

2005-2006



COMPANY'S YEAR

JSC "Moscow Regional Electric Grid Company" was created on April 1, 2005.  
 Substation "Konkovo" with the newest gas-insulated equipment was commissioned.  
 JSC "Moscow Regional Electric Grid Company" was renamed to JSC "Moscow United Electric Grid Company".  
 The Company's securities were accepted for trading on the stock exchanges of CJSC "MICEX Stock Exchange" and NP "RTS".  
 Substations "Levoberezhnaya" and "Ugresha" were commissioned.

# ABOUT THE COMPANY

## 1.1. GENERAL INFORMATION

Public Joint-Stock Company Moscow United Electric Grid Company (hereinafter referred to as PJSC MOESK or the Company) was established through restructuring as a result of spin-off from JSC "Mosenergo" on April 1, 2005. The head office of the Company is located in Moscow.

As of December 31, 2015, the structure of PJSC MOESK includes 10 branches, the Company group includes 4 subsidiaries.

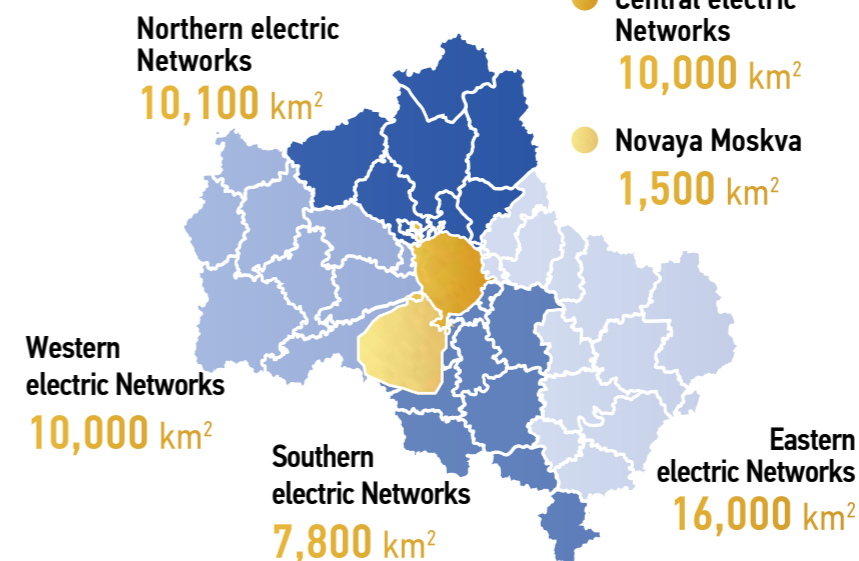
The main types of Company activities are transmission and distribution of electric power, technological connections of consumers to the power grids.


The total amount of Company capital as of December 31, 2015 was 332,749,590 thous. rubles with 57.4% being represented by the equity capital (190,988,390 thous. rubles) and 42.6% being represented by borrowed capital (141,761,200 thous. rubles).

### Establishment of a New Branch — Moscow HV Grids

- Operation of high voltage equipment rated for 35 kV and above in Moscow in 2015 was performed by the following two branches of PJSC MOESK:
- Central Electric Networks (overhead lines and 35-220 kV station equipment);
- HV Cable Networks (110-500 kV cable lines).

### Serviced area



**15.1**   
 thousand people  
 The average personnel headcount

**129.3**   
 bln rubles  
 Company revenues according to the RAS

Considering that this equipment relates to a single process chain, establishment of a new united branch for servicing HV grids on the basis of the above two branches in Moscow will deliver the following advantages:

1. Establishment of a unified competence center for HV grid assets management in Moscow;
2. Improved reliability of power supply to consumers;
3. Optimization of management structure;
4. Reduction of operating costs.

## 1.2. STRUCTURE OF ELECTRIC GRIDS ASSETS

### Structure of Electric Grids Assets

Category	2013	2014	2015	2015/2014, %
Line classification by location:				
overall length of overhead power transmission lines, km (total), including:				
by circuits	66,562.8	68,861.0	<b>71,712.5</b>	4.1
by routes	59,645.4	61,798.0	<b>64,675.1</b>	4.7
overall length of overhead powercabel lines, km (total)	72,692.6	73,447.4	<b>76,931.2</b>	4.7
Line classification by voltage (with breakdown to by circuits or by route):				
HV transmission lines, km	17,015.9	17,008.8	<b>16,369.9</b>	-3.8
Distribution lines, km	122,239.5	125,299.5	<b>132,273.8</b>	5.6
Total number of HV feed centers, ea.	608	608	<b>610</b>	0.3
Installed power of HV feed centers, MVA	47,291.0	48,416.3	<b>49,572.2</b>	2.4
Total number of distribution grid substations, ea.	29,664	31,624	<b>36,143</b>	14.3
Installed power of distribution grid substations, MVA	22,092.6	22,957.3	<b>24,963.9</b>	8.7

Similar data with breakdown to Moscow and Moscow region is presented in Annex 5.9.

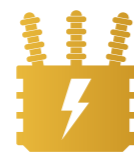
The increase in the length of distribution grids, the number and power rating of distribution

grid substations is associated with fulfillment of obligations for technological connection of

consumers and consolidation of electrical grid facilities.

**76,9**  
thous. km (total)  
overall length of overhead powercabel lines

**36,1**  
thous. ea  
Total number of distribution grid substations



**24,963.9**  
MVA  
Installed power of distribution grid substations

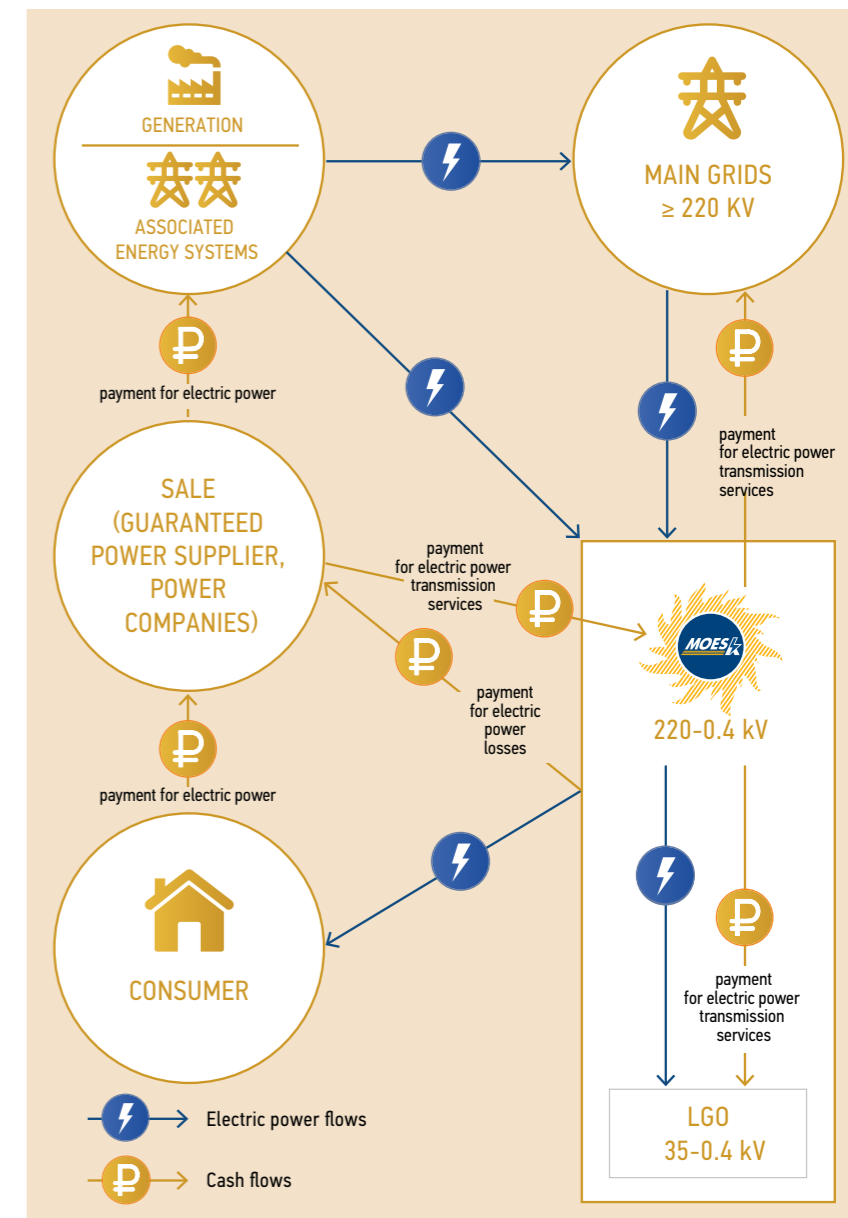
## 1.3. BUSINESS MODEL

### Process: Electric Power Transmission and Distribution

PJSC MOESK provides electric power transmission services to guaranteed power suppliers, utility companies and direct consumers — members of wholesale and retail electric power market under the contracts on electric power transmission services. The contract subject is performance of a complex of organizational and technical activities as required to supply electric power to end users of PJSC MOESK, which have their electrical installations connected directly to PJSC MOESK grids and to local grid operators (LGOs).

PJSC MOESK receives the electric power from the power generating companies (power plants, block stations), associated energy systems located in the nearby constituent entities of the Russian Federation, main electric grids — grids rated for 220 kV and above (PJSC Federal Grid Company of Unified Energy System or PJSC FGC of UES) and transmits this electric power to the terminal points of end users or LGOs.

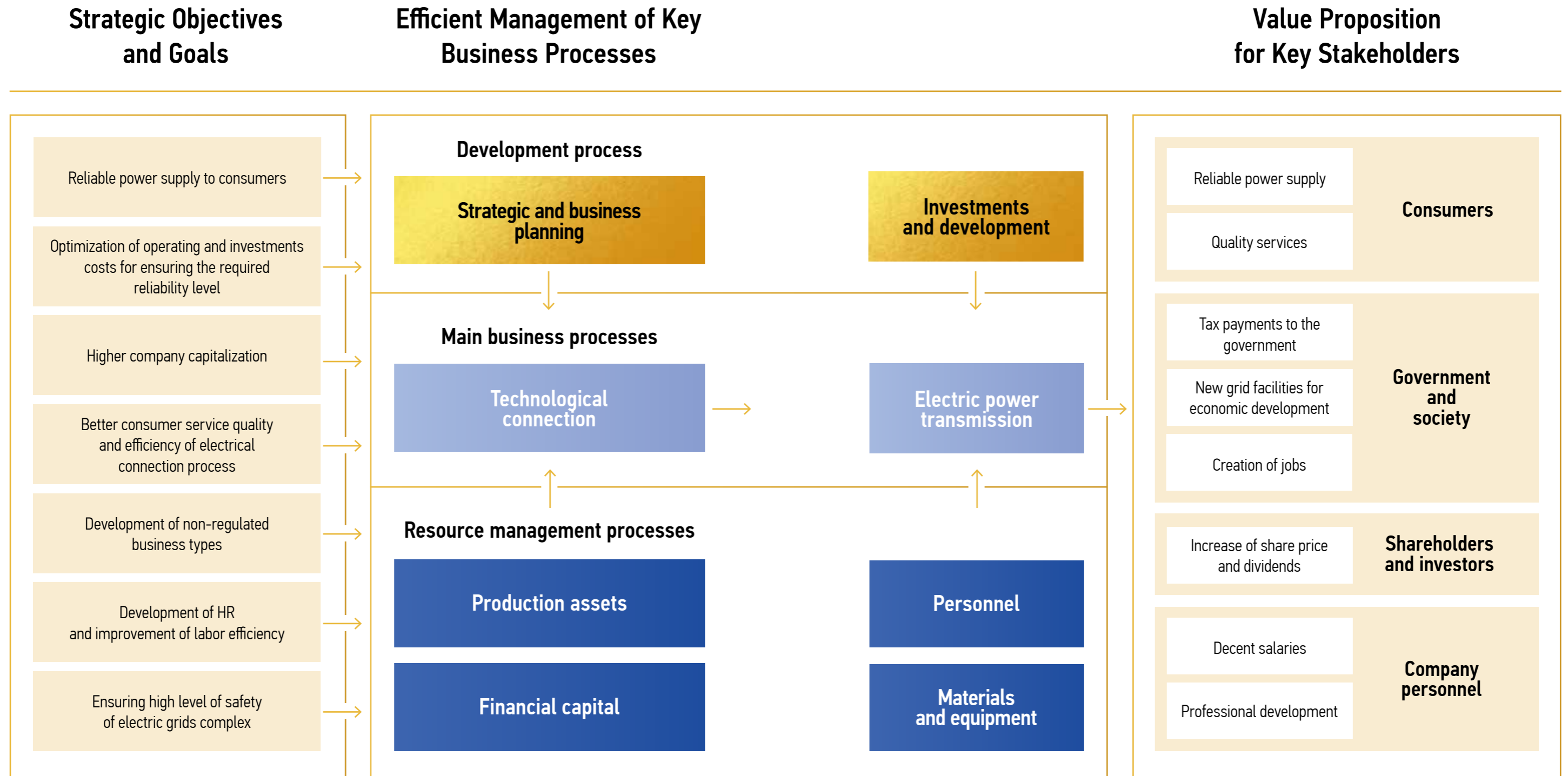
In consideration of electric power transmission services, PJSC MOESK performs settlements with the power supply companies (guaranteed power suppliers, direct consumers) and grid companies (LGOs, PJSC FGC of UES) according to the electric power transmission tariffs established by the Moscow Regional Energy Committee and Moscow Region Pricing and Tariffing Committee.



In the course of electric power transmission certain power losses occur in the electric grids due to the normal electric power transmission process; the volume of losses is measured as the difference between the volume of energy received by the Company's own grid and the volume of energy delivered to the consumers connected to the

Company grids and the volume of energy transmitted from the Company's own grids to the grids owned by LGOs. The electric power losses in the Company's own grids are purchased by PJSC MOESK from the guaranteed power supplier under the electric power sale agreement in order to compensate for such losses.

# Business Model of PJSC MIPC



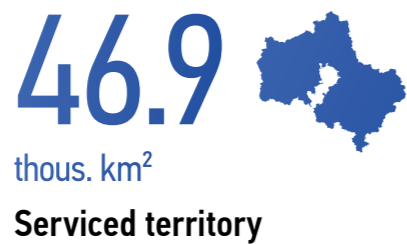
## STRATEGY

### 1.4.1. Market Position and Development Prospects

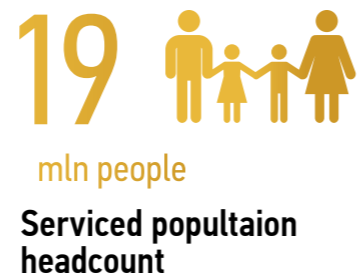
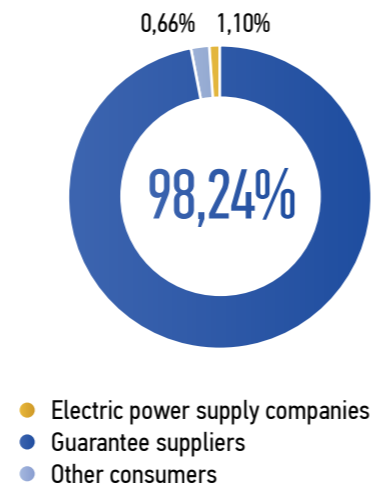
PJSC MOESK provides services on transmission of electric power and technological connections of consumers to the electric grids in the Moscow area, which includes two constituent entities of the Russian Federation (Moscow and Moscow region) and concentrates a significant part of the national demographic and economic potential of the country.

#### Market Overview

In consideration of electric power transmission services, PJSC MOESK performs settlements with the power supply companies (guaranteed power suppliers, power companies, direct consumers) and grid companies (LGOs, PJSC FGC of UES) according to the electric power transmission tariffs established by the Moscow Regional Energy Committee and Moscow Region Pricing and Tariffing Committee.



#### Main Consumers of Company Services



#### Competitors and Competitive Advantages

PJSC MOESK is one of the largest inter-regional distribution companies in the Russian Federation and the largest distribution company in the Moscow area.

#### Power transmission

Among the largest companies providing similar services in Moscow are JSC United Energy Company (JSC UEC) and JSC "Energokompleks", in Moscow region - JSC Moscow Region Power Grid Company (JSC "Mosoblenergo"), OJSC "Oboronenergo", CJSC "Elektrosetekspluatatsia", Municipal Unitary Enterprise "Kolomenskaya Elektroset", Municipal Enterprise of Schelkovsky district "Schelkovskie Elektroseti", Municipal Unitary Enterprise "Podolskaya Elektroset".

#### Technological connections

Among the largest companies performing similar activities in Moscow are JSC United Energy Company (JSC UEC) and JSC "Energokompleks", in Moscow region — JSC Moscow Region Power Grid Company (JSC "Mosoblenergo"), OJSC "Odintsovskaya Elektroset", OJSC "Oboronenergo", CJSC "Elektrosetekspluatatsia".

#### Strengths:

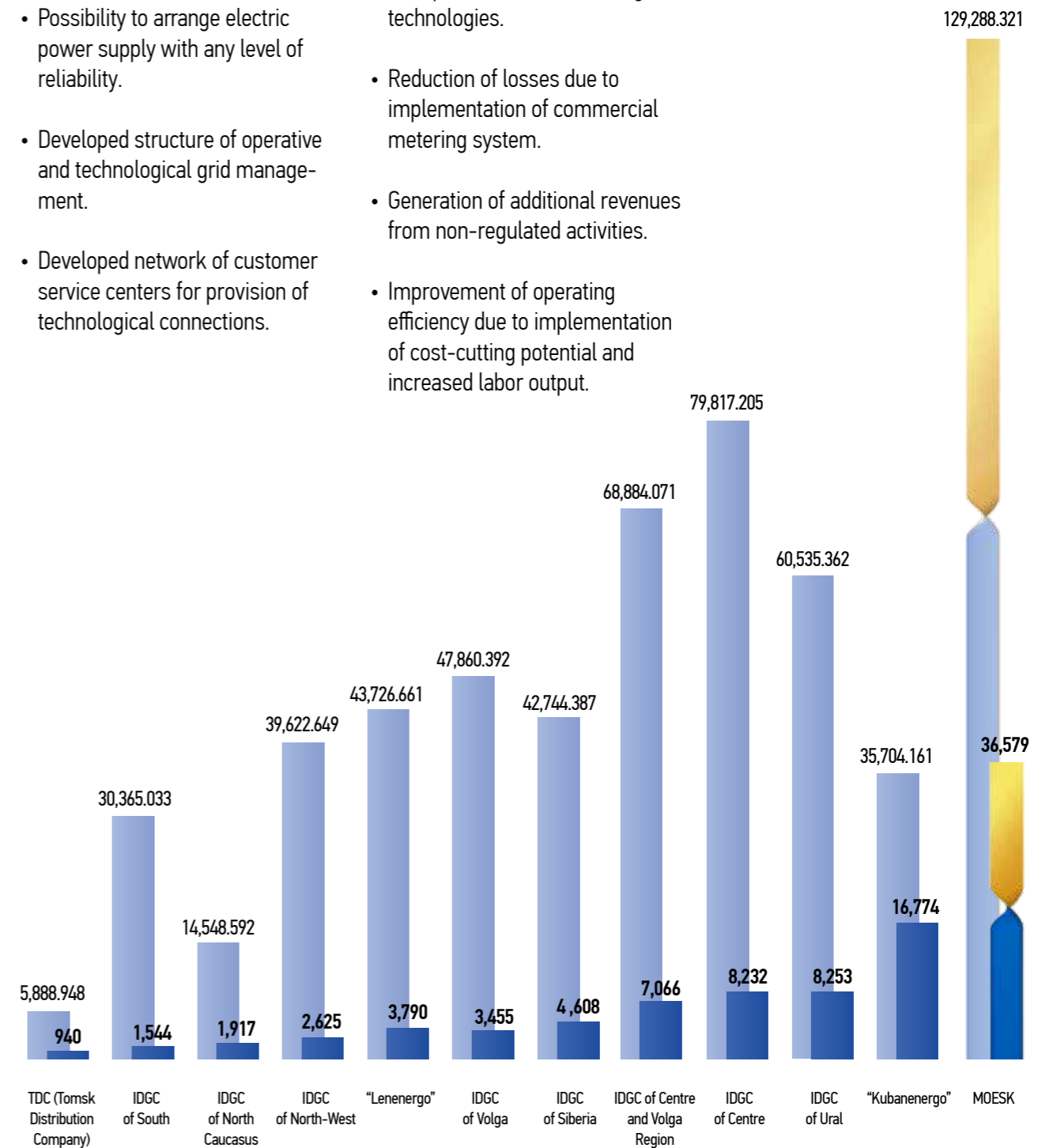
- Well-developed grid infrastructure with 0.4-220 kV rating in the Russian Federation region with the highest growth dynamics.
- Dominant position in electric power transmission market.
- Possibility to arrange electric power supply with any level of reliability.
- Developed structure of operative and technological grid management.
- Developed network of customer service centers for provision of technological connections.

#### Opportunities:

- Increase of market share due to fast development of grid infrastructure and acquisition of territorial grid companies of the second level.
- Improvement of reliability and economic efficiency of grids due to implementation of smart grid technologies.
- Reduction of losses due to implementation of commercial metering system.
- Generation of additional revenues from non-regulated activities.
- Improvement of operating efficiency due to implementation of cost-cutting potential and increased labor output.

#### Comparison of PJSC MOESK with Peer Companies Based on Results of the Reporting Year

● Market capitalization  
● Revenues for 2015 according to the RAS



## 1.4.2. Priority Fields of Activities and Development Prospects of the Company

### Strategic priorities of the Company



Improvement  
of power supply



Proactive grid  
development.  
implementation  
of new technologies



Improvement  
of service quality.  
availability  
of grid connections



Growth of investment  
attractiveness  
and capitalization



Improved  
professional level  
and loyalty  
of personnel

### Company Mission

Providing the electric power for the capital region of the Russian Federation, PJSC MOESK ensures the maximum level of reliability and availability of distribution grid infrastructure due to the use of energy-efficient technologies and innovations, and due to strict compliance with the global quality standards of service delivery and observance of the best corporate governance practices.

<sup>2</sup> Approved by the resolution of the Board of Directors dated May 29, 2013 (minutes No. 200 dated May 31, 2013).

<sup>3</sup> Approved by Russian Federation Government Ordinance No. 1715-r dated November 13, 2009 On Russian Energy Strategy for the Period through 2030.

<sup>4</sup> Moscow Energy Strategy for the Period through 2025, Electric Power Sector Development Strategy for Moscow region for the Period through 2020, Prospective Development Scheme and Program for Electric Power Sector in Moscow region for the Period through 2013-2017.

### Commentary-interview of the Director for Business Processes Automation A. A. Areshkin

The main areas of development for the next three years and strategic goals of the Company are defined by the Program of Priority Goals for the Period through 2015<sup>2</sup>. This document was developed on the basis of the provisions set forth in the Russian Federation Energy Strategy through 2030<sup>3</sup>, development strategies (including energy strategies) for the regions of Company presence<sup>4</sup> with consideration of interests and requirements of the key shareholders.

In order to improve the reliability of electric power supply to consumers, the Company fulfilled a complex of tasks, including: replacement of 1,425 km of overhead lines with self-supporting insulated conductors, arrangement of remote control functionality for 45 stations rated for 35-220 kV and 15 distribution points and transformer stations in 6-20 kV grid, clearing the overhead line routes running through forests according to the regulatory parameters (3.5 ha for HV grids and 495 km for distribution grids), organization of dispatch control point in Novaya Moskva branch of PJSC MOESK, optimization of work performed by repair and mobile work teams due to implementation of universal approach and utilization of modern equipment and tools.

In 2015, in order to provide mobile teams with additional transportation means, the Company purchased 80 transportation vehicles (20 Kamaz trucks, 56 GAZ-Sobol light commercial vehicles, 4 Ford Transit vehicles).

Due to fulfillment of the planned tasks, the average time required to

restore the power supply to consumers was reduced from 220 minutes in 2011 to 81 minutes in 2015 in Moscow region and from 50 minutes in 2011 to 23 minutes in 2015 in Moscow (within old boundaries). This indicator is considered by the Company as the key indicator which can be used to assess the achievement of goals in terms of improvement of electric power supply reliability.

In order to considerably improve the client service level, the Company fulfilled the following key tasks: complex optimization and automation of the entire cycle of technological connection to reduce the connection timeframe and simplify the connection procedures for all client categories, implementation of efficient schemes for interaction with the power supply companies to enable the clients to execute all the documents associated with technological connection services at one point, development and provision of additional services to the consumers.

Following the implementation of the above measures, the timeframe required for preparation of contracts on technological connections was reduced to 7.5 days in 2015, the share of technological connections

arranged within the time limits required by the law increased to 95%, which resulted in upgrading of Moscow position in the regional rating and Russian Federation position in the international rating of the World Bank in the category "Getting Electricity" (in the framework of the survey "Doing Business") to rank 29 (which is 24 points higher compared with the previous rating).

Due to implementation of activities aimed at proactive grid development, the share of feed centers with reserve power capacity available for technological connection of consumers was increased (to 87% in Moscow, to 82% in Moscow region).

Speaking of the main tasks associated with improvement of HR professional level and loyalty in 2015, I would like to mention the increase in the salary levels and development of incentives systems based on assessment of the employee results, increase in the share of internal training to 70.5%, establishment of candidates' pool for the key positions in the Company, higher level of occupational safety and lower occurrence of work-related injuries.



## Dynamics of Achievement of Key Indicators in the Framework of the Company's Priority Tasks for 2013-2015

Strategic objective	Indicator description	Target indicator value for 2015 in compliance with priority tasks <sup>5</sup>	Dynamics of achievement of indicators according to priority tasks		
			Actual in 2013	Actual in 2014	Actual in 2015
Improvement of electric power supply reliability	Average time required for electric power supply recovery, minutes				
	Moscow (within old limits):	45	46	37	<b>23</b>
	Moscow region:	150	122	70	<b>81</b>
	New Moscow:	120	108	57	<b>75</b>
Reliability indicator, hour/connection point:	Moscow	0.000484	0.000410	0.000308	<b>0.000245</b>
	Moscow region	0.073412	0.022525	0.009414	<b>0.004200</b>
	Improvement of service quality. Availability of technological connection	Share of contracts on technological connections which were performed in due time, %	99	83.39	89.73
Average time required to prepare an offer for the contract on technological connection (for applicants with power supply rating up to 150 kW), days		15	19.4	8.17	<b>7.47</b>
	Number of physical visits to MOESK offices in case of technological connection	<3	3	3	<b>2 maximum</b>
Proactive grid development. Implementation of new technologies	Share of feed centers with reserve capacity for technological connection of consumers, %:				
	Moscow	76	64	78	<b>87</b>
	Moscow region	72	66	79	<b>82</b>
Overall transmission power losses, %	8.55	9.16	8.77	<b>8.55</b>	
Enhancement of investment attractiveness and capitalization	Specific operation costs, RUB thous. / 1 conventional unit	17.8	17.48	15.63	<b>15.13</b>
Improvement of personnel's professional level and loyalty	Wok time loss due to work-related injuries (LTIFR), hour	4	3.79	1.23	<b>0.47</b>

<sup>5</sup> Approved by Ordinance of the Russian Federation Government No. 511-r dated April 3, 2013.

In 2015, the Company developed the draft Strategic Development Plan for 2017 and for the Period through 2020 based on the Strategy for Development of the Power Grid Complex in the Russian Federation<sup>5</sup> and the results of Priority Tasks fulfillment.

The Company defined the following priority strategic goals for the next five years:

1. Maintain the high level of economic efficiency and capitalization relative to the average industry level;
2. Achieve the reliability level indicators as required by the main stakeholders;
3. Ensure the high level of service in the field of technological connections.

In order to achieve its strategic goals, the Company sets the following strategic priorities:

### 1. Consolidation of electric grid companies in the Moscow area in the manner which would be economically beneficial for MOESK.

In the framework of this priority field, the Company plans to increase the share of gross revenue requirements (GRR) in the regions of presence and increase the share in the net supply.

### 2. Development of electric grid complex in New Moscow territories

In the framework of this priority field, the Company plans to achieve the following indicators in 2017:

- Average time required for electric power restoration — 50 minutes (Moscow within the new limits).

- New supply growth — “+15%”

### 3. Reduction of losses and minimization of operating and investment costs required to ensure the necessary level of reliability, safety, and service quality

- Reduction of specific incident occurrence rate by 10% minimum
- Reduction of spare parts stock by 15%
- Reduction of post-emergency recovery time

- Increase in the share of repair and operation activities performed using the Company's own resources due to inclusion of field service personnel into the Mobile Work Team, possibility to divide the team into several groups with operating personnel members in each group.

- Allocation of up to 15% of the total work hours of mobile work teams for performance of additional activities which are not connected with maintenance and repair tasks, e.g., for arrangement of technological connections using the Company's own resources or for performance of work on the customer's side (additional services).

- Reduction of the specific investment costs by 30% by the year 2020 relative to the level of 2012 (in RUB per physical unit — km, MVA).

The Company plans to achieve the following indicators by 2020:

- Level of electric power losses in Moscow — 7.34%
- Level of electric power losses in Moscow region — 6.83%.

### 4. Improved efficiency of technological connection process

- Number of technological connection procedures — 3
- Timeframe for preparing an offer: 3 days for electric installations rated up to 150 kW; 5 days for electric installations rated from 150 kW to 670 kW

- Connection timeframe: 90 days for electric installations rated up to 150 kW; 180 days for electric installations rated from 150 kW to 670 kW.

### 5. Development of non-regulated business types

In the framework of this priority field, the Company plans to achieve the following indicators by 2020:

- The share of revenues from additional services in the total revenues — 3%

- Sales margin for additional services — 44%.

### 6. Improvement of labor efficiency and development of human resources

The key activities for improvement of labor efficiency are:

- Rational organization of production personnel work due to optimization of mobile team work.
  - Enhancement of HR flexibility, personnel training for development of associated skills (at least 50% of team members hold permits for routine switching operations, 100% of workers performing certain tasks have associated work skills such as sling operator, tower worker, diesel generator set operator, etc.).
  - Revision of technological charts and work performance regulations.
  - Reduction of administrative and management personnel.
  - Establishment of candidates' pool for the mid-term and long-term perspectives of the Company with at least 3 candidates for each key position.
- 7. Ensuring the high safety level of electric power grid complex**
- Higher level of anti-terrorist protection for the facilities and personnel due to integration of cutting-edge information technologies into the physical protection system of the facilities; installation of additional security systems;
  - Minimized economic risks due to support of activities for implementation of large investment projects and improvement of security system for the business processes with the highest risk of corruption;
  - High information security due to protection of information and telecommunication infrastructure from the leaks of confidential information and personal data.

## 1.5. KEY PERFORMANCE INDICATORS

### Achievement of priority Company development goals is assessed based on the system of key performance indicators (KPI) implemented by the Company.

In 2015, the set of Company performance indicators was changed considerably in order to incorporate the priorities as defined by the Strategy for Development of the Power Grid Complex approved by Russian Federation Government Ordinance No. 511-r, correlate the indicators with the goals of the Long-Terms Company Development Program and fulfill certain orders given by the Russian Federation Government.

The system of key performance indicators for the Company's Director General was adopted based on:

- clause 15.1, article 15 of the Company's Articles of Association,
- resolution of the Company's Board of Directors dated April 13, 2015 (minutes No. 256) on agenda item No. 8 "Approval of methods for calculation and assessment of achievement of key performance indicators for Director General of OJSC Moscow United Electric Grid Company.

The following scope and values of key performance indicators were adopted for 2015 (Table):

### Key Performance Indicators

Scope of indicators	Target values for 2015			
	Q1	Q2	Q3	Q4
Quarter-based indicators:				
Absence of major emergency occurrence rate growth	≤ 0	≤ 0	≤ 0	≤ 0
Prevention of growth in the number of injured persons in case of accidents	≤ 0.0551	≤ 0.0551	≤ 0.0551	≤ 0.0551
Financial stability indicator — leverage ratio	≤ 1.5	≤ 1,5 or ≤ 0,8	≤ 1,5 or ≤ 0,83	≤ 1,5 or ≤ 0,76
Year-based indicators:				
TSR (total shareholder return)	≥ average value for the companies included into the base for calculation of MICEX PWR as of the end of the reporting period or ≥ average value of indicator for the previous three years before the reporting year			
Return On Invested Capital (ROIC)	≥ 0.9			
Reduction of specific operating costs	≥ 10%			
Level of power losses	≤ 8.55%			
Achievement of required reliability level of delivered services	1			
Reduction of specific investment costs	≥ 15%			
Compliance with the commissioning schedule	≥ 95%			
Compliance with the due dates for electrical connection	≤ 1.1			
Labor efficiency indicator	4.429 thous. rubles/thous. man-hours			

According to the results of 2015, the target values of key performance indicators were achieved, the degree of annual KPI fulfillment is 90%, and degree of quarterly KPI fulfillment is 100%.

The indicators for 2015 were set with consideration of necessity to achieve the target benchmarks of

the Strategy for Development of the Power Grid Complex (Russian Federation Government Ordinance No. 511-r), i.e., reduce the specific operating costs by at least 15% by the year 2017 relative to the level of 2012, reduce the specific investment costs by at least 30% and cut the electric power losses by 11% relative to the level of 2012.

The system of key performance indicators used by the Company determines the amount of variable remuneration paid to the executives: each indicator bears a certain specific relative value within the total remuneration amount; quarterly and annual bonuses are paid subject to achievement of corresponding KPIs.

2007



COMPANY'S YEAR

OJSC "MOESK" acquired a 50% stake in OJSC "Energotsentr" that was created on the initiative of the Government of the Moscow region to develop and implement investment programs in power.  
First Customer Service Center (CSC) was opened for the reception of applications for technological connection. Today the Company operates 29 CSCs.  
Substation "Govorovo" was commissioned.

1.6. QUALITY MANAGEMENT SYSTEM

One of the key objectives of the Company is to increase the availability level of electric grids infrastructure and improve the quality of electric power transmission services and technological connection

services. Development and improvement of the management system in compliance with the international standards of ISO 9000 series is the key tool for achievement of this goal. In order to ensure the sustainable

quality of delivered services, PJSC MOESK implemented and maintains its quality management system. The quality management system was developed in compliance with the requirements of ISO 9001.

Development of Quality Management System

2008

the quality management system was certified for compliance with the requirements of ISO 9001:2000

2009

the quality management system was updated to meet the requirements of ISO 9001:2008

2011

the scope of QMS certification was expanded to the branch of PJSC MOESK — Moscow Cable Grids

2012

the scope of certification was expanded to the regional electric grid branches of the Company

2013

second supervisory audit in the framework of expanded certification scope

2014

adaptation of management system operated by «Energouchet» branch to the requirements of ISO 9001:2008

2015

certification of quality management system for compliance with requirements of ISO 9001:2008

In 2015, the quality management system of PJSC MOESK was certified by Bureau Veritas Certification Holding SAS for compliance with requirements of ISO 9001:2008 with the following scope of certification: Provision of electric power transmission and distribution services and connection to electrical grids of PJSC MOESK.

Currently, the quality management system of PJSC MOESK covers all the executive bodies and branches of the Company.

In 2016, the Company plans to perform activities aimed at development of PJSC MOESK quality

management system, including as related with preparation for successful completion of the first supervisory audit of PJSC MOESK quality management system for the following application field: Provision of electric power transmission and distribution services and connection to electrical grids of PJSC MOESK with application to the following Company branches:

- Moscow Cable Networks
- Moscow HV Grids
- Southern Electric Networks
- Western Electric Networks
- Eastern Electric Networks
- Northern Electric Networks
- "Energouchet"
- Novaya Moskva

