sections of heating networks in between the heating seasons. In 2016, Kyivenergo's employees completed a comprehensive retrofit of heating networks and hot water supply networks on Ya. Kolasa Street (more than 700 m of pipes) and Symyrenko Street (more than 900 m of pipes).

As for electricity supply to the capital, in 2016 Kyivenergo performed a considerable scope of work to enhance the reliability and quality of electricity supply:

- comprehensive repairs were also completed at the following substations: 110 kV Bykovnia, Pyrohivska, Politekhnichna, Priorska, Pivdenna, ST-2, Lepse, Bilychi, and 35 kV ST-1. The work was aimed at improving the quality of electricity supply and reducing losses. In particular, it helped improve the power supply to districts such as Lisovyi, Holosiyevo, Pyrohovo, Chapayivka, Priorka, Vynohradar, Petrivka, Shulyavka and Bilychi;
- the company repaired more than 113 km of overhead power lines, 659 transformer substations and replaced 14 km of cable lines.

To improve the quality of customer services, we have already opened 13 customer service centres (CSC) in Kyiv. The company has changed the working hours of some centres to make it possible for customers to choose a more convenient time to visit, and four CSCs are now open on Saturdays. A preliminary appointment service is also aimed at enhancing the customer comfort level. As part of a pilot project, the CSC on Voloshska Street started offering the option of scheduling appointments on-line to meet CSC specialists.

Kyivenergo also continues to use the field servicing scheme: specialists go to residential areas and large companies' offices, which helps remove some of the burden from CSCs. Thanks to Kyivenergo's mobile approach, customers can conclude contracts, request meter checks or get advice close to their home or in their office.

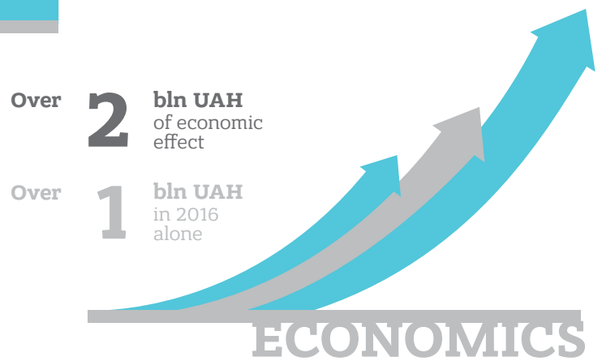
Kyivenergo upgraded the contact centre: there are more workplaces, additional staff were hired, and the software functionalities were extended. Furthermore, the contact centre operators now answer questions from legal entities. A team of specialists, that had completed special training, has been assigned for this purpose.

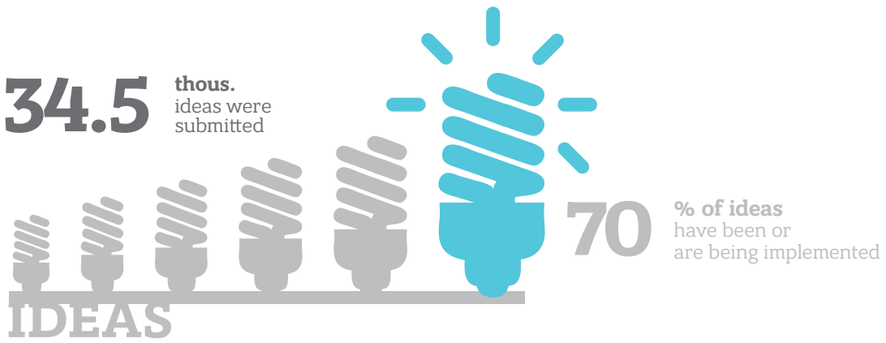
For active users of Android-based devices, Kyivenergo developed an app to enter meter readings, make payments for electricity, and check payment status and current tariff rates on-line. A similar app for iOS platform users is now being tested.

Novator: continuous improvement system

Since 2013, DTEK Energy has been implementing the Novator continuous improvement system in order to improve efficiency and reduce costs. Novator is designed to engage staff in the improvement process. Any employee can submit his/her own ideas and suggestions for improving the production and management processes.

The company strives to improve standard process at all enterprises. There are plans to implement a system to record each process improvement based on a common standard and roll it out at the companies within the shortest possible time. It will then be possible to register successful solutions in this system and share and scale up best practices.





Employees know best how to improve equipment operation quality and make their work safer, and improve customer service quality. The company helps them implement their ideas. Thus, the enterprises and the Company as a whole are becoming more efficient.

DTEK Renewables. RES energy

DTEK Renewables is one of the three largest investors in the Ukrainian renewable energy sector.

The company's wind energy projects portfolio is 1.35 GW. Construction of the 200 MW Botievo wind farm was DTEK's first investment project in the renewable energy sector. Based on 2016 results, the wind farm's share on the renewable energy market reached 34%.

The company intends to develop the wind energy business further. Last year, DTEK RENEWABLES team worked on structuring the 200 MW Primorskaya Wind Electric Plant Construction Project. It is planned to start the construction in 2017, and the first «green» kilowatt-hours will be generated in 2018.

Monitoring the renewable energy sector is an integral part of the company's development strategy. The goal of monitoring is to look for potentially attractive areas in terms of investments for project portfolio diversification. Improved technologies and existing economic incentives make the solar energy segment attractive for investments.

DTEK RENEWABLES plans to implement a pilot solar power plant construction project in Kherson Region in 2017. Based on the project outcomes, a decision will be taken on further steps to be made in the alternative energy sector.

DTEK Oil&Gas. Hydrocarbon production

DTEK Oil&Gas is consistently working to increase natural gas production.

In 2016, the Company successfully completed drilling three wells in the Semyrenkivske gas condensate field (operated by PJSC "Naftogazvydobuvannya"). Well No. 71 is 5,770 metres deep, well No. 73 is 5,733 metres deep, and well No. 52 is 5,700 metres deep. All wells are directionally drilled, with a deviation of more than 1,000 metres. Drilling was performed under complicated geological conditions: high formation pressure and temperatures, great depths. The total gas production rate of the new wells exceeded 800 thous. cubic metres.

The company implemented an automated dispatch and control system. The system makes it possible to control each production stage on-line: from production to gas delivery to the gas mains. This reduces process losses of natural gas, optimises the well workover time line, reduces process equipment failures, and improves control over the industrial and environmental safety of the operations.

In 2016, the complex gas processing plant in the Semyrenkivske field was retrofitted. In particular, we implemented a new design of a gas-liquid separator developed by DTEK Oil&Gas engineers. It improved separator efficiency: gas condensate production has increased by 2 tonnes/day, and dew point (moisture and hydrocarbon) temperature of the gas supplied to the gas mains decreased by 4 °C.

The company started retrofitting the gas processing facility in the Machukhske field to meet modern international standards. Construction of a new gas processing line was started to increase the facility's capacity from 1.2 to 2 mcm of natural gas per day.

The company was the first Ukrainian gas producer to put an automatic stream chromatography system into commercial operation at the Machukhska gas processing facility. This system makes it possible to determine gas composition and physical and chemical parameters in real time.

DTEK Oil&Gas conducted geological surveys in the Khoroshevska licence site (operated by Neftegazrazrabotka LLC). We completed 2D seismic, high-accuracy gravimetric and magnetometer and geochemical studies using structural-thermo-atmospheric-hydrochemical technology. Prospects were discovered and their resource potential was estimated. In 2017, the company started preparations for drilling the first exploration and appraisal well and designing the infrastructure for further development of the future field.

DTEK ESCO. Energy efficiency

In 2016, DTEK ESCO started implementing pilot energy efficiency projects in industrial and budget funded sectors employing the energy service mechanism. The Company also acted as a consultant in the implementation of an energy management system for buildings and structures in the heat and electricity supply sector. As part of these projects, we designed a model of energy service contracts to be further scaled up.

The largest investment projects in 2016:

- DTEK Burshtynska TPP started re-equipping the microclimate conditioning system for unit control rooms and raw water supply area feeding the water treatment facility. Both projects are being implemented under energy service contracts. Implementation of the projects will help save up to 35–50% of electricity, or 1.5 mln kWh annually versus baseline consumption. Installation and commissioning of equipment are expected in 2017. Similar standard projects are planned to be implemented at other DTEK Energy TPPs.
- DTEK Ladyzhynska TPP launched a project for re-equipping pumping facilities for the heating networks by installing new pumps and a variable frequency drive. Implementation of the projects will help reduce electricity consumption by 35% or 1.5 mln kWh versus baseline consumption. The project will make it possible to automatically maintain operating parameters and reliability of the heating system supplying heat to the TPP and the town of Ladyzhyn. The equipment is planned to be commissioned in 2017. The project is being implemented under four-year energy service contract. Similar standard projects are planned to be implemented at all DTEK Energy TPPs.
- We launched a project to install frequency converters on the product feed pumps in sections No. 8–13 of Metinvest's Central Iron Ore Enrichments Works CPPs. The project is expected to reduce annual electricity consumption by a quarter to 2 mln kWh. A performance contract was concluded for four years.
- Based on tender results, we concluded 7-year energy service contracts to retrofit two kindergartens' heating systems in Kyiv. In 2017, it is planned to retrofit the utility networks and install individual heating substations with an automatic weather-based system to regulate heat supply to the buildings. The project will help make the rooms more comfortable for children and save 32% of the heat energy, or 244 Gcal, annually versus baseline consumption.

DTEK ESCO, together with the international company TÜV SÜD, acted as a consultant for Kyivenergo under a project to implement an energy management system for buildings and structures in line with international standard ISO 50001:2011.

The potential effect from implementing this project is 10% energy savings versus baseline consumption. We have already implemented two project stages, during which Kyivenergo employees were trained to use the internal system audit method and consultants drafted regulations and designed a road map for their implementation. In 2017, as part of the third and final stage, we plan to implement all recommendations and regulations in Kyivenergo's business processes.

In 2017, DTEK ESCO is planning to start implementation of the energy management system pursuant to international standard ISO 50001:2011 at DTEK Energy companies. It will provide a basis for reducing DTEK Group's annual energy costs and help develop new energy efficiency projects that DTEK ESCO invests in.

03 Analysis of financial results

In 2016, the consolidated revenue of DTEK Group amounted to UAH 131,815 mln.
Cost of sales increased to UAH 105,824 mln.
The net loss of UAH 1,215 mln was recognized in 2016.
The 2016 net operating cash flow amounted to UAH 26,314 mln (in 2015: UAH 5,243 mln).
Capital expenditures increased by 42.3% to UAH 7,134 mln.

Dynamics of DTEK Group's consolidated financial indicators, UAH mln*

	2016	2015	Variance, +/–	Variance, %
Revenue	131,815	95,375	+36,440	+38.2%
Cost of sales	(105,824)	(87,321)	+(18,503)	+(21.2)%
Operating income	714	697	+17.0	+2.4%
Operating expenses	(5,752)	(7,958)	–(2,206)	–(27.7)%
EBITDA	30,621	7,508	+23,113	+4 t.
EBITDA margin	23%	8%	+15 pp	–
EBIT	18,923	(1,875)	+20,798	+10 t.
EBIT margin	14%	–2%	+16 pp	–
Net loss	(1,215)	(41,890)	–(40,675)	–(97.1)%
Assets	140,597	119,757	+20,840	+17.4%
Capital expenditure	7,134	5,015	+2,119	+42.3%

* All data in the Analysis of Financial Results section is presented on the basis of the audited consolidated statements of DTEK B.V.

Revenue

DTEK Group's revenue are formed by gross sales of electricity to State Enterprise Energorynok, sales of coal, gas and gas condensate, as well as distribution of electricity and heat to end consumers.

In 2016, revenue from the sales of electricity to end consumers in Ukraine and from exports amounted to 43.9% of the consolidated revenue; gross sales of electricity to Energorynok SC accounted for 36%; and gas condensate sales — 8.7%, heat sales to end consumers — 6.8%, and coal sales — 4.4%.

The company generated the major part of its revenues — 95% of the consolidated revenue (including the heat tariff gap compensation) — on the domestic market of Ukraine.

The share of export revenue in the consolidated revenue was 5%: according to 2016 results, export revenue grew by UAH 756 mln y-o-y to make UAH 6,756 mln.

There were the following changes in the revenue of the main business segments in 2016:

- coal sale revenue increased by 40.7% and amounted to UAH 5,838 mln compared to UAH 4,149 mln in 2015. Coal export revenue made UAH 2,397 mln compared to UAH 3,160 mln in 2015;
- electricity generation revenue grew by 38.1% to UAH 47,413 mln compared to UAH 34,332 mln in 2015;
- revenue from electricity transmission and supply on the domestic market grew by 22.8% and amounted to UAH 53,548 mln compared to UAH 43,600 mln in 2015;
- revenue from heat generation, taking into account the tariff gap difference compensation, grew by 37.4% to UAH 8,958 mln;
- revenue from natural gas and gas condensate sales increased by UAH 8,116 mln and made UAH 11,418 mln compared to UAH 3,302 mln in 2015.

Cost of sales

In 2016, the cost of sales increased by UAH 18,503 mln to UAH 105,824 mln. The growth is explained by higher costs for process fuel, equipment and consumables, which is conditioned mainly by increased coal production, electricity and heat supply and higher production and sales of natural gas.

In 2016, gross profit amounted to UAH 25,991 mln, which is by UAH 17,937 mln more y-o-y. The gross margin grew from 8.4% in 2015 to 19.7% in 2016.

Operating income and expenses

The general administrative costs in 2016 grew by 1.4% and made UAH 2,711 mln. The main item in the general and administrative expenses is personnel costs, including payroll taxes, which amounted to 69.2% of all the general and administrative expenses in 2016.

The selling costs increased by 4% to make UAH 1,439 mln. The increase in the costs is conditioned by the higher transportation expenses.

The other operating expenses decreased by 27.7% to make UAH 5,752 mln. The decrease in the other operating expenses is mainly related to the accrued provisions for accounts receivable and impairment of the plant, property and equipment of the companies located within the armed conflict zone, which was recognised to a large extent in 2015.

The other operating income was up by 2.4% to total UAH 714 mln.

Liabilities and equity

The changes in DTEK Group's liabilities are primarily related to the increased debt burden: loans and borrowings increased from UAH 63,027 at the end of 2015 to UAH 73,177 mln at the end of 2016.

In 2016, the company did not raise funds: the growth of the borrowings is mainly related to the Ukrainian hryvnia's devaluation—by 13% (vs US dollar) compared to early 2016—and the capitalisation of its outstanding Eurobond interest.

The long-term and short-term financial liabilities in 2016 increased by 9.8%, or UAH 1,821 mln, to make UAH 20,421 mln.

In 2016, the accounts payable of DTEK Group were up by 24.7%: from UAH 14,996 mln to UAH 18,695 mln. The prepayments received as of 31 December 2016 grew by 61.2% to UAH 8,600 mln, mainly due to the increased advance payments obtained by the Group's companies for future supplies of electricity, coal, and gas.

Assets

DTEK Group increased its assets by 17.4% y-o-y in 2016 to UAH 140,597 mln.

The book value of the non-current assets increased by 0.4% to UAH 93,888 mln. The current assets grew by UAH 20,446 mln: from UAH 26,263 mln in 2015 to UAH 46,709 mln in 2016.

This change is mainly conditioned by a 56.1% y-o-y increase in the trade and other receivables in 2016.

Cash flows

In 2016, the free cash flow from operating activities increased by UAH 21,071 mln to make UAH 26,314 mln. At the same time, investment payments went up by UAH 10,481 mln y-o-y to UAH 16,576 mln.

The financial payments amounted to UAH 3,269 mln in 2016.

Corporate governance

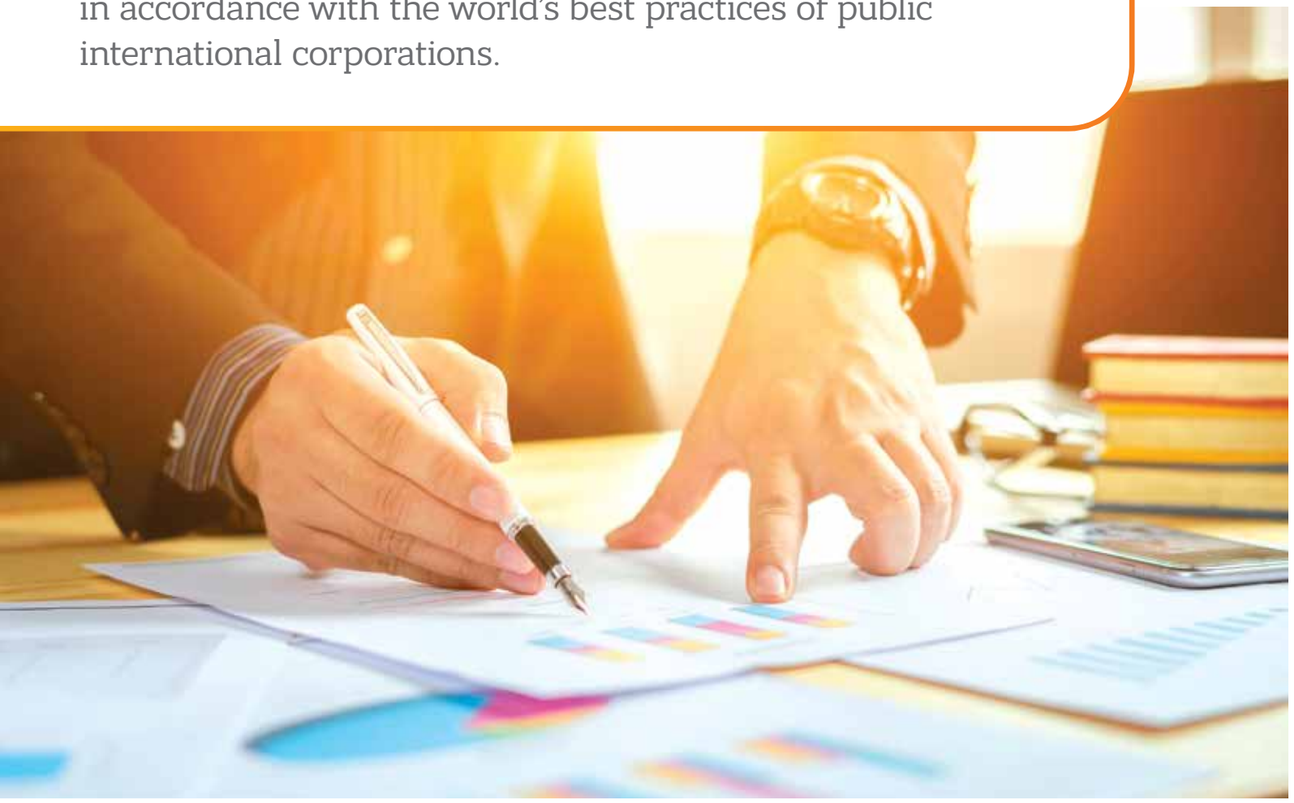
01 Corporate governance structure

02 Supervisory Boards of operating companies

03 Dividend policy

01 Corporate governance structure

DTEK conducts business openly and transparently by developing its corporate governance system in accordance with the world's best practices of public international corporations.



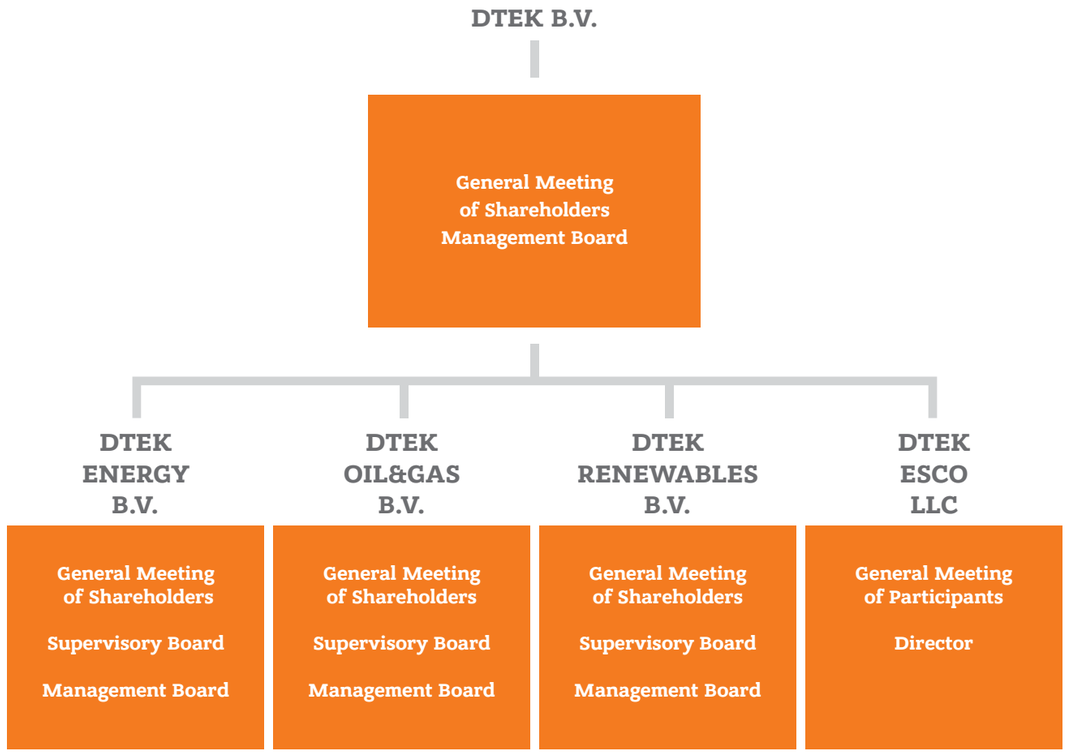
Quality corporate governance facilitates successful development and raises the investment attractiveness of the Company, while giving additional guarantees to shareholders, partners and clients, and helping to strengthen internal control systems.

In their day-to-day activities, DTEK Group companies are guided by the corporate values of professionalism, responsibility, pursuit of excellence, unity, openness and principles of corporate ethics.

In 2014, DTEK completed the formation of a business management system.

Strategic holding company DTEK B.V. performs general management of four operating companies: DTEK ENERGY B.V., which manages coal mining, thermal power generation and distribution assets, DTEK RENEWABLES B.V., which manages alternative energy assets, DTEK OIL&GAS B.V., which manages gas production assets, and DTEK ESCO, which develops energy efficiency and energy saving business.

Corporate governance structure of DTEK Group



The corporate governance structure of DTEK Group ensures individual development of each business area and transparency and effectiveness of the decisions taken. It applies to all the levels of our governance system.

02

Supervisory Boards of operating companies

Membership of the Supervisory Boards

DTEK ENERGY B.V.

Oleg Popov
Damir Akhmetov
Iryna Mykh
Sergey Korovin
Johan Bastin
Catherine Stalker
Robert Sheppard

DTEK OIL&GAS B.V.

Oleg Popov
Damir Akhmetov
Iryna Mykh
Sergey Korovin
Robert Sheppard

DTEK RENEWABLES B.V.

Oleg Popov
Damir Akhmetov
Iryna Mykh
Sergey Korovin
Johan Bastin
German Ainbinder

The Corporate Secretary of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V. (without voting rights) – Aleksey Povolotskyi

Oleg Popov

Chairman of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V., CEO of SCM JSC

Oleg Popov graduated from Donetsk Polytechnic Institute in 1991 and from Donetsk State University in 1996.

From 1991 to 2000, he worked in various state institutions.

He was invited to join SCM in 2000 as deputy CEO and in 2001-2006 held the office of the executive director. Oleg Popov has been the CEO of SCM since January 2006. In addition, he chairs the Supervisory Boards of Shakhtar FC and FUIB PJSC and sits on the Supervisory Boards of Metinvest B.V., LUXE JSC and ESTA HOLDING LLC.

He approves key financial, investment and personnel decisions related to both the management company and SCM Group's assets, and assesses the performance of their directors.

Damir Akhmetov

Member of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V., Chairman of SCM Advisors (UK) Limited

From 1998 to 2006, Damir Akhmetov attended Institut Le Rosey (Switzerland) under its International Baccalaureate Diploma Program. In 2010, he graduated from Sir John Cass Business School (City University, London) with a Master of Science in Finance.

Since 1 February 2013, he has been working for SCM Advisors (UK) Limited, and currently holds the office of the Chairman at the Company.

Sergey Korovin

Member of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V.

In 1993, Sergey Korovin graduated with honours from the Faculty of Applied Mathematics and Cybernetics of Lomonosov Moscow State University.

In 2002-2008, he worked at the Danish and Russian offices of leading international consultancy McKinsey & Company. From 2008, Sergey Korovin was responsible for working with telecommunications organizations and served as member of the Board of the Microsoft office in Russia.

In 2010-2017 he was the Director of Energy Business Development at SCM JSC.

Iryna Mykh

Member of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V., Senior Lawyer at Voropayev & Partners

Iryna Mykh graduated from the law school of Ivan Franko State University in Lviv in 1994. She later studied at Osgoode Hall Law School, York University, Toronto, Canada.

From 1996 to 2006, she was a senior lawyer at Silecky and Partners, an affiliate of Squire Sanders & Dempsey LLP, where she became a partner in 2006. From June to October 2008, she was a legal adviser to Ukrainian Agrarian Investments Group owned by Renaissance Capital. Iryna then worked as Head of the Legal Department of Klub Syra Ltd. until June 2009.

She is currently a Senior Lawyer at Voropayev & Partners law firm.

Robert Sheppard

Member of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., Independent Director, Chairman of IPM Advisors

Robert Sheppard graduated from the University of Wyoming in 1972 and has a bachelor's degree in Physics and Mathematics. He graduated from the Columbia Business School in 1991 with an Executive MBA degree.

He began his career in the oil industry at Amoco in 1972. In the mid-1980s, he worked at Amoco Exploration as a vice president. He was an Executive Director at GUPCO (Gulf of Suez Petroleum Company) from 1992 to 1995. He was the President and General Director of Amoco representative offices in Argentina and Egypt from 1995 to 1998. He worked as Chief Operating Officer, and then as President of Sidanco from 1998 until it merged with BP. From 2002 to 2004, he was a Senior Vice President at BP responsible for overseeing assets in Russia. Later on, he was appointed as General Director of Soma Oil and Gas.

He is currently the Chairman of consulting company IPM Advisors and nonexecutive director of Soma Oil and Gas.

Johan Bastin

Member of the Supervisory Boards of DTEK ENERGY B.V., DTEK RENEWABLES B.V., Independent Director, Managing Partner of Iveaghouse Capital Investment Advisors

Dr. Bastin holds an M.Sc. in Urban Planning from the Eindhoven University of Technology in the Netherlands and a Ph.D. in Regional Planning with a speciality in public management and finance from the Universite de Montreal in Canada.

From 1985 to 1992, he served as Resident Team Director at Harvard University's Institute for International Development (HIID) in Indonesia, providing advice to Indonesia's Minister of Finance on the infrastructure investment, financing and privatisation of government owned companies. From 1993 to 2002, Dr. Bastin held several senior management positions with the European Bank for Reconstruction and Development in London (UK), lastly as Business Group Director responsible for loans and equity investments in infrastructure, transport and energy utilities, municipal and environmental services and energy efficiency. He then worked as the managing director at Darby Private Equity, a 100 % subsidiary of Franklin Templeton Investments. Later Dr. Bastin was Co-Director of Franklin Templeton Investment Austria. From 2009 until 2015, Johan Bastin was the CEO of CapAsia, an international asset management company based in Singapore and focusing on private equity investment in infrastructure and energy sectors of the South and Central Asian.

Since mid-2015, Dr. Bastin is a managing partner of Iveaghouse Capital Investment Advisors, a Netherlands based investment boutique, advising major international energy companies on the corporate strategy, investment finance, renewable energy and M&A.

Catherine Stalker

Member of the Supervisory Board of DTEK ENERGY B.V., Independent Director

Catherine Stalker graduated from Heriot Watt University in Edinburgh (UK) with a Bachelor's degree, and obtained her Master's degree from the London School of Economics.

She began her career in 1991 with the Bank of England as a research analyst and banking supervisor. From 1995 to 2007, she worked at PricewaterhouseCoopers in Moscow and Berlin, where she was the Partner in charge of the client practice for HR management in the CEE-CIS region. She led client projects on executive compensation, organizational restructuring and human resource management.

Catherine is now based in the UK where she advises a range of companies on corporate governance, with particular focus on the effectiveness of their boards.

German Ainbinder

Member of the Supervisory Board of DTEK RENEWABLES B.V.

In 1995, he obtained an MBA degree in Applied Economics and Finance from California State University, USA. In the same year, Mr. Ainbinder graduated from the School of Business and Economics at the Government of the Russian Federation's Academy of National Economy. In 1991, he graduated from the Moscow Machine-Instrument Institute.

In 1995, he joined the Management Consulting Team at Delloitte & Touche CIS and later worked for the Russian division of Merck Sharp & Dohme Idea, where he was in charge of business development. In 1999, Mr. Ainbinder joined the Strategy and Organization Design team at KPMG.

He joined DTEK in 2005 as a Strategy and Corporate Governance Director. In 2008 he became Head of the Business Development Division at DTEK, which was in charge of setting up and developing new business areas. From December 2011 to April 2016 he worked in the renewable business as the Director of Wind Power LLC.

Aleksey Povolotskyi

Corporate Secretary of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V., DTEK RENEWABLES B.V., Head of the Corporate Governance Department of DTEK LLC; advocate

Aleksey Povolotskyi graduated from the law school of the University of Internal Affairs (Kharkiv). Later on, he obtained a master's degree from the University of Leicester (UK).

Before joining Squire Sanders & Dempsey LLP, an international law firm, as an associate, Mr. Povolotskyi taught law and held a position of the head of the internal relations department at the Kharkiv University of Internal Affairs.

He has worked for DTEK since 2010. He currently leads the corporate governance department responsible for the corporate governance of more than 70 DTEK Group companies located in Ukraine, the Netherlands, the Great Britain, Switzerland, Hungary, the Russian Federation, and Cyprus.

He is a member of the Board of the Professional Association of Corporate Governance, and a member of the Ukrainian Bar Association.

Committees of the Supervisory Boards

The committees, as advisory bodies to the Supervisory Boards of the operating companies, consider and prepare recommendations on specific issues for further approval by the Supervisory Boards. The committees hold meetings on a regular basis.

Audit Committees of the Supervisory Boards of DTEK ENERGY B.V., DTEK OIL&GAS B.V. and DTEK RENEWABLES B.V.

Chairperson: S. Korovin
Committee member: I. Mykh

Main tasks:

- to supervise the internal control and risk management system, as well as the external and internal audit activities;
- to analyse and make decisions regarding the reliability and accuracy of financial and other statements;
- to consider issues regarding the functioning of risk management, internal controls and legislative compliance systems;
- to prepare recommendations for the Supervisory Boards regarding the selection of auditors for financial statements;
- to assess the scope and quality of audit procedures as well as the independence and credibility of the auditor.

Health, Safety and Environment Committees of the Supervisory Boards of DTEK ENERGY B.V. and DTEK OIL&GAS B.V.

Chairperson: R. Sheppard
Committee member: I. Mykh

Main tasks:

- to identify risks in occupational safety and environmental protection and develop measures to mitigate them;
- to develop approaches to promote safe behaviour among employees;
- to hold emergency drills at DTEK Group enterprises.

Nomination, Remuneration and Corporate Governance Committee of the Supervisory Board of DTEK ENERGY B.V.

Chairperson: C. Stalker
Committee member: O. Popov

Main tasks:

- to support senior executives in improving the efficiency of HR management and corporate governance systems;
- to monitor the company's performance and advise management on the company's non-market strategy (social initiatives, reputation management, and GR);
- to monitor and advise management on the implementation of global best practices in corporate governance as well as in motivation, appraisal, remuneration and development of senior executives;
- to prepare recommendations for the Supervisory Board on appointment of top managers;
- to prepare recommendations on the selection of members of the Supervisory Board and its committees;
- to control compliance with main principles and legal requirements in the area of corporate governance that apply in jurisdictions of operations, and also with corporate governance standards in place in DTEK Group.

03 Dividend policy

DTEK's dividend policy is based on maintaining a balance between the need to invest in the development of its production facilities and observation of the rights of shareholders to receive a portion of the Company's profit. This approach is a defining factor in the long-term growth of DTEK's shareholder value.

Sustainability

Sustainability

3.1 bln UAH
allocated for sustainability

As part of social partnership DTEK Group supports projects that create more comfortable living conditions in the town where its companies operate.

In 2016 we implemented the following projects:

- **15** utility networks (heat, water and gas pipelines) have been repaired
- **15** parks and recreation zones improved
- **32** playgrounds and sports-fields created
- **6** sports-facilities
- **131** educational establish-ments
- **6** medical establishments and rehabilitation centres

2,133.3 mln UAH
Environmental protection expenditures (including environmental tax of UAH 2,047 mln)

478.3 mln UAH
Investments in occupational health and safety

419.9 mln UAH
Social infrastructure maintenance expenditures

45.5 mln UAH
Investments in social partnership projects

26.6 mln UAH
Investment in employee training

Energy Efficient Schools project cultivates a responsible attitude to energy resources consumption and environment.
One more of its objectives is to promote the use of the received knowledge in everyday life.

In 2016, **79 schools in 31 settlements** participated in the project, engaging almost **20,000 schoolchildren and 516 teachers.**

In 2016, the project widened its geography: it covered **38 residential settlements** and over seven thousand people. **210 projects** received the company's grants for implementation.

The Company is implementing Your Hometown Begins with You project to help active residents make life in general better.

01 Sustainability

Sustainability objectives

Sustainability objectives are integrated into the business strategy of the company. As the company's policy prescribes, all actions and resolutions match the society interests. The company openly informs stakeholders about important issues of its development.

DTEK improves its production and management processes, invests in the employees' development and occupational safety, introduces best standards of industrial and environmental safety. In its policy, the company focuses on the rational use of resources and reduced impact on environment, keeping its personnel healthy and improving industrial and occupational safety standards, observance of the corporate ethics standards and fulfilment of its obligations to the employees and society.

DTEK invests in improving the quality of life in the areas where its enterprises operate. The Company is in a regular dialogue with local authorities and general public, which helps jointly implement the projects that aim to create conditions for the regions' social and economic development.

In its activities the company is guided by the Sustainable Development Policy of SCM Group and DTEK's Corporate Social Responsibility Policy.

In 2016, company continued working on the following:

- creating a system to preserve the health and life of employees and extend their time in employment;
- creating conditions for social and economic development of the regions of operations, and improving the quality of life of local communities;
- enhancing energy awareness of Ukrainian organisations, companies and citizens;
- securing efficient power generation, transmission and supply;
- compliance with the best practices in the industries regarding efficient use of fuel and energy resources;
- compliance with the highest international standards of business ethnics and the best business practices.

Membership in Associations, International and National Organizations

DTEK is a participant of the UN Global Compact network and a member of the Global Compact Alliance in Ukraine, and it chairs the Environmental Protection Committee within the UN Global Compact.

DTEK joined the international partnership within the UN Business for Peace (B4P) Platform. This Platform assists companies in implementing peaceful business initiatives in conflict-affected and high-risk areas. B4P unites companies to enable the experience exchange between the businesses operating in the active combat zone.

DTEK is one of the founders of Energy for Society, a global social initiative of energy companies.

DTEK is a member of CSR Centre, an expert organization that promotes corporate social responsibility to achieve comprehensive and profound changes in Ukraine.

DTEK is a member of the European Business Association and the American Chamber of Commerce, the European-Ukrainian Energy Agency, and the U.S.-Ukraine Business Council.

DTEK is a member of professional associations: the European Association for Coal and Lignite (EURACOAL), the Union of the Electricity Industry (EURELECTRIC), European Federation of Energy Traders (EFET).

Compliance and corporate ethics

Ethical business conduct is one of the key elements of preventing corruption and complying with regulatory requirements in all jurisdictions of DTEK's operations.

In 2013, the Company adopted its Code of Ethics and Business Conduct to manage ethical requirements. The document contains provisions that deal with corruption, relations with governmental authorities, and prevention of a conflict of interest. Implementation of the requirements set out in the Code and the compliance policy is the responsibility of the Compliance function.

The Company is developing its compliance policy:

- the Anti-corruption Programme was approved, and employees responsible for combating corruption were appointed to meet anti-corruption requirements;
- a transparent and easily accessible system for accounting and approval of business gifts and entertainment was developed. This approach constitutes one of the key elements of the best anti-corruption practices;
- contractors' due diligence is regularly checked for corruption risks and compliance with international sanctions;
- the Compliance function holds regular training sessions for the company employees to inform the staff about the ethical and anti-corruption standards. In 2017 the Compliance functions intends to hold trainings for 99% of the company employees;
- as part of the annual conflict of interest declaration 1,247 statements were filled in by the executives and employees in 2016. Declaration of a conflict of interest takes place the 6th time; the procedure is designed to minimize the risk of such conflict occurrence.

DTEK openly states its internal corruption-combating standards and has zero tolerance for corruption. DTEK's compliance officers participate in regular meetings of the Compliance Club of the American Chamber of Commerce in Ukraine, where they exchange experience with colleagues from different industries and business sectors.

Sustainability management

DTEK's main principle is to maintain a stable social partnership with the communities and local self-governance bodies of regions of our operations, to make those towns more comfortable to live in. In 2012, the Sustainability Committee and the Social Development Department were established by the Company to manage sustainable development aspects.

The Sustainability Committee is chaired by the CEO. The Committees' tasks are:

- To identify challenges and approve social development strategies for the regions of operations;
- Approval of reform plans of social facilities on the balance sheet of DTEK.
- Development of the occupational medicine system.
- Implementation of the environmental protection strategy.
- Consideration of non-production issues that can significantly affect fulfillment of the company's business targets.

Tasks of the Social Development Department: planning, implementation, monitoring and assessment of efficiency of social projects, as well as cooperation with stakeholders, development of corporate social responsibility in Ukraine, participation in Ukrainian and international sustainable development initiatives.

Key Events and Public Recognition in 2016

- The Your Hometown Begins with You project was awarded with a JCI Culture Best Practice certificate at the International Corporate Social Responsibility Contest. The contest is held by JCI Culture Junior Chamber International. The contest is aimed at promoting the idea of socially responsible business.
- Two training courses of the Energy-Efficient Schools: New Generation project – Fundamentals of Energy Saving and Energy Consumption, and The ABC of Housing and Utilities Management – are recommended by the Ministry of Education and Science of Ukraine as an extra school course.

January

Dobropillia. The Consultation Center for Entrepreneurs opened under UNDP's Development of the Business Support Infrastructure in Donetsk and Luhansk Regions project. The Center provides business plan development services and gives financial and legal advice on doing business.

Western Donbass. The boiler house in the only maternity clinic for 200 thousand residents of Pavlohrad, Ternivka, Pavlohrad and Yurivka districts was modernized. Newborn children and their mothers are provided with heat, and the municipal budget saves about 450 thousand hryvnia a year.

There are three new general-practice outpatient departments of family medicine providing care to 20,000 residents were opened in Pavlohrad. The outpatient departments have modern medical equipment and two cars for patient care at their disposal. The six such points previously opened there were insufficient.

Kurakhove. An information and advisory bureau for internally displaced persons was opened on the basis of the non-governmental Kurakhove Center for Local Economic Development. The Bureau advises on registration, granting (continuation) of all types of governmental social assistance and receipt of social services, state support for employment and so on. It was opened with the support of the Foundation for Democracy of the US Embassy in Ukraine and DTEK.

February

Ladyzhyn. The maternity ward and intensive care unit of the city hospital received new equipment: an infant incubator, a medical ventilator, a portable patient monitor, a modern syringe pump. This will help provide better medical services.

Kurakhove. A children's somatic unit was opened in the city hospital, where more than 20 patients can undergo inpatient treatment at the same time. Close to the war zone, the new unit solved the problem of shortage of places for treating children with virulent forms of disease.

Western Donbass. An additional group for 20 children was opened in the Teremok nursery school, Pavlohrad. The project was made possible thanks to the partnership of DTEK, the United Nations Children's Fund (UNICEF) and the Pavlohrad City Council. Children actively develop and prepare for school in comfort.

A coagulometer (a device for blood coagulation analysis) was purchased for the central city hospital in Ternivka, serving 29 thousand people. It helps significantly reduce the risk of errors in diagnosing diseases and significantly saves chemical agents during the analysis.

Energy-efficient equipment was installed in Pershotravensk city boiler house serving a third of the city residents. New pumps and a modern control panel enabled a 20-percent drop in water and electricity costs, which the cost of heat supply services in check.

March

Western Donbass. The first regional business forum I BUSINESS FORUM dedicated to development opportunities for small and medium enterprises was held on March 25. More than 90 entrepreneurs took part in the forum held in Pavlohrad with the support of DTEK, as well as representatives of Enterprise Europe Network, DIA investment agency, BDO, PUM (Netherlands) and SES (Germany), GIZ project office, the First Ukrainian International Bank (FUIB) and Ukrgasbank, Sustainable Business Club (Burshtyn), the Dnipro IT Incubator, the Academy of Modern Business Technologies and Crisis Management (Kharkiv) and others.

Enerhodar. The city officially joined the Open City information project – an online platform that makes the resident's interaction with the local authorities more accessible in solving urgent problems. The project is implemented by the Eastern Europe Foundation, Local Development Agency of Enerhodar and the city council, and co-financed by DTEK and Charles Stewart Mott Foundation (USA).

April

29 business territories of DTEK Group. 8.5 thousand volunteers of the company took part in the annual Clean City event. It was held in 29 settlements and covered 38 enterprises. The event participants collected about 2,000 cubic meters of garbage, planted 650 plants, laid out flowerbeds, repaired attractions, installed benches and park lights.

May

Dobropillia. A round table on launching a program of labor market development and miner employment was held in Donetsk region. Local authorities, Donetsk regional employment center, public organizations and trade union leaders, and DTEK representatives participated in it. Agriculture and service sectors, construction of roads and industrial facilities were named promising areas for creating jobs.

Enerhodar. The Federation of Canadian Municipalities, DTEK and city authorities held the Partnership of Business and Government as the Basis of Sustainable Development of the Enerhodar City forum under the PLEDDG project. A memorandum on cooperation between the PLEDDG project and Enerhodar city council was concluded.

June

About 500 applications were filed for the mini-grant contest called Your Hometown Begins with You. More than 90 thousand people voted for projects online on the Social Partnership Program website.

Kamianka-Buzka District. Energy-efficient light lines with a total length of 9.4 km were installed in seven villages of the district.

Burshtyn. A water softener was put into operation in Beryozka nursery school. The water in the city has a sufficiently high hardness ratio and a high content of various substances.

An elevator was acquired for the city central hospital serving about 20 thousand residents. An energy audit of the hospital building was also conducted, and optimal ways for increasing energy efficiency developed.

Ternivka. The Art Picnic event was held and began the Public Participation in Urban Planning Process project. The project is aimed at involving residents in planning and creating a new type of urban space. It is jointly implemented by DTEK, the European Commission, the Ternivka City Council and the Laboratory of Urban Space community of socially-responsible business.

July

Zaporizhzhya – Enerhodar – Kyiv. The Zaporizhzhya Regional Clinical Hospital and Enerhodar Medical Unit No. 1 are connected to All-Ukrainian Project, Telemedicine: consulting rooms were equipped, up-to-date equipment was acquired, and doctors received a specialized training. Online broadcasting between the three cities was held by Vitaliy Ostashko, the head doctor of the Medical Center of Telemedicine of the Ministry of Health of Ukraine State Institution. About 30 specialists from Enerhodar and about 40 doctors – department heads of Zaporizhzhya medical institutions – took part in the seminar.

Kyiv. The national stage of the Your Hometown Begins with You contest was completed.

The contest jury selected 5 best of the 210 winning projects:

- Ecocountry (Ladyzhin, Vinnytsia region), an open-air eco class where children, teachers and experts can discuss environmental issues.
- Formanta rehearsal base (Dobropillia, Donetsk region), an equipped rehearsal room for local music bands.
- A Sound Mind in a Sound Body (Petropavlivka district, Dnipropetrovsk region), a project for modernizing the Central Stadium, construction of volleyball and basketball courts, a race track and a comfortable fan zone.
- Poetry is the Spiritual Treasure of Bilozerske (Bilozerske, Donetsk region), publication of a collection of poetry, including works of several generations of the city's writers.
- House of the Future (Pavlohrad, Dnipropetrovsk region), a project of the local housing cooperative for energy saving; it involves replacing windows and water supply systems, yard improvement, facade heat insulation, replacing the heating system and installation of solar panels.

September

Kurakhove and Dobropillia. An agreement for a grant of more than one million euro was signed with NEFCO. The grant is for implementation of energy-efficient measures in two buildings of the city clinical hospital, Kurakhove school No. 4 and Dobropillia child care centers No. 34, 3, 9.

Zelenodolsk. A grant agreement for 46.5 thousand US dollars was signed during the visit of representatives of the National Endowment for Democracy . The grant was provided for the project on creating conditions for active participation of small-town and rural residents of the Central and Eastern regions of Ukraine in decentralization processes. Public leaders are trained, a Polish-Ukrainian exchange program is implemented for the most active participants, and public communication platforms are created under this project.

A three-month study visit started as part of the Urban Space Laboratory project. It involves trips of the working group members from Ternivka, Dobropillia and Ladyzhin to Poland and Slovakia meant to share experience and study the urban spaces of foreign countries. Workshops for project architects were also held under this project.

October

Halych District. 3.6 km of street lighting lines were laid in Nimshin and Demeshkivtsi villages; 47 fluorescent street lights were installed.

Enerhodar. The XXXIII marathon was held in connection with the Your Hometown Begins with You project. More than 200 people aged 1 to 90 years ran the marathon. This is the largest number of people who took part in the marathon throughout its whole history.

November

27 business territories of DTEK Energo. Launch of the Energy-Efficient Schools: New Generation project. The Fundamentals of Energy Supply and Energy Saving training was held in 51 schools. Moreover, 10 schools joined the distance-learning system at ees. energyschool.org.ua.

Dobropillia. The city became a partner of USAID Municipal Energy Reform Project in Ukraine. It involves energy management training in accordance with ISO 50001, preparation of business plans and technical documents for investment projects to be financed by private, public and international investors (World Bank, EBRD, NEFCO and others).

Lviv and Zaporizhzhya. Bochkarev Scholarship Fund awarded eight students and four teachers of Zaporizhzhya National Technical University and Lviv Polytechnic National University. The awards are annual.

December

Vinnytsia. Diagnostic equipment for examination of the gastrointestinal tract and bronchoscopes was acquired for the regional children's hospital. It will be used to diagnose little patients with pathologies of the gastrointestinal tract and respiratory system, which is bound to improve the quality of medical care for children.

Social Partnership

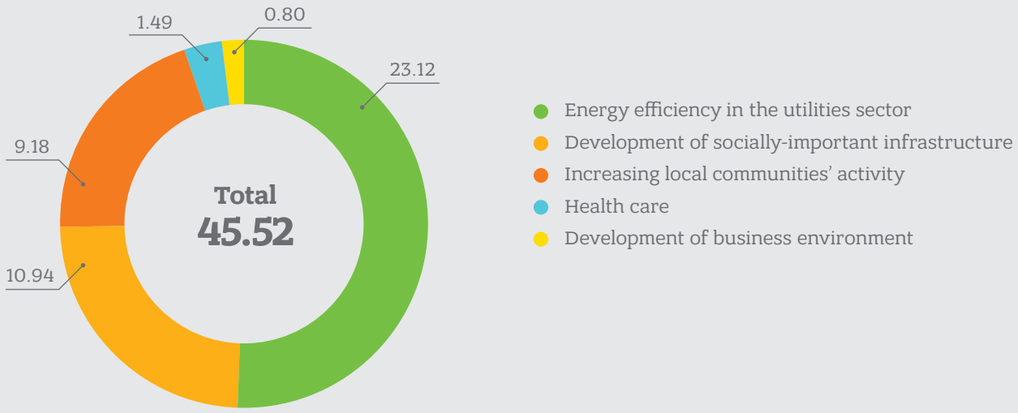
The main objective of the social partnership is improving the quality of life of people living in the areas of DTEK Group enterprises' activity through development of local communities. Reforms and investments will not be effective without active participation of the communities.

The company systematically develops partnerships with communities to jointly achieve the common goal: sustainable development of districts, cities, settlements and villages. Strategies for the territories' social and economic development were jointly developed by local authorities, businesses, experts in development of territories and the residents to find comprehensive solutions for the most acute problems. The so-called "road maps" were developed for the territories; they let the local communities receive funding for project implementation both from businesses and government funds, and from international donor organizations.

DTEK provides expert and financial support for further implementation of projects that create new opportunities and are growing points for the economy and social sphere of the territories of the company's enterprises.

Within its social partnership strategies, DTEK focuses on increasing community activity, developing business environment and projects on energy efficiency. These are the directions that contribute to raising awareness among the residents and encourage social and business activity.

Social Investments by Core Activities in 2016, UAH mln



Social Partnership Projects

Since building trust with the society is a prerequisite for the company's business, it pays great attention to systematic social partnership with local government bodies and residents.
The company makes social investments in five key areas: energy efficiency in the utilities sector, health care, supporting socially-important infrastructure, developing business environment and increasing local communities' activity. Not only have these areas proved their effectiveness, but became even more relevant.

1. Energy Efficiency in the Utilities Sector

(improving energy efficiency of the utilities sector, enhancing the quality of energy and heat supply)

Energy efficiency is the crucial factor for raising Ukraine's competitive abilities and energy independence. DTEK invests in programs that increase utility-sector energy efficiency in the areas of the company's enterprises.

2016 saw implementation of projects aimed at ensuring reliability and economy of power supply to social facilities, reducing energy consumption, and upgrade of street lighting in cities and settlements.

The Greatest Projects of 2016

The problem of street lighting is quite urgent for many villages of the **Halych District** (Ivano-Frankivsk region): it is either absent or unsatisfactory. With DTEK's financial support, street lighting was restored in the villages of Nimshin, Demeshkivtsi, Korostovychi and Kuropatnyki: electric lines were laid and fluorescent lights lamps (total 5.7 km and 84 lights) installed.

The company also carries on upgrading heating networks under its social partnership projects. The most problematic areas of heating networks were repaired in 2016 in the **Demyaniv village** (Ivano-Frankivsk region) and **Dobropillia city, Novodonetske settlement, Bilytske city** (Donetsk region). The most problematic parts were also replaced, and heat insulation was provided for pipelines in **Burshtyn city** (Ivano-Frankivsk region). The projects are aimed at reducing energy losses and enhancing heat supply quality.

As part projects on increasing utility-sector energy efficiency, the facade of the Malysh nursery-school in **Novodonetske settlement** (Donetsk region) was heat-insulated, windows and doors in the Zolotyi Kolodyaz school building (Donetsk region) were replaced, heating systems in **Stepanivka and Novostepanivka** schools and the community center in **Novooleksandrivka village** (Dnipropetrovsk region) were repaired. The completed projects will reduce costs of heat supply of buildings and create comfortable conditions in premises.

Energy-Efficient Schools: New Generation Interregional Project

The Energy-Efficient Schools educational program was launched in Ukraine in 2010 as part of the international USAID Municipal Energy Reform Project. However, the terms of international programs are limited, so DTEK took up the initiative and continues its further implementation since 2012 on its own. The project's methodological and organizational support is provided by the Municipal Development Institute All-Ukrainian Charitable Organization.

The goal of the project is teaching schoolchildren responsible energy consumption and environmental impact, as well as influencing adults by encouraging schoolchildren to apply the gained knowledge and skills in everyday life.

Two training courses developed by the company under the Energy-Efficient Schools: New Generation project – Fundamentals of Energy Saving and Energy Consumption, and The ABC of Housing and Utilities Management – were recommended by the Ministry of Education and Science of Ukraine as an extra school course in 2016.

Schoolchildren master two optional project courses. The 6 to 8 grades take the Fundamentals of Energy Saving and Energy Consumption course where they study how energy is generated from fuel and alternative sources, global and Ukrainian energy consumption practices, and the experience of rational energy use.

9- and 10-grade students are trained on the ABC of Housing and Utilities Management. They learn to solve housing and utility problems faced by apartment building residents: economical use of heat and electricity in their apartment and in the whole building, ways and reasons of creating a housing cooperative, paying for utilities and monitoring their quality and timely provision.

Children learn to conduct heat audit of buildings, develop projects to increase their school's energy efficiency, participate in energy efficiency creativity contests and in inter-school contests on reducing electricity consumption, make eco expeditions and visit eco houses and the company's wind and thermal power plants.

The project's 2016 innovation was development of a distance-learning system. The site at ees.energyschool.org.ua was created to provide knowledge in a convenient and intelligible form via electronic textbooks, videos, case tasks, and tests.

Another of the project's innovations was the Smart House online strategy game where students become residents of a multi-storied building and solve various housing and utilities situations every in-game day. While playing, children learn to manage housing and utilities services, increase their financial, technical and legal literacy in the field of residential buildings' energy efficiency. This approach to learning makes the process interesting and promotes creative thinking. The project's methodological and organizational support is provided by the Municipal Development Institute All-Ukrainian Charitable Organization.

The Energy-Efficient Schools project was implemented in four stages involving 295 schools in 31 Ukrainian settlements. About 120 thousand people were directly involved in the project.

2. Health care

(improving access to high-quality medical services and increasing people's motivation to keep a healthy lifestyle)

DTEK pays great attention to the issue of sufficiency of healthcare facilities, so that the employees of its enterprises and local residents receive quality medical care.

The Greatest Projects of 2016:

- Purchase of modern equipment for the physiotherapy department of Enerhodar city hospital (Zaporizhzhya region) in partnership with GIZ. Baths for singlet oxygen therapy, underwater shower massage, magnet-and-laser, magnet-and-ultrasonic therapy, and Amplipulse-5 stimulators are available to the citizens. The hospital department can take up to 200 patients a day.
- An ambulance car was purchased for residents of the Savyntsi and Velyka Obukhivka village councils (Poltava region), which will serve more than 2 thousand people. The off-road vehicle is equipped with special stretchers, which ensures both arrival of doctors to patients and patients' transportation to medical institutions.
- Children's department of Shyshaky central district hospital (Poltava region) was repaired. 20 premises were repaired, and new and modern furniture was purchased and installed.

Telemedicine Interregional Project

Telemedicine lets physicians better share experience and get new knowledge, as well as broadcast complex operations to improve the doctors' skill level. For patients, Telemedicine is first of all an opportunity to get advice of specialized experts from leading medical institutions without leaving their settlement. At the same time, local doctors can digitize medical data when examining patients and transfer them to colleagues at specialized clinics via secure communication channels.

In 2016, Zaporizhzhya Regional Clinical Hospital and Enerhodar Medical Unit No. 1 were connected to the Telemedicine project. The first video conference between Zaporizhzhya, Enerhodar and Kyiv was held by Vitaliy Ostashko, the head doctor of the Medical Center of Telemedicine of the Ministry of Health of Ukraine State Institution. About 30 specialists from Enerhodar and about 40 doctors – department heads of Zaporizhzhya medical institutions – took part in the online seminar.

DTEK has been developing Telemedicine since 2011, investing in connection of medical institutions to the network. More than 20 medical institutions from 18 settlements are already connected to the project.

3. Development of socially-important infrastructure

(improving quality and accessibility of social services, addressing major problems of vital infrastructure elements, improving opportunities for pre-school and school education as well as cultural and outdoor activities)

DTEK supports social infrastructure and invests in enhancing the quality of services received by the public in the areas of its production facilities.

The Greatest Projects of 2016:

- Construction of a water reservoir of 2.5 thousand cubic meters in Ternivka (Dnipropetrovsk region). The project was implemented in partnership with the city and regional councils. The reservoirs ensured continuous water supply for the needs of citizens and created a reserve enough for two days of operation in the event of an accident.
- A part of the building facade was rebuilt, and the roofing of Zelenodolsk secondary school No. 2 (Dnipropetrovsk region) was repaired with support of the Ministry of Regional Development, Construction and Housing and Utilities Services of Ukraine and the city council. The roofing was repaired, and reinforced plastic windows were installed in the Velyki Sorochyntsi school (Poltava region). Comfortable conditions were thus created for schoolchildren.
- A skate park was built in Zelenodolsk (Dnipropetrovsk region). It is located in a park area near a popular beach.
- Special equipment to service boiler houses and heating mains in Greater Dobropillia settlements (Donetsk region), as well as new specialized tractors to be used for improvement of the territory of the Machuchy village council and the Kovalivka village (Poltava region) were purchased.

As part of social partnership, DTEK Group supports projects that create more comfortable living conditions in the cities located in the areas of its enterprises. 15 utility networks (heat, water and gas pipelines) were repaired, 15 parks and recreation areas landscaped, 32 children's playgrounds and sports grounds were created in 2016 with the company's support. Moreover, it assisted in repairing and purchasing equipment for six medical facilities and rehabilitation centers, 131 educational institutions and six sports facilities.

4. Development of Business Environment

(creation of favorable conditions for development of small and medium businesses, creation of new job opportunities, increase of budget revenues, expansion of the services range)

The company's enterprises primarily work in single-industry towns. Under the current conditions, successful development of the economy and society needs business diversification necessary to provide residents with the opportunity to choose fields of employment. The company sees one of priority matters of social policy in increasing the number of jobs in the regions through development of the business environment and attraction of investors for creation of new enterprises.

At the same time, development of small and medium entrepreneurship in the service sector is not a solution to the employment problem in the industrial single-industry towns since the service sector is most sensitive to changes in consumer demand. As a customer of goods and services, big business still plays a special role in development of small and medium business. Therefore, big business' preference for contractors ready to create new jobs are one of the tools for promotion of development of small and medium businesses.

DTEK has been creating local development agencies since 2012. The main task is to create institutions to launch self-development mechanisms in cities and increase opportunities for creating conditions for development of small and medium businesses, which will lead to creating new jobs. There are already 10 agencies that cover 24 areas of the company's enterprises activity.

In 2016, local development agencies and business support funds continued to operate on the basis of these agencies.

Moreover, the Consultation Center for Entrepreneurs was opened in Dobropillia (Donetsk region). The Center was opened with the financial support of DTEK and the UNDP's Development of the Business Support Infrastructure in Donetsk and Luhansk Regions project. Consultation Center provides entrepreneurs with expert assistance and financial and legal advice on doing business, business plan development, and informs them on grant opportunities.

Within the framework of the UNDP's grant contest supported 11 business plans, including creation of a dairy farm, production of concrete, shoe guards, provision of legal and photo services, opening of a coffee shop and other ideas. In general, these business plans can create 36 jobs.

The Program for Development of Small and Medium Entrepreneurship of Zelenodolsk United Community for 2017–2020 was also developed with the company's support to ensure sustainable economic development of the city.

5. Increasing Local Communities' Activity

(formation of a new mentality among the population, development of leadership, proactivity, the residents' responsibility by encouraging self-organization, increasing the active citizens' opportunities to solve problems in their area)

Sport is an integral part of increasing local communities' activity. The project provided financial support to Vitaliy Brezitsky for participation in the ICF Canoe Sprint World Championships in Germany. He has been rowing since he was seven, won several medals in Ukraine, and is in the reserve of the national team.

The company's support also made the dream of the Burshtyn residents – the revival of the people's football club, Burshtyn, – come true. Sports uniform and inventory were purchased for the club, the team began training and played several matches.

Promoting development of public initiatives is important for the company, for changes in the quality of life depend on each particular resident.

Interregional Project Your Hometown Begins with You

The company's main goals are development of leadership, independence, responsibility of residents, as well as encouraging initiatives focused on the cooperation between citizens and authorities in an attempt to solve problems together.

The company has been implementing the project for five years already, and it is intended to help active citizens make their life better. The company has achieved the main goal: it could convince people that they themselves can develop their city and society. This is an important step towards changing the paternalistic perception of life where people expect the state to solve their problems instead of taking initiative themselves.

The number of project participants increased in 2016, and now it covers 38 areas of the company's activity in seven regions of Ukraine. Residents of six districts took part in the contest for the first time: Dobropillia, Oleksandrivka, Pavlohrad, Petropavlivka, Kamianka-Buzka and Halych.

About 500 project applications were filed for the contest, of which 210 became winners. The residents were involved in selecting the best projects: and 90.1 thousand residents voted online on the social partnership website at http://spp-dtek.com.ua/.

All winners received grants from the company to implement their ideas in a total amount of 4.68 million hryvnia. Moreover, the authors of the projects raised an additional 2.28 million hryvnia as co-financing. 7,222 residents actively participated in implementation of the projects.

The project went national in 2016: a national jury including the Consul General of Germany, mass-media representatives and those of the company was created. The jury selected five best projects that received an additional 10 thousand hryvnia.

The winners of the national stage of the contest were:

- Ecocountry (Ladyzhin, Vinnytsia region), an open-air eco class where children, teachers and guests can discuss environmental issues.
- Formanta rehearsal base (Dobropillia, Donetsk region), reparation and equipping a rehearsal room for local music bands.
- A Sound Mind in a Sound Body (Petropavlivka district, Dnipropetrovsk region), a project for modernizing the Central Stadium: construction of volleyball and basketball courts, a race track and a comfortable fan zone.
- Poetry is the Spiritual Treasure of Bilozerske (Bilozerske, Donetsk region), publication of a collection of poetry, including works of several generations of the city's writers.
- House of the Future (Pavlohrad, Dnipropetrovsk region), a project of the local housing cooperative for energy saving; windows and water supply system were replaced, and the yard improved. The next stages of the project include facade insulation, replacement of the heating system and installation of solar panels.

It is worth noting that the most original projects were improvement of the beach on the coast of Volchya river (Pryvovchanske village, Dnipropetrovsk region); creation of pottery workshops (Dobropillia, Donetsk region, and Kocherezhky village, Dnipropetrovsk region); creation of conditions for technical creativity in development, assembly and piloting of unmanned aerial vehicles (Burshtyn, Ivano-Frankivsk region); organization of trips for elderly people to Naguievychi, Krekhiv, Pidhirtsi Castle (Dobrotvir, Lviv region); shadow play at Zolushka nursery school (Zelenodolsk, Dnipropetrovsk region); creation of media center at secondary school No. 4 (Ternivka, Dnipropetrovsk region).

Corporate Volunteering

The main goals of DTEK's corporate volunteering are creating conditions for employees' self-fulfillment, promoting corporate culture and making a practical contribution to the development of local communities. This implies voluntary participation of its employees in socially-important projects with support of the company.

In 2016 the company's volunteers continued to implement initiatives aimed at supporting internally displaced persons from the war territories. Moreover, healthy lifestyle and environmental protection initiatives continue to develop, too.

The company annually holds the Clean City and Green City events. In 2016, Clean City was held in 29 settlements of Ukraine. Within several hours, 8,500 employees collected 2,000 cubic meters of garbage and planted 650 plants. Event volunteers also landscaped park areas, installing benches and park lights, repairing attractions and laying out flowerbeds.

About 5 thousand volunteering employees of 30 DTEK Group enterprises took part in the Green City event. As a result of joint work, more than 5 thousand trees and shrubs were planted. Lime trees, oaks, walnut trees will be an additional decoration of recreation areas of the settlement residents. DTEK Group employees comply with the principles of the Green Office. Greenery planted at the Green City event were purchased with funds saved due to efficient use of electricity and water.

03 Employees

The company's HR management system corresponds to the labor legislation of Ukraine, industry regulations and internal regulatory documents. The HR management system regulates employees' recruitment, remuneration, career advancement, training and development.

The main aims of the company's HR policy are as follows:

- Attracting the most talented employees in the labor market.
- Providing competitive remuneration and incentives to employees.
- Identifying and developing employees' potential.
- Establishing a single corporate culture.

Such a system is an effective tool that leaves open opportunities for the employees' initiatives.

DTEK respects their right to set up trade unions and other communities that represent their interests. The Company cooperates with these authorities and holds an open dialog with them. It ensures that potential problems are timely identified and solved.

Collective agreements are another guarantee of employees' protection. The company pays special attention to compliance with industry and collective agreements. The agreements provide for conditions of labor remuneration, social benefits, payments to retirees, and the company's occupational safety and personnel training liabilities. The company executives yearly report on fulfillment of agreement conditions.

The company is in a constant dialog with its employees. For that, enterprises use several mechanisms to make the employees' voices heard at the top:

- Trade unions' cooperation with the administration and regular meetings of trade union leaders with management of directorates of business segments.
- Communication meetings between the staff and heads of enterprises and relevant directorates.
- Communication meetings between enterprise heads and opinion leaders.
- Personal reception of employees by the director of the company (the so-called "director's hour") and HR manager.
- Meetings of HR managers with enterprise employees at their workplaces.
- Social surveys of employees.
- Collecting employees' requests and suggestions via postboxes for comments and suggestions, etc.

Payment, Remuneration and Incentives

The company has implemented a unified renumeration system using Hay Group methodology. The grading system enables evaluating each position's contribution to the overall result, unifying and standardizing approaches when determining the level of employee remuneration. In 2016, Kyivenergo, DTEK Service and DTEK Myronivska TPP joined the grading system.

Personnel performance is annually evaluated in the first quarter of the year; this evaluation determines the amount of remuneration, objectives for the next year, training and development programs, and career advancement. DTEK Energo develops the Employee Remuneration Management Regulation to standardize approaches to managing employees' remuneration in all its enterprises and adjusting the structure of the social benefits package and payments to the targeted form in 2017 and 2018.

Employees of enterprises located in the ATO area performing their duties under health and life risk conditions, were paid about 12 million hryvnia in 2016. Moreover, targeted aid was provided to the war-affected employees and members of their families under the programs of the Rinat Akhmetov Humanitarian Center, as well as aid for recovering of destroyed housing.

In 2016, DTEK Burshtynska TPP introduced an additional remuneration for personnel operating of power units in a maneuver mode. An additional remuneration is to be introduced in 2017 at the company's other thermal power plants operating in a maneuver mode.

The employees' social packages are formed in accordance with the legislation, collective and industrial agreements. Besides, energy production plants introduced one-time financial aid to employees who get married for the first time and those having a child. One-time financial aid is also yearly paid to employees on childcare leave with a child of up to three years of age, and employees who raise disabled children. Aid is provided for the employees retiring on reaching retirement age or due to disability as well.

During the 2015/2016 heating season it was provided to the employees whose target total income for the full working month did not exceed 5,500 hryvnia. The company's management decided to give such employees an additional payment to partially reimburse of expenses on utility services from October 15, 2016 to March 31, 2017.

The company is introducing voluntary health insurance for the employees. In 2016, SB Malakut insurance broker was engaged to improve the quality and control of the services provided by insurance companies. It is also involved when the employees have suggestions, comments and questions regarding consultations, or in case of any doubt about the legitimacy of denial of service by the insurance company.

The company carries on automating HR management processes: in 2016, the SAP HCM system was introduced at DTEK enterprises Zakhidenergo, DTEK Dniproenergo, Interenergoservice and DTEK Pavlogradugol under the Creation of Unified HR Settlement Center project.

Employee Engagement

When recruiting, the company takes into account the applicants' appropriate education level, and whether they have the necessary knowledge, skills, experience and competence level.

Planning of the need for the employees, recruitment of personnel, as well as HR management is carried out in accordance with:

- The legislation of Ukraine.
- Collective agreement.
- Internal labor regulations and recruitment provisions.
- Instruction "On the Procedure for Execution of Work Incapacity Certificates."
- Instruction "On procedure for scheduling of vacation leaves and granting leave to the employees."

Internal selection of candidates is primarily used when recruiting personnel for vacant positions: vacancy announcement for the employees of the company's enterprises, obtaining CVs from the applicants, interviews for compliance with qualification criteria and needed personal qualities. External candidates are selected through employment centers, Internet recruiting on job search websites, mass-media, etc.

Since DTEK Energo is one of the largest employers in the regions its operation, DTEK enterprises significantly affect the labor market, and company's the HR department closely cooperates with employment centers and specialized educational institutions. Young-specialist training programs are implemented by the educational institutions: students take practical production courses at the enterprises and are employed when they finish their studies.

The enterprises have a significant impact on demand in the labor market of the regions of their activities due to wage stability, provision of social packages, adherence to the working schedule, occupational safety, etc.

Approach to Responsible Restructuring and Retirement of Employees

There were no dismissals of personnel at DTEK Energo's enterprises due to changes in the industrial and labor management in 2016. The personnel turnover rate did not significantly affect the production capacity and economic performance of the company.

The company implements measures to retain employees at the enterprises, including reassignment to higher positions; upgrade of categories, classes, grades; improvement of the material incentive scheme and working conditions. Besides, in 2016 employees were transferred within the same department and between departments to ensure proper production process and equipment maintenance. A significant number of reassignments required personnel retraining, and relevant training programs were developed.

The decrease in the number of personnel was mainly due to outsourcing non-core functions, transfer of social facilities to the community property, natural staff reduction (retirement, voluntary redundancy, etc.) and dismissal of employees by agreement of the parties. A one-time payment was available when dismissing employees by agreement of the parties, which was fixed in collective agreements in 2016. In case of retirement, one-time allowance is paid in accordance with collective agreements, with amount depending on the employee's duration of service in the industry.

Wellness Programs and Promoting a Healthy Lifestyle

The company's enterprises annually allocate funds for health promotion of employees and their families. Funds for purchasing vacation packages are either provided to the employees or transferred to the trade union committees that search for and select health resorts, considering wishes and indications for sanatorium treatment. Moreover, the employees can use prophylactic sanatoriums of DTEK Service that provide medical treatment focusing on prevention of diseases and overall strengthening of the body.

The enterprises together with the trade union committee and parents organize holidays for employees' children in summer camps.

Sports events are financed and held to maintain a healthy lifestyle among the employees. For example, in 2016 the XVI Spartakiad was held among the employees of Kyivenergo, with 400 employees taking part in volleyball, swimming and chess competitions. The traditional Kyivenergo Cup futsal tournament was also held. 7 teams and about 80 employees of energy companies of Ukraine took part in the tournament.

Personnel Training and Development

DTEK provides its employees with an opportunity to develop their potential at DTEK Academy, a corporate university. The training program includes sessions on competency development, professional programs and corporate MBA programs. The number of training programs exceeds 2,000. They are designed for all company management levels: workers, specialists and managers. Training provides master classes, workshops, modular training programs, E-learning and educational games. Today DTEK Academy staff includes certified trainers, coaches, facilitators and assessors.

The Academy has 14 regional branches specializing in training of operating personnel. More than 850 internal practical experts teach at the branches. Over 95,000 thousand of the company's employees are annually trained at the Academy and its branches.

The continuously-operating Internal Trainers Institute (ITI) was established for effective personnel training and development. The Institute unites 320 employees who regularly train their colleagues at the enterprises. Trainers are educated and certified by the company itself. The initiative of holding internal trainers' conferences started a year before continued in 2016.

Training of the employees, development of the internal trainers institute, and professional growth of internal coaches enabled reducing training costs.

DTEK Academy is a member of international business school associations – CEEMAN and EFMD – and it cooperates with the leading business schools, the Kyiv Mohyla Business School (Ukraine) and INSEAD (France).
DTEK Academy became one of the six official language partners of the global Coursera online education project in 2016. Successful Negotiations training courses – Essential Strategies and Skills, and Introduction to Public Speaking – are now available in Ukrainian.

DTEK initiates professional standards upgrade.
In 2016, 13 state standards of vocational education were approved by the Ministry of Education and Science of Ukraine. These standards are developed on the company's initiative and with its active participation.

The company's professional standards served as their basis for boiler house operators, operators of rock-removing machines, hoist operators, turbine operators, boiler house and pulverizing plant repairmen, heating network repairmen, electrical fitters for operation and maintenance of instrumentation and control equipment of power plants, steam and gas turbine equipment repairmen, underground electrical fitters, miners for repair of mine workings, electricians for repair of relay protection and automation, field service team electricians, and electricians for repair of overhead lines.

The company continues cooperation with the leading specialized universities of the country. The program's objective is cutting time for training and adaptation of young specialists. Within the partnership with the universities, 1,557 students completed internships in 2016, and 206 young specialists were employed.

In 2016, the Poltava National Technical University named after Y. Kondratyuk became a partner of the company. Now the company cooperates with seven universities. The university opened an education-and-research laboratory for oil and gas technologies created with the participation of DTEK and Geosynthesis Engineering. The laboratory is equipped in accordance with international API standards, with all necessary up-to-date equipment and chemical agents. It will let students get practical skills and conduct research on proportioning the tailored composition of materials for well-drilling.

04 Occupational Health and Safety

The company's most important task is building the culture of responsibility for one's own life. It is important to change the way of thinking and attitude of all of the company's employees so that safety becomes a shared idea and therefore safe behavior becomes a habit.

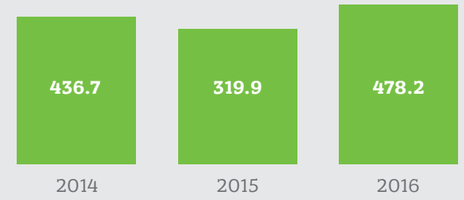
DTEK's main principles of occupational and health safety (HSE) are improvement of the current model aimed at preserving life, health and working capacity of employees in the course of their entire employment. The company creates safe environment for every workplace to form a conscious attitude of the emplo–yees to both their personal safety and safety of others.

Investment priorities related to occupational and health safety remain unchanged and are focused on:

- Creating safe environment at workplaces.
- Providing employees with efficient means of personal protection.
- Adjusting the main assets in compliance with the occupational safety legislation and regulations.
- Training and increasing the level of safety knowledge among employees.
- Medical support.

In 2016, the key direction of all production facilities of the company was introduction of the Safety Culture program. It focuses on psychological factors of violations, conducting audits and supervision, personnel training.

Occupational Safety Investments, UAH mln



Occupational Health and Safety Management Systems Certified in Accordance with International Standards. Recertification and Surveillance Audit

The company's enterprises are interested in ensuring operational health and safety in production activities, which minimizes injuries. For this, workplaces are constantly being improved to enhance labor safety and production environment, and employees are trained on occupational and health safety.

All of the company's power generation enterprises, as well as Interenergoservice, its internal contractor, see activities in the field of occupational and health safety as an integral part of successful production and the necessary condition for achieving strategic goals.

In 2016 DTEK Dniproenergo, DTEK Zakhidenergo and DTEK Skhidenergo successfully passed a surveillance audit, and Interenergoservice passed a certification audit of the corporate occupational safety management system. A surveillance and certification audit of the corporate occupational safety management system was conducted at these enterprises to determine whether they comply with Occupational Health and Safety Management System OHSAS 18001 international standard. The certification scope includes all of the enterprises' employees.

In 2016, a risk management system for heat-generation enterprises partly based on IEC 61882:2001 Hazard and Operability Studies (HAZOP studies) methodologies was introduced to deeper analyze hazards.

HAZOP analysis is a team-based hazard identification method applicable to each operation in all processes, from design solutions to equipment operation in accordance with the project.

In 2015 it was decided to cancel certification of the occupational health and safety management system (SMS) for compliance with OHSAS 18001:2007 at coal enterprises, but they continue operation in accordance with this standard. The company plans on resuming the certification process in the future.

The Procedure for Classification, Analysis and Response to Dangerous Actions was developed and implemented in 2016 in order to improve efficiency of previously-introduced procedures for occupational health and safety management, dangerous actions of the personnel, and for reducing job-related injuries. This procedure establishes a uniform procedure for registering and recording of dangerous actions for their subsequent analysis, highlights priority directions for work and corrective actions.

To ensure efficiency of the new procedure, the following base documents of the company in the field of occupational health and safety management system were revised and updated:

- The procedure for three-level in-house control of the occupational health and safety status.
- Regulations on the token system.
- Internal accident investigation procedure.

Measures on eliminating dangerous actions are developed based on results of their analysis.

Coal extraction and preparation enterprises' innovation of 2016 was introduction of on-site meetings of the occupational safety committee at the enterprises where fatal or serious accidents happened. Besides, the top managers of the corporate center resumed behavioral audits at production facilities.

OHSAS 18001:2007 is successfully implemented at the company's electricity transmission enterprises; its requirements apply to all employees of the enterprises and contracting entities.

In 2016, DTEK Donetskoblenergo and Kyivenergo passed an external surveillance audit, and DTEK PEM-Energovuhillia and DTEK Power Grid passed recertification audits of occupational health and safety management systems. The audits confirmed that the enterprises' occupational health and safety management system satisfies the requirements of the international standard. DTEK Dniprooblenergo conducted a certification audit to confirm the validity of OHSAS 18001 and ISO 14001 certificates. The enterprise has integrated the occupational and industrial safety management system into a unified corporate management system with other established systems. Based on the results of the audit, a statement of compliance of the implemented integrated system with the requirements of international standards was issued, and the enterprise received a report with recommendations.

The Internal Audit of Occupational Safety and Health Management Systems in Accordance with the Requirements and Provisions of OHSAS 18001:2007, and Lead Auditor of the Environmental Management System in Accordance with the Requirements of ISO 14001:2015 courses were held for the employees of DTEK Donetskoblenergo, DTEK PEM-Energovuhillia and DTEK Power Grid. 287 people completed the training.

The international standard of occupational health and safety management system also applies to the company's enterprises producing gas and generating alternative energy.

Naftogazvydobuvannya passed a surveillance audit in 2016, successfully confirming its certificates. 100% of the employees are covered by the certification scope.

Occupational Safety Training

64.9 thousand employees of DTEK Group enterprises completed training on occupational health and industrial safety.
All of the company's enterprises have a procedure for training and occupational safety knowledge tests. The procedure determines the types, frequency, and order of the employees' training at the beginning and in the course of their employment. The training's purpose is formation and maintenance of the required skill level of the employees.

At the same time, the company pays great attention to various additional trainings. For example, DTEK Pavlogradugol and DTEK Dobropolyeugol employees take an off-job training on technological documentation twice a year.

Almost 24 thousand people completed this training in 2016. 5 thousand employees were trained on special safety programs at the training centers of coal-mining enterprises located in the ATO area.

Coal-mining enterprises have had a system of training and occupational safety knowledge tests using the information systems based on the PROTEK program since 2013. The course includes both legal and corporate requirements. Today it is the main knowledge-testing tool for employees, and it is planned to transfer it to the corporate platform. In 2016, 36.5 thousand people completed PROTEK training and knowledge tests.

The company's power-generation enterprises have their own production-and-training centers operating in the following areas:

- Initial skill training.
- Professional development.
- Training of officers and personnel on occupational health and safety, fire security and operation.
- Retraining and training in a second profession.
- Periodic training of operating personnel of boiler-and-turbine, electrical and fuel-transport shops.

This approach provides workers' qualification required for safe and efficient operation and repair of power-plant equipment. Employees trained on the pedagogical minimum program are engaged to give classes.

There is a 200 and 300 MW power unit simulator training area in the production-and-training centers for training the personnel of boiler-and-turbine and electrical shops of power plants. This area allows for operating personnel training on eliminating abnormal and emergency modes, starting and shutting down the power unit due to various conditions, maintenance of normal mode when changing load. It ensures acquisition of skills to manage the power unit and significantly reduces the likelihood of erroneous actions of personnel.

There is also a specialized training area for certified electric welders. It was certified by the E. O. Paton Institute for Electric Welding and may issue diplomas giving the right to work at all facilities accountable to the State Labor Service of Ukraine.

The production-and-training centers obtained a license to conduct professional training for all professions at the thermal power plants of DTEK Energo, with the right to issue state-recognized degrees.

At the electricity-transmission enterprises in 2016:

- Production personnel were remotely trained and tested on the occupational and health safety programs on DTEK Academy's internal portal.
- Practical trainings were provided at the training area as part of professional development of the key-profession personnel.
- Selective training of managers and labor protection specialists, in particular, the practice of a weekly select video communication with the heads of sites was introduced.
- Standard operation procedures were developed with the specialists of distribution networks and sales technical support to provide shift briefing, use of medicine, and safe work in the cradle of elevated work platforms when pruning trees with chainsaws.

Electricity-distribution enterprises have developed a methodology for identifying the psychological types of HSE laws violators. If violations are detected, the auditor fills in the Identification of Psychological Type of the Violator checklist in order to determine it using key phrases. This method enabled introducing the practice of applying unique measures of influence on each employee depending on individual attitude and behavioral stereotypes.

Motivation to Observe Industrial Safety Rules

Work on improving occupational health and safety is aimed at assuring safety of employees and preventing emergencies. For this purpose, all production facilities of the company have safety standards and implemented a financial and non-financial employee incentive system for observing the rules. At the same time, occupational safety violators bear binding responsibility up to, and including, discharge.

Non-financial incentives are based on attention to employees and teams that achieve success in occupational safety. Financial incentives use instruments of differentiated reward in the form of regular or one-time additional remuneration to the basic salary. The procedure and frequency of various kinds of incentives are determined at the enterprises.

In 2016, 1,224 employees of the company's coal enterprises received non-financial incentive, and 4,000 employees received financial incentive for a total amount of 1.7 million hryvnia, including 235 employees for identification of unacceptable risks. Six collectives of DTEK PEM-Energovuhillia and four of DTEK Power Grid received non-material incentives for the most significant achievements in the field of occupational safety in 2016.

The procedure for assessing occupational safety managers is still applied at the coal-mining enterprises. It stimulates managers to pay more attention to the occupational safety issues since their efficient performance in this field is measured both quantitatively and qualitatively. Principal rules are applied in order to increase employees' occupational safety responsibility, and their violation entails dismissal. In 2016, 462 employees were dismissed for gross violations of occupational safety and health rules.

All of the company's distribution enterprises apply the employee incentive system in the field of occupational safety and environment protection. The company thus encourages employees' creative initiatives aimed at improving working conditions and enhance production standards. It makes possible involving a wide range of employees in a conscious process for continuous improvement of the occupational safety system.

Health Care of Employees, and Occupational Medicine

DTEK implements a corporate occupational medicine program to provide enterprises with healthy personnel. Control of the dynamics of two indicators – incidence rate and health index – makes it possible to better influence reduction of the company's financial losses and increase labor productivity. The procedure for periodic medical examination is implemented at production facilities. Examinations are the key to early diagnosis and prevention of occupational diseases. Moreover, workplaces are certified to identify factors that may adversely affect the employees' health.

Great attention is paid to prevention of occupational diseases at the coal enterprises:

- All employees are provided with efficient means of personal protection and undergo periodic medical examinations.
- Employees receive medical treatment at healthcare facilities.
- There are aerosol inhalation and radiation therapy rooms at the enterprises.
- Employees with cardiovascular diseases have their blood pressure checked before the shift, and shop doctors conduct regular check-ups of employees registered with respiratory diseases and musculoskeletal system disorders.
- Measures on eliminating dangerous and harmful workplace factors influencing the employees are developed based on the results of workplace certification.

In 2016, the company's incident-per-employee rate was 11.17, which does not exceed the target value of 11.88. Health index is 52 percent.
In almost 10 thousand employees were threated in prophylactic sanatoriums, and 36.8 thousand employees received rehabilitation and preventive treatment at health posts.

The company updated the occupational medicine strategy for 2016–2020 and tightened control over the quality of medical examinations. In particular, DTEK Service implements a project that will establish guaranteed control over the quality and reliability of periodic medical examinations and medical examinations when becoming an employee.

A project for the employees of the enterprises demobilized from the ATO area was also launched in 2016. This project is aimed at medical and psychological rehabilitation and psychological support of the employees. 967 employees received psychological aid under the project.

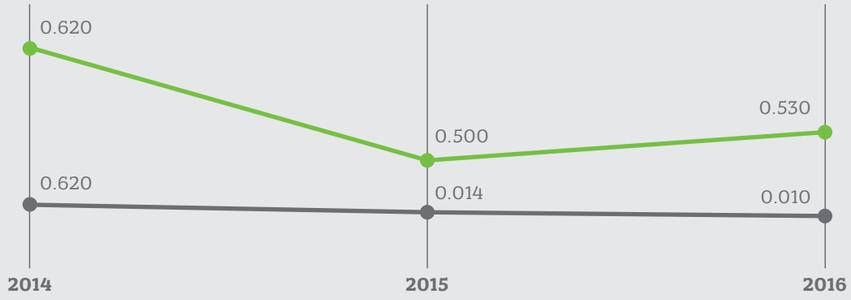
In 2015 the company created a single information space for medical facilities, which was the beginning of a unified occupational medicine management system. Work in this direction continued in 2016, and a unified automated platform was created for system monitoring of health indicators of the enterprises' employees, keeping consolidated records of medical examinations and performance indicators for DTEK medical facilities. It will allow for effective managerial decisions.

Injury Rate

Along with state inspections, every injury case is thoroughly investigated within the enterprise to discover its cause.

Correction measures for avoidance of such injuries in the future are developed based on these investigations.

Injury Frequency Rate



Number of employees that suffered production injuries, persons

Rate	2014	2015	2016
Suffered non-lethal injuries	528	322	399
Suffered lethal injuries	19	9	9

Number of employees that suffered injuries at the workplace as a result of war operations, persons

Rate	2014	2015	2016
Suffered injuries at the workplace as a result of war operations	46	14	4
Including lethal outcomes	8	5	0

The Provision on Contracting Services Safety was brought into action to ensure safe execution of works by contracting organizations at each enterprise. It harmonizes occupational, industrial, fire and general safety requirements and contains a course of action and responsibility distribution for ensuring safe execution of works by contracting organizations, a checklist of contractor compliance with the safety requirements, the list of documents and actions ensuring safe execution of works by contractors. Contractors have to meet high requirements, with respective measures applied upon their violation, up to prohibition of works and contract termination.

Electricity-distribution enterprises also explain ways of preventing of injuries among the population. This includes unscheduled inspections of transformer substations and distribution points. Special attention is paid to locks, warning signs and posters.

There is also a separate program on prevention of electric injuries among children. Employees of the company teach electrical safety at schools and preschool facilities. More than 500 such lessons were given in 2016.

05 Environmental Protection

DTEK Group's strategic tasks include introduction of modern technologies and the best practices to minimize the impact of production on the environment and optimize use of hazardous substances and materials.
The company supports environmental education initiatives.

The company's long-term environmental goals are listed in the Environmental Management Policy:

- Ensuring a unified approach to environmental management based on a modern environmental management system at all DTEK Group enterprises.
- Ensuring compliance of equipment and production processes with the environment protection legislation.
- Prevention and minimization of negative impact on the environment.
- Creation of an effective environmental impact monitoring and environmental risk management system.

Implementation of the Policy allows increasing the environmental safety level of the company's industrial enterprises.

Environmental protection costs amounted to 857 million hryvnia in 2016, including 111.8 million of capital investments.

Environmental costs of DTEK Group in 2016, UAH thousand

Business line	Capital investments	Operating expenses	Additional expenses	Total by business line
Coal production and processing	38,755.4	127,989.8	63,844.8	230,590.0
Electricity generation	72,905.1	542,266.4	8,106.9	623,278.4
Electricity distribution	167.8	1,009.6	1,921.8	3,099.2
Gas production	–	1,322.9	–	1,322.9
Total	111,828.3	672,588.7	73,873.5	858,290.5

Approach to Environmental Impact

DTEK Group enterprises monitor environmental impact in accordance with the current environmental legislation. Environmental risks and opportunities are assessed and analyzed every year, with their profiles and management action plan developed.

In order to monitor environmental performance of production, enterprises control emissions and discharges in laboratories, control waste accumulation sites, atmospheric air at the border of the sanitary protection zone of enterprises, and monitor the technical condition of environmental facilities and purification equipment. Monitoring data make it possible to determine the degree of production impact on the environment and timely respond to possible adverse changes.

The Automated System of Environmental Performance project has been implemented at the thermal power plants of DTEK Energo since 2015. The system operates in four directions: calculation and comparison of the environmental tax, monitoring of condition of ash and slag pipelines and ash dumps, condition of the monitoring systems for exhaust flue gases, and information on environmental emergencies. The project was successfully implemented at all thermal power plants of DTEK Energo in 2016 and will be tested during 2017. It is also planned to expand the project by automating the process of inspection management of compliance with the environmental legislation in 2017.

Preventive measures are introduced and technological processes are upgraded at all stages of the production chain to minimize environmental impact. The main environmental management elements revolve around it:

- Implementation, operation, improvement and audit of the environmental management system in accordance with ISO 14001.
- Identification and assessment of environmental risks and opportunities, development of measures for their management.
- Development and implementation of environmental programs (annual, prospective).
- Holding annual environmental trainings for the enterprises' employees.
- Work on the obligations to comply with the requirements of the environmental legislation with contractors and suppliers.

All of the company's production facilities strive to improve the environmental management system in accordance with the requirements of the international standard. In 2016, DTEK Dniprooblenergo, DTEK Power Grid and DTEK PEM-Energovuhillia successfully passed a recertification audit, and DTEK Dniproenergo, DTEK Skhidenergo, DTEK Zakhidenergo, DTEK Donetskoblenergo and Naftogazvydobuvannya passed surveillance audits. Specialized companies – TÜV SÜD (Germany) and MS Consulting (Ukraine) – confirmed compliance of the enterprises' environmental management systems with international requirements.

The company started updating the environmental policy and developing procedures for its implementation due to release of a new international standard, ISO 14001:2015, in 2016. It plans to complete this work and introduce new documents in 2017.

Environmental Education and Development of Environmental Culture

DTEK Group employees give environmental lessons and excursions to schoolchildren, read lectures and hold seminars for students at production facilities.

For example, DTEK Dniprooblenergo mount nests for white storks on power-transmission line poles. Schoolchildren and biology teachers help monitor nest settlement. An educational contest called Leleka was held on the initiative of the Dnipropetrovsk enterprise. This course is part of the international program for preservation of white storks. Moreover, the environmental specialists of the enterprise shared their practical experience with their future colleagues in the first and fourth years of Oles Honchar Dnipropetrovsk National University and Dnipropetrovsk State Agrarian and Economic University. Workshops organized for students included a visit of the Uzlova substation.

The Integrated Processing of Ash and Slag Materials of Thermal Power Plant and Coal Waste training workshop was also held for the students of the National Mining University (Dnipropetrovsk) at DTEK Prydniprovska TPP with participation of the Freiberg University of Mining and Technology (Germany). Moreover, training workshops were held with the support of the Federal Environmental Agency of German and UNECE at DTEK Prydniprovska TPP for students and teachers of The Prydniprovska State Academy of Civil Engineering and Architecture, the National Metallurgical Academy of Ukraine, and the Dniprovsk State Technical University.

Activities intended to increase commitment to environmental issues and popularize the nature reserve fund objects are held for the employees. For example, 50 employees of DTEK Dniprooblenergo were rewarded with weekend trips to the Sofiyivka National Dendrological Park (Uman).

Implementation of Environmental Protection Programs

Preservation and Restoration of Biological Diversity

In 2016, the electricity distribution enterprises of the company continued implementing programs for ornithological safety of electrical networks. An integrated approach to this issue not only lets protect birds but also improves the reliability of electric power supply to the consumers. Seven nesting platforms for white storks were installed in cooperation with the ornithologists of the Dnyprovsko-Orylsky Nature Reserve in 2016. The enterprises installed 75 nesting platforms over 3.5 years.

On the initiative of the Ministry of Ecology and Natural Resources of Ukraine the company's ecologists prepared proposals on harmonization of the environmental legislation and regulatory technical documentation for design and operation of electric networks within implementation of the requirements of Birds Directive 2009/147/EC and Habitats Directive 92/43/EC, as well as Provision of Ornithological Safety of Electric Networks of 0.4–150 kV VOLTAGE CLASS methodological materials.

The company's initiative on preservation of biological diversity at the electricity-distribution enterprises was highly appraised at the European Environmental Rules in the Ukrainian Legislation: To Be or Not To Be? round table held in December 2016.

Air Emissions

The main activities in the field of environmental protection at the company's production facilities are atmosphere air protection measures: reconstruction and repair of electrostatic precipitators of DTEK Energo TPP. In 2016, 141.4 million hryvnia were allocated to maintain reliable and efficient operation of dust-cleaning equipment.

Works on construction and technical reequipment of electrostatic precipitators were performed at power units No. 1 of DTEK Kryvorizka TPP and No. 10 DTEK Burshtynska TPP in 2016, and electrostatic precipitators of power units No.9 of DTEK Burshtynska TPP and No. 7 of DTEK Kurakhovska TPP were completely repaired.

Moreover, project documentation for reconstruction of power units No. 4 of DTEK Ladyzhynska TPP, No. 7 of DTEK Dobrotvirska TPP and No. 4 of DTEK of Kurakhovska TPP was developed.

The company has been upgrading electrostatic precipitators within the reconstruction of power units since 2012. The residual dust content in the flue gas at these power units will meet the EU requirements of 50 mg/nm3 after the upgrade.

The European Energy Community agreed on the National Emission Reduction Plan (NERP) developed a year before with the support of the EU. The National Plan provides for equipping all large combustion plants with gas-cleaning units by 2033. The company's power-generation enterprises concluded contracts with the Coal Energy Technology Institute of the National Academy of Sciences of Ukraine on updating operating standards taking into account international commitments of Ukraine.

Video surveillance systems for flue gases are installed at all TPPs of DTEK Skhidenergo, DTEK Dniproenergo, DTEK Zakhidenergo, which allows boiler unit operators to obtain additional current information on combustion modes in the boilers.

Water Resources

The general principle of water resource management at the company's production facilities is economical and efficient use. As part of meeting the environmental management policy's requirements on reducing the volume and improving the quality indicators of wastewater discharge enterprises continuously monitor the quality of waste water, implement projects to upgrade treatment facilities, reuse waste water in technological cycles, and clean water-cooling reservoirs from bottom sediments.

In order to reduce the negative impact of waste water on the surface and underground water bodies of DTEK Energo TPP, the quality of discharged waste water and condition of underground water is monitored. The quality of waste and underground water in the area of ash dumps is monitored as well.

In 2016, the condition of the existing stormwater sewer systems, treatment facilities, and fish-protection devices was analyzed and assessed at heat-generation enterprises.

The main measures on prevention and minimization of wastewater discharges in 2016 were:

- Repair of pumping equipment of the hydraulic ash-removal system of DTEK Luhanska TPP.
- Reconstruction of wastewater clarification pumping plant of power unit No. 1 of Kryvorizka TPP.

Besides, repair and maintenance of oil-filled equipment of power units No. 1 to 4 of DTEK Zaporizka TPP was conducted to prevent oil pollution of surface water bodies. Cooling discharge channels were cleaned at DTEK Ladyzhynska TPP, which allowed preventing thermal pollution of reservoirs.

Among the coal extraction and preparation enterprises' most significant projects of 2016 were completion of technical reequipment of Pavlogradska CPP. The upgrade allowed the plant to stop using the sludge tank. Now liquid coal-cleaning wastes are dehydrated on press filters and then used on land reclamation sites. The drying room was closed, which led to elimination of atmospheric pollutant emissions released during coal processing.

Moreover, the first stage of reconstruction of the pumping station of the utility fluids at the Geroiv Kosmosu Mine was completed. The project is aimed at preventing land pollution and ensuring water disposal to the municipal treatment facilities.

Industrial waste water discharge facilities of DTEK Energo TPPs

Enterprise	Industrial waste water discharge facilities
DTEK Kurakhovska TPP	Kurakhove Reservoir (Vovcha River)
DTEK Luhanska TPP	Siverskyi Donets River
DTEK Prydniprovska TPP	Dnipro River
DTEK Kryvorizka TPP	Inhulets River
DTEK Zaporizka TPP	Kakhovka Reservoir
DTEK Burshtynska TPP	Hnyla Lypa River
DTEK Dobrotvirska TPP	Western Bug River, reservoir
DTEK Ladyzhynska TPP	Southern Bug River, Ladyzhyn reservoir
DTEK Myronivska TPP	Luhan River, Mironovske reservoir

Industrial waste water discharge facilities of coal mining enterprises of DTEK

Enterprise	Industrial waste water discharge facilities
DTEK Pavlogradugol	Samara River
DTEK Dobropolyeugol	Byk River, Hnylusha River, Vodyana River

Water Consumption

In order to ensure optimum water consumption for production needs, the company's power-generation enterprises use circulating hydraulic ash-removal systems, cooling of main and auxiliary equipment and water reuse systems.

Efficient water consumption at coal-extraction and preparation enterprises is ensured by the use of mine water for production needs and by recycling water supply at coal-preparation plants.

Sources water intake for industrial, utility and drinking water supply of DTEK Energo TPPs

Enterprise	Sources water intake
DTEK Kurakhovska TPP	Siverskyi Donets-Donbas Channel and Kurakhove Reservoir (Vovcha River)
DTEK Luhanska TPP	Siverskyi Donets River
DTEK Prydniprovska TPP	Dnipro River
DTEK Kryvorizka TPP	Dnipro-Kryvyi Rih Channel
DTEK Zaporizka TPP	Kakhovka Reservoir
DTEK Burshtynska TPP	Hnyla Lypa River, with a cooling reservoir built on it
DTEK Dobrotvirska TPP	Western Bug River
DTEK Ladyzhynska TPP	Southern Bug River
DTEK Myronivska TPP	Mironovske reservoir

Sources water intake for industrial, utility and drinking water supply of coal mining enterprises of DTEK Energo

Enterprise	Sources water intake
Production and drinking needs:	
DTEK Pavlogradugol	Underground waters, Dnipro – Western Donbass State Enterprise of Water and Waste Water Services
DTEK Dobropolyeugol	Underground waters, surface waters of the production department of water supply and sewerage of Dobropillia, Water of Donbass Public Utility Company, Vodyana River, pond of Hnylusha River, artesian wells Pioneer
DTEK Dobropilska CPP	Surface waters of the production department of water supply and sewerage of Dobropillia
Kurakhovskaya CPP	Surface waters of the production department of water supply and sewerage of Selydove
Pavlogradska CPP	Surface waters of the production department of water supply and sewerage of Pavlohrad
Production needs (dust suppression):	
DTEK Pavlogradugol	Mine waters
DTEK Dobropolyeugol	Mine waters
Use of coal-processing enterprises in recycling water supply:	
Pavlogradska CPP	Mine waters
DTEK Dobropilska CPP	Mine waters
DTEK Oktyabrskaya CPP	Mine waters
Kurakhovskaya CPP	Surface waters of the production department of water supply and sewerage of Selydove

Waste Management and Reclamation of Lands

Most of the waste generated at the production facilities of DTEK Group is non-hazardous. However, waste disposal requires free land, and therefore leads to decrease in the possibility of beneficial use.

In this regard, DTEK Energo TPP's primary goal is increasing the use of bottom ash materials. Ash and slag are formed as a result of coal combustion and can be used in various areas, thus reducing environmental impact. Use of ash and slag in European countries amounts to 95 percent, whereas in Ukraine this figure is only 5 to 10 percent.

Programs aimed at increasing the use of flue ash, slag and ash for the years of 2012 to 2020 are developed and implemented at DTEK Energo TPP. A dry-ash handling system was introduced in 2016 at power unit No. 7 of the DTEK Burshtynska TPP under these programs, which will allow to take off 100,000 tons of dry ash a year. Slag flushing was organized at DTEK Kryvorizka TPP jointly with UMG, which allowed to export about 40 thousand tons of material to Sibelco, the global leader in production of abrasives.

Projects on reinforcing the ash-disposal area dams at the thermal power plants using ash and slag materials are implemented in order to avoid allocation of new land for waste disposal, which also increases their use.

Overall, DTEK Energo TPPs used 282,000 tons of ash and slag for their own needs, and 508,000 tons were sold to external customers in 2016. This constitutes 15.1 percent of the total ash and slag content.

Joint initiatives with UMG are developed to increase the use of ash and slag materials. One of the most promising areas is road construction. Expert opinions on the use of ash and slag in road construction were developed to be sent to the State Road Scientific Research Institute named after M. P. Shulgin. This will make it possible to add the use of ash and slag materials to the design and project estimate documentation for construction, reconstruction and capital repair of principal and regional roads.

Projects on the use of ash and slag materials in the road construction were launched within the framework of social projects implemented by the company together with the communities.

The following major repairs are planned:

- Burshtyn – Korostovychi – Kuropatnyki roads (Ivano-Frankivsk region) using the ash and slag from DTEK Burshtynska TPP.
- Perekalky – Rogaly – Railway station – Dolyna roads (Lviv region) using the ash and slag from DTEK Dobrotvirska TPP;
- Zelenodolsk roads (Dnipropetrovsk region) using the ash and slag from DTEK Kryvorizka TPP.

Work to reduce the use of asbestos-containing materials was continued in order to optimize the use of hazardous substances and materials. For example, brickwork and heat insulation of equipment, asbestos and asbestos-containing materials were partially replaced with alternatives during repairs: folmo fabrics, GiZO dry mix, basalt cardboard, insulating concrete and vermiculite plaster.

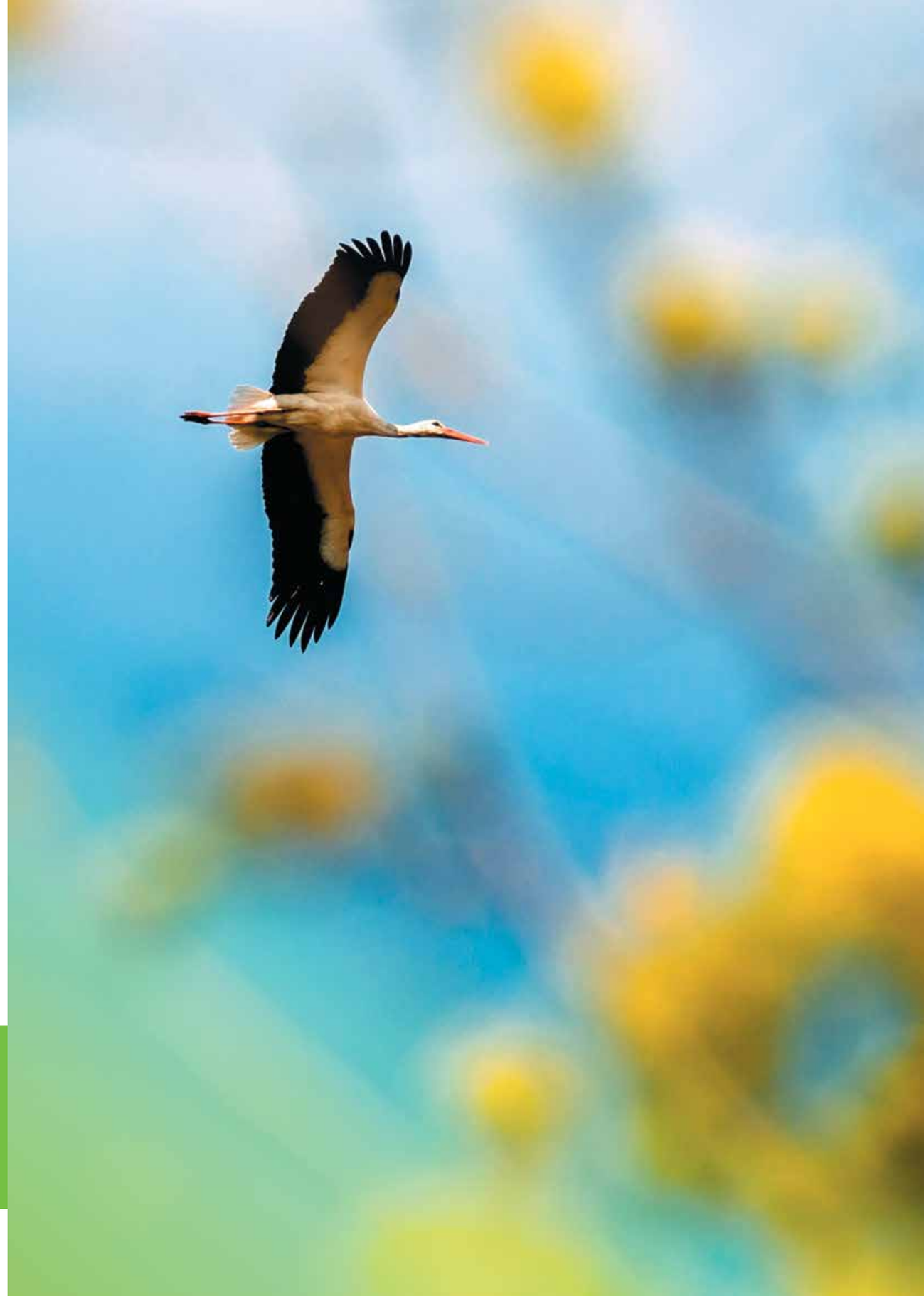
The second promising area of reducing the use of hazardous substances and materials is replacement of mercury-containing lamps with LEDs. DTEK Donetskoblenergo, DTEK Dniprooblenergo and DTEK Burshtynska TPP installed 1,524 LED lamps in 2016.

Moreover, oil-filled equipment is replaced with vacuum-gas-insulated equipment with a dry dielectric, as well as with maintenance-free oil sealed transformers. It enables improving environmental safety by ruling out possible oil spills.

Ukraine's general environmental problem is the use of phosphate and chlorine-containing household chemicals. DTEK Group enterprises contribute to its solution: DTEK Dniprooblenergo and DTEK Power Grid switched to using environmentally-safe phosphate-free washing powder.

For preservation, maintenance and restoration of forest plantations disturbed as a result of mining operations, DTEK Pavlogradugol planted 10 hectares of forest in 2016. The enterprise carried out biological reclamation of land on reclamation sites on an area of 14.811 hectares.

In 2016, DTEK Energo ecologists took an active part in developing the Low Carbon Development Strategy of Ukraine until 2050 implemented within the USAID Municipal Energy Reform Project in Ukraine. Public debate of the document is expected in 2017.



05 Sustainable Energy

Power Saving and Energy Efficiency

DTEK ESCO develops the direction of providing energy-efficiency and power-saving services.

Energy Efficiency Map

The Energy Efficiency Map web service jointly developed with Kyivenergo provides an opportunity to study the energy efficiency level of residential buildings. The map lets users to find out the potential level of thermal power saving that can be achieved through implementation of power-saving measures and following simple heat-saving tips in the house. This service will be expanded in 2017 by providing information on the energy efficiency potential of more than 10 thousand residential buildings to which Kyivenergo supplies thermal power.

Energy-Efficient Client program

Two stages of the Energy-Efficient Client program were completed together with Kyivenergo. The purpose of the program is to inform corporate customers about the possibilities of increasing the buildings' energy consumption efficiency and offering services for saving on heating and electricity. On the first stage, Kyivenergo specialists conducted an analysis of heat consumption among more than 16,000 corporate customers.

Based on the results of the analysis, enterprises and organizations with a large specific thermal power consumption (per unit area) were selected. Managers were offered consultations, energy audits and development of a set of measures to reduce energy consumption to a particular level.

More than 20 enterprises and organizations responded to the proposal: DTEK ESCO performed energy audits of public buildings (schools, nursery schools) and industrial facilities (cold-storage facilities). The program will be continued in 2017.

Power-saving consultation center

The power-saving consultation center was opened at Kyivenergo Customer Service Center in November 2016. Its goal is to offer the residents of Kyiv energy efficiency knowledge and experience of energy specialists, to demonstrate the ways of saving and gaining comfort. Professional consultants, energy auditors inform the customers what can be done to reduce energy costs, what equipment is the most effective, how to comprehensively approach the energy saving issue. The consultation center is equipped with samples and simulated energy-efficient equipment: LED bulbs, wall and window insulation systems, circuit breakers, recuperators, an automated individual heating unit. Customers can learn the operating principles of measuring equipment used in conducting energy audits, see examples of energy audit reports and order services.

Trainings on the fundamentals of energy audit and energy management

Modular training program on the fundamentals of energy audit and energy management was developed in 2016 together with DTEK Academy. Trainings are aimed at energy managers of enterprises and organizations, members of housing cooperatives and everyone wanting to get theoretical knowledge and practical skills in conducting energy audit of buildings. About 300 people were trained under the program, including employees of DTEK Group enterprises and those of external customers. Following the program completion, the participants independently conduct and defend express energy audits of their facilities, offices or residents.

Customer Orientation

The company fully provides socially-vulnerable groups with statutory benefits related to payment for electricity.

General principles of the company in respect of the quality of goods and services are:

- Timely performance of scheduled maintenance checks in full.
- Investing into enhancement of reliability and continuity of power supply and increase of electricity quality.
- Taking organizational and technical measures aimed at decreasing emergencies and the time needed to eliminate them (trainings on emergency elimination, cleaning of overhead power lines, emergency reserve equipment, organization of maintenance standby, etc.).
- Increase of client satisfaction (availability of the services on connecting new capacities and reducing time for provision of such services, voltage stability, continuity of and absence of gaps in the power supply, swiftness in restoration of power supply after emergency shutdowns, compliance with the stated terms of restoration of power supply after scheduled shutdowns).

Innovation

The Novator: a System of Continuous Improvement

The most important factor in improving the quality of products and services is introduction of a system of continuous improvement of activities: the Novator. Implementation of the system will improve the quality of customer service, and speed and quality of the performed processes. The Novator is based on the constant drive for elimination of all types of losses, and improvement of production processes. This is achieved by active engagement of the creative potential of the employees.

DTEK Energo uses such instruments and lean production methods as continuous improvement teams (Kaizen), just-in-time (JIT), value stream mapping (VSM), 5S, improvement cycle (PDCA), total productive maintenance (TPM), and standard operating procedures (SOP).

Almost 18,500 employees received training since the beginning of the project. A proposal submission system was introduced to involve employees, and by the end of 2016 they submitted 31,932 ideas, of which 15,459 were implemented.

Teamwork was evident in 1,718 continuous improvement teams (about 4 continuous improvement teams are created on a monthly basis at each enterprise), and together they solved 73 percent of the assigned tasks.

It is planned to cover all of DTEK Energo's enterprises in 2017, involve up to 40 percent of personnel in submission of proposals and integrate Innovator methods and instruments into daily operating activities. This will raise operational efficiency to the level of European companies.