

# **ANTIMONOPOLY COMMITTEE OF UKRAINE**

## **REPORT on the results of comprehensive research of electricity and thermal coal markets**

**APPROVED**

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of Ukraine

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## INTRODUCTION

- (1) Production, supply, transmission and distribution of electricity in the modern world constitute strategic economic activities, effective operation of which has impact on smooth functioning of other sectors of the national economy and the economy in general. This is due to the infrastructural nature of the industry, favorable for multiplication of all effects produced by it: both positive and negative ones. In this context, it is vital to understand the nature of competitive relations that develop between members of the relevant markets.
- (2) *According to the draft of New Energy Strategy of Ukraine, energy industry ~ is a guarantee of state sovereignty, the element of good governance, reliable basis for sustainable development of competitive economy and an integral part of the European energy space<sup>1</sup>.* Reliable and sustainable operation of the energy industry to a significant extent determines how quickly Ukraine will overcome a crisis and affect the level of energy security as a component of national security.
- (3) The development of energy market competition and preventing its elimination and restriction is one of the main commitments undertaken by Ukraine under the Treaty establishing the Energy Community<sup>2</sup>.
- (4) In accordance with Articles 18 (c) and 18 (2) of the Treaty: Any state aid in favor of certain entities or certain energy resources is not compatible with the Treaty, as it may affect trade of energy and materials transported by networks, and cause the need for trade evaluation based on the criteria used in the EU.
- (5) This causes the need for improved legal regulation of competition and state aid to entities, and its harmonization with the principles developed by the EU.
- (6) Furthermore, under the Ukraine–European Union Association Agreement signed in 2014<sup>3</sup>, our country assumes a duty to comply with international obligations to ensure the principle of transparency, non-discrimination and procedural fairness<sup>3</sup> in application of the competition law.
- (7) One of the components of the Association Agreement between Ukraine and the EU is Ukraine's commitment to create an effective system of monitoring and control of state aid to business entities.
- (8) Therefore, there is need for detailed study of the competition problems in the electricity market and formulation of proposals for their solution.
- (9) However, it is necessary to adopt national legislation on state aid, which will create an effective system of monitoring and control of state aid to business entities and bring the program of state aid in line with the criteria set out in Articles 262 and 264 of this Treaty.
- (10) Electricity is a commodity, which is characterized by synchronicity of production and consumption.
- (11) (Active) electricity is energy, which appears in the market as a product different from other products due to special consumer properties and physical characteristics (simultaneous production and consumption, the impossibility of storage, return and diversion), which determine the need for regulation of use of this product<sup>4</sup>.
- (12) Demand for electricity is formed by end consumers - private individuals and legal entities that consume it to satisfy their own needs.
- (13) Demand for electricity varies according to time of day and season.
- (14) Demand for electricity is satisfied by marketable product "electricity", which is produced at power plants, imported to Ukraine and must meet the requirements of statutory regulations.
- (15) Given the primary energy carrier, which is converted into electricity in the technological process at a power plant, power plants are divided into thermal, nuclear, hydro, wind, solar and other power plants. The primary energy carrier determines technical and operational characteristics, production conditions and the cost of electricity.
- (16) The fuel component in NPP price structure reaches 30%, in coal TPP and coal and gas CHPP – up to 80%, in gas and fuel oil TPP and CHPP - up to 95%.

<sup>1</sup> New Energy Strategy of Ukraine: safety, energy efficiency, competition // [http://www.uceps.org/upload/Draft%20Strategy\\_00%20\(7\).pdf](http://www.uceps.org/upload/Draft%20Strategy_00%20(7).pdf)

<sup>2</sup> Ukraine was granted the status of the Contracting Party to the Energy Community of South East Europe as of February 1, 2011. Protocol of Ukraine's accession was signed on September 24, 2010 and ratified by the Law of Ukraine on Ratification of the Protocol of Ukraine's Accession to the Treaty establishing the Energy Community as of December 15, 2010 No. 2787/II.

<sup>3</sup> The Association Agreement between Ukraine, on the one part, and the European Union, the European Atomic Energy Community and their Member States, on the other part

<sup>4</sup> According to the Electricity Usage Rules approved by the resolution of NERC No. 28 as of July 31, 1996

- (17) The cost of fuel has considerable impact on the inclusion of TPP units into the load schedule, and, therefore, on a competition between the various units of generating TPP companies for the opportunity to sell marketable product – electricity.
- (18) TPPs are the main consumers of thermal coal in Ukraine.
- (19) A lack of reserves of primary energy carrier (thermal coal) in warehouses of generating TPP companies significantly limits or even prevents the production of electricity.
- (20) The need for constant and continuous balance of supply and demand - consumption and production - is crucial for safe and smooth operation of the industry.
- (21) Given the above, the demand for electricity is formed by the end consumer and is satisfied by producers and importers of electricity.
- (22) However, other electricity market participants act as intermediaries between producers and end consumers of electricity and have significant impact on consumption and production of electricity.
- (23) Under the orders of Chairman of the Antimonopoly Committee of Ukraine of June 3, 2015 No. 13-01/334 on a comprehensive research of electricity and thermal coal markets of Ukraine in 2013, 2014 and the first half of 2015, and under paragraph 5 of the Decision of the National Security and Defense Council of Ukraine of May 6, 2015, put into effect by the Decree of the President of Ukraine of May 28, 2015 No. 298/2015, on measures to control legislation on economic competition protection in relation to business entities operating in the coal, electricity, oil and oil products, natural and liquefied gas markets, in order to prevent the violations of legislation on economic competition protection, and under Article 7 of the Law of Ukraine "On Antimonopoly Committee of Ukraine", Antimonopoly Committee of Ukraine conducted a comprehensive research of electricity and thermal coal markets in Ukraine.
- (24) The Antimonopoly Committee of Ukraine requested and received information from more than 200 business entities operating in the electricity and thermal coal markets, in particular from NAEK Energoatom SE, Energorynok SE, Ukrenergo SE, generating TPP companies, business entities generating electricity at hydro-electric power plants, thermal power plants, and power plants using alternative energy sources and market analysts.
- (25) At this, the Antimonopoly Committee of Ukraine sent 70 formal requests to business entities engaged in production and sale of thermal coal in Ukraine.
- (26) The Antimonopoly Committee of Ukraine received appropriate explanations and information from the National Energy and Utilities Regulatory Commission, and the Ministry of Energy and Coal Mining of Ukraine.
- (27) For the purpose of complete, objective and comprehensive research of the electricity markets functioning, for clarification of the state of competition and establishment of optimal ways and methods of its development, the Antimonopoly Committee of Ukraine held round tables, public discussions, involved domestic and international experts (from the EU, Canada and the United States).
- (28) Preliminary results of the research were presented to the public on December 24, 2015 and published on the official website of the Antimonopoly Committee of Ukraine.
- (29) In addition, the bodies of Antimonopoly Committee of Ukraine in 2015 examined applications and cases on violations of legislation on economic competition protection in the activity of certain business entities and public authorities at the respective markets. The files of respective cases and applications were taken into account during the preparation of this report.
- (30) In addition, under the order of the Prime Minister of Ukraine of May 7, 2015 No. 17233/2/1-15 on implementing the action plan for performance in 2015-2016 of Ukraine's obligations with regards to the control of the state aid in the energy sector, arising out of the Treaty establishing the Energy Community, the Antimonopoly Committee of Ukraine being supported by EU project "Harmonization of the State Procurement System in Ukraine with the EU standards" has been implementing the Pilot Project on analysis of programs and activities of state aid in the energy sector of Ukraine. Preliminary results of the analysis are presented in this report.

- (31) The full report on the results of the Pilot Project on analysis of programs and activities of state aid in the energy sector of Ukraine will be presented by the Antimonopoly Committee of Ukraine in late June 2016.

# 1. STATUTORY FRAMEWORK OF FUNCTIONING AND STATE REGULATION IN THE FIELD OF ELECTRICITY

## 1.1. ELECTRICITY GENERATION, SUPPLY, TRANSMISSION AND DISTRIBUTION LEGISLATION

- (1) Generation, supply, transmission and distribution of electricity is subject to:
  - 1) The Laws of Ukraine "On Electricity", "On Fundamentals of the Operation of the Electricity Market", "On Natural Monopolies";
  - 2) The Terms and Conditions for business of electricity supply at unregulated tariff approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 36 dated August 12, 1996;
  - 3) The Terms and Conditions for business of electricity supply at regulated tariff approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 15/1 dated June 13, 1996;
  - 4) The Terms and Conditions for business of electricity production approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 3 dated February 8, 1996;
  - 5) The Terms and Conditions for business of electricity transmission via trunk and interstate electric networks approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 152 dated October 11, 1996;
  - 6) The Terms and Conditions for business of electricity transmission via local electric networks approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 15 dated June 13, 1996;
  - 7) GKD 34.20.507-2003 "Rules. Technical operation of power plants and networks"; other laws and statutory regulations, and statutory technical documents;
  - 8) AMWEM;
  - 9) licenses issued by the NEURC;
  - 10) other laws and statutory regulations, and statutory technical documents.
- (2) Substantive analysis of legislative support of functioning of electricity market of Ukraine provides grounds to believe that under the current market model, the freedom to conduct business (commercial or investment) activity of its participants (electricity generation and distribution companies) is significantly restricted by law<sup>5</sup>.
- (3) There are also substantial market restrictions on the freedom of action of end electricity consumers, who have limited choice of electricity supply companies. At this, the population has no option to choose or change electricity supplier.

### *The National Energy and Utilities Regulatory Commission*

- (4) State regulation of activities in the energy industry is conducted by forming tariff policy in accordance with legislation, granting licenses for certain activities in the energy industry, control over activities of electricity companies and other electricity market participants and establishing responsibility for violation of the terms and rules of their activities in the energy industry and in the electricity market<sup>6</sup>.
- (5) The electricity activity regulatory agency is the National Energy and Utilities Regulatory Commission (NEURC).
- (6) The NEURC regulates the activity of natural monopolies in the energy industry and business entities, which operate in adjacent markets, and performs other functions according to law.
- (7) The NEURC, according to its tasks, in particular<sup>7</sup>:

<sup>5</sup> The conclusion is made on the grounds of information obtained from SE "Energoynok" during the research, from electricity producers, market experts and scientists, including information provided in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

<sup>6</sup> Article 11 of the Law of Ukraine "On Electricity".

<sup>7</sup> In accordance with Regulations on the National Energy and Utilities Regulatory Commission approved by the Decree of the President of Ukraine No. 715/2014 dated September

- 1) participates in the formation and implementation of the state policy in the functioning of the electricity, natural gas, oil and oil products markets, in the sphere of heating, centralized water supply and disposal, recycling and disposal of waste;
  - 2) conducts licensing of business activities in the areas of electricity, heat supply, centralized water supply and disposal and oil and gas sector in accordance with applicable law;
  - 3) develops and approves:
    - Instruction on the procedure for issuing licenses for business activities in the field of electricity and heating;
    - Terms and conditions for the licensed activity;
    - Procedures (methods) for formation of prices and tariffs for goods (services) produced (provided) by natural monopolies and entities that carry out activities in the adjacent markets in the electricity, heat supply, centralized water supply and disposal, waste recycling and disposal, in the natural gas, oil and oil products markets;
    - Electricity Usage Rules;
    - Procedures for investment programs formation;
    - Calculation method of charge for connection of electric power stations to electric networks;
    - Procedure for financing the electric power stations connection services to electric networks;
    - Procedure for the auction for access to electricity capacity of interstate networks of Ukraine;
    - Funds allocation algorithms;
    - Factors of reliability and commercial quality of services of natural monopolies;
    - Economic ratios of standard technical electricity usage and criteria for determining the classes of electricity consumers, differentiated by voltage level;
  - 4) participates in the regulation of payment and settlement operations in the area of electricity, heat supply, centralized water supply and disposal, recycling and disposal of waste, the natural gas market in accordance with the law;
  - 5) sets the prices (tariffs) for electricity, and tariffs for its transmission and distribution;
  - 6) determines the conditions of access to the goods (services) produced (provided) by natural monopolies;
  - 7) within its powers, approves agreement between the members of the wholesale electricity market and annexes thereto;
  - 8) determines the compliance of liquidation, reorganization in the form of merger, affiliation, participation in associations, as well as the acquisition or alienation of more than 25 percent of shares (stocks) of assets of business entities, operating in the area of electricity, heating, water supply and disposal and more than 10 percent of shares (stocks) of assets of business entities, operating in the area of natural gas, with the license conditions for business activity;
  - 9) within its powers, takes measures for adapting Ukraine's legislation on natural monopolies and adjacent markets to the EU legislation.
- (8) The Ministry of Energy and Coal Mining of Ukraine, according to its tasks, in particular<sup>8</sup>:
- 1) defines priority directions of the energy sector development;
  - 2) provides legal regulation in the energy sector;
  - 3) forms the electricity forecast balance in the united energy system of Ukraine;
  - 4) approves state enterprise that provides dispatching (operational and technological) control of the united energy system of Ukraine;
  - 5) approves the investment programs of licensees for electricity transmission and supply;
  - 6) establishes operating organization (energy company) to ensure safe operation of nuclear power plants, as well as specialized enterprises (companies) for handling radioactive waste prior to its transfer for long-term storage and disposal;

10, 2014.

<sup>8</sup> According to the Regulations on the Ministry of Energy and Coal Mining of Ukraine approved by the Decree of the President of Ukraine No. 382/2011 as of April 6, 2011.

- 7) approves annual financial and investment plans, as well as mid-term investment plans (3-5 years) of subordinated state enterprises, and business entities in which the Ministry of Energy and Coal Mining of Ukraine manages state corporate rights, and carries out monitoring in accordance with legislation;
  - 8) under the law, participates in determining the manner and conditions of privatization of the energy sector's entities;
  - 9) approves development programs of the energy sector and controls their implementation.
- (9) Functions and actions of the NEURC regarding the electricity market regulation, and functions and actions of the Ministry of Energy and Coal Mining of Ukraine regarding the public administration in the energy sector (industry) significantly affect the product (electricity) circulation conditions at the market.

### ***Electricity generation***

- (10) Electricity generation - business activity related to the transformation of energy of any origin, including alternative energy sources, to electricity by technical means in order to sell it under a contract<sup>9</sup>.
- (11) Electricity is produced by power plants - electrical units or groups of electrical units intended for production of electricity or combined production of electricity and heat.
- (12) The electricity produced must comply with electricity quality defined by the state standards including the Interstate standard GOST 13109-97 "Electricity. Electromagnetic Compatibility of Technical Means. Electricity quality standards in public electricity supply systems", put into force as the State Quality Standard of Ukraine by the Order of the State Committee for Technical Regulation and Consumer Policy No. 354 as of June 18, 1999 from January 1, DSTU 13109-97 "Electricity state standards in public electricity supply systems"<sup>10</sup>.
- (13) Electricity generation of the in amounts exceeding the level set by the Terms and Conditions for the electricity generation (license terms) is the sector adjacent to the natural monopoly<sup>11</sup>.
- (14) Electricity generation is subject to obtaining a license, issued by the NEURC. Electricity generation without a license is allowed if the installed capacity or electricity supply is lower than indicators specified in the Terms and Conditions for the business of electricity production<sup>12</sup>.
- (15) All electricity produced at power plants, power or supply volume of which exceeds the marginal indicators (except as provided by the Law of Ukraine "On Electricity") is purchased at the WEM<sup>13</sup> by SE "Energoynok".
- (16) There are some exceptions to the sale of electricity in the WEM by electricity generating companies:
  1. Excepted electricity is the electricity that<sup>14</sup>:
    - Used only for the needs of power plant;
    - Generated by power plants with installed capacity below 20 MW;
    - Generated by power plants which supplied less than 100 million kWh in the UES of Ukraine in the previous year.
  2. Under Article 15 of the Law of Ukraine "On Electricity":
    - Electricity generated by CHPP members of the energy suppliers may be sold for their own consumption in the territory of the licensed activity;
    - Electricity generated from alternative energy sources (except for blast furnace and coking gases, and in case of hydro energy - only by micro, mini and small HPPs), can be sold in the WEM under contracts with consumers or contracts with energy suppliers;
    - Electricity generated from solar and/or wind power by power plants (generating facilities) of private households, installed capacity of which does not exceed 30 kW,

<sup>9</sup> Article 1 of the Law of Ukraine "On Electricity".

<sup>10</sup> Letter of SE "Energoynok" No. 01/31-9506. as of August 13, 2015.

<sup>11</sup> Article 6 of the Law of Ukraine "On Natural Monopolies".

<sup>12</sup> Article 13 of the Law of Ukraine "On Electricity".

<sup>13</sup> Article 15 of the Law of Ukraine "On Electricity".

<sup>14</sup> The Terms and Conditions for business of electricity production approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 33 as of February 8, 1996;



shall be purchased at "green" tariff in the amount exceeding such private households' monthly electricity consumption by energy suppliers engaged in the supply of electricity at regulated tariff within the licensed territory.

3. Under Article 9 of the Law of Ukraine "On combined heat and power generation (cogeneration) and waste energy potential", owners of qualified cogeneration units, in accordance with legislation of Ukraine, together with other business entities that generate and supply electricity, are entitled to sell all or part of the electricity produced by them in the WEM, to local power supply companies, which electric networks cogeneration units are connected to, and under contracts with consumers throughout Ukraine notwithstanding the electric capacity of cogeneration unit.
  4. According to the Ruling of the Cabinet of Ministers of Ukraine No. 263 as of May 7, 2015 "On regulation of relations in the power sphere in the area where the public authorities are temporarily not performing their powers or not performing their powers in full", electricity, produced in uncontrolled territories, is sold in respective area to respective entities under the terms of multilateral agreement. The Order of the Ministry of Energy and Coal Mining of Ukraine No. 273 as of May 8, 2015 contains the list of electricity generators, units of which (equipment and/or power equipment) are located in an area where public authorities are not performing their powers or not performing their powers in full. Therefore, generators, specified in this List, do not sell electricity at the WEM.
- (17) At the same time, all electricity, imported to Ukraine under bilateral agreements is sold at the WEM, as well as electricity generated by individual generators, who are not legally bound to sell electricity in the WEM<sup>15</sup>.
  - (18) At the same time, imports of electricity are carried out under the decision of the Ministry of Energy and Coal Mining of Ukraine and upon access of the respective state importer to interstate networks of NEC Ukrenergo SE.
  - (19) Therefore, electricity:
    1. Generated in volume exceeding the level set by the Terms and Conditions for business on electricity generation (license terms).
    2. Electricity generated by power plants, capacity or supply volume of which is lower than marginal indicators, if respective generator acquired the status of the WEM participant and sells its electricity to Energorynok SE under respective bilateral agreements.
    3. Electricity imported to Ukraine forms a single commodity market - national electricity market which is acquired by Energorynok SE for wholesale supply of electricity in the WEM of Ukraine, which constitutes an adjacent market.
  - (20) Electricity generators sell at the WEM a unified standardized product - electricity that is interchangeable in terms of consumer (buyer), depending on the source of origin (generation method), and not interchangeable with other goods (works and services).
  - (21) Purchase by Energorynok SE of other goods (works and services), in addition to electricity, from electricity generators is not provided for by the electricity legislation, AMWEM and relevant bilateral agreements<sup>16</sup>.
  - (22) Electricity generators, depending on the electricity sale conditions in the WEM, are divided into:
    - Generators working through price bidding - energy generating companies - TPP (namely: Centrenergo PJSC, Donbasenergo PJSC, DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC), and other generators under the relevant decision of the Market Council;

<sup>15</sup> The conclusion is made on the grounds of information obtained from SE "Energorynok" during the research, from electricity producers, market experts and scientists, including information provided in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

<sup>16</sup> The conclusion is made on the ground of analysis of the Laws of Ukraine "On Electricity", "On Fundamentals of the Operation of the Electricity Market", delegated legislation, AMWEM, bilateral agreements (for example, contracts entered into by and between Energorynok SE and DTEK Skhidenergo LLC (No. 1034/01 as of April 1, 2002), Centrenergo PJSC (No. 71/01-EP as of September 7, 1999), Donbasenergo PJSC (No.70/01-EP as of August 31, 1999), DTEK Dniproenergo PJSC (No. 69/01-EP as of August 30, 1999), DTEK Zakhidenergo PJSC (No. 62/01-EP as of August 17, 1999), NAEK Energoatom SE (No. 698/05-HAEK/640/01 as of May 18, 2001), Ukhidroenergo PJSC (No. 3304/01 as of January 31, 2006), Ukrinterenergo SFTC (No. 4297/02 as of October 31, 2008) and Dunaiska SPP-1 LLC (No. 9000/2 as of October 19, 2015).

- Generators not working through price bidding - energy generating companies - NPP, HPP, HPSP, CHPP, "green" generators and importers (sell electricity at the WEM at tariffs approved by the NEURC).
- (23) The electricity sale-purchase process from generators at the WEM has features related to electricity as a commodity.
  - (24) In order to meet the needs of electricity end consumers, long-term, mid-term and short-term stage-by-stage planning of electricity generation is carried out.
  - (25) The electricity forecast balance of the UES of Ukraine and the electricity, fuel and costs forecast balance of generating companies TPP for the relevant period (year, quarter, month), which contain scheduled forecast volume of electricity supply in the WEM for each type of generating plants and imports.
  - (26) Long-term and mid-term planning of operation of the UES of Ukraine is provided by the Ministry of Energy and Coal Mining of Ukraine by compiling and approval of the Electricity Forecast Balance of the UES of Ukraine and the Electricity, Fuel and Costs Forecast Balance of Generating Companies TPP for the relevant period (year, quarter, month), which contain scheduled forecast volume of electricity supply in the WEM for each type of generating plants and imports.
  - (27) Procedure for compiling the Electricity Forecast Balance of the UES of Ukraine and the Sale-Purchase Forecast Balance in the UES of Ukraine for the following billing month, approved by the Order of the Ministry of Energy and Coal Mining of Ukraine No. 246 as of May 13, 2009 number 246, does not reflect the mechanism of formation of specific volumes of electricity generation by each type of generation, approaches to proportional load distribution between the plants and the importers and is not sufficiently clear and transparent, which under certain conditions can lead to violations of legislation on protection of economic competition<sup>17</sup>.
  - (28) Short-term planning of electricity generation is carried out by Energorynok SE by compiling a day-ahead hourly load schedule.
  - (29) Energorynok SE plans hourly load for each electricity generator's power unit according to the supply forecast for each settlement period based on suppliers' bids.
  - (30) Load schedules for the following day are compiled by complex software, which is operated by Energorynok SE, agreed with NEC Ukrenergo SE, which, in case of disagreement, makes final decision on the distribution of load, and notified to the relevant generators.
  - (31) A day-ahead load schedule approved by NEC Ukrenergo SE is provided to all generators and dispatching center of NEC Ukrenergo SE.
  - (32) According to the explanations of the WEM Council<sup>18</sup>: *"For generators working through price bidding, electricity is purchased by a wholesale supplier on the ground of the results of the selection of units of respective generators to the load schedule at the cheapest calculated price under the price bid. In the event of surplus of stated generating capacity, Administrator of payments system (hereinafter referred to as the APS), on the ground of units arrangement for the settlement period of expected maximum coverage of electric load from the cheapest to the most expensive, has the right not to include in the schedule of electric load the producers working through price bids with the highest calculated price bids, which means to refuse the purchase of electricity from respective producers (Section 5 of the WEM Rules)."*  
*For all other categories of generators, prices (tariffs) are approved by the National Energy and Utilities Regulatory Commission. According to the WEM Rules, wholesale supplier cannot refuse to buy electricity from such generators."*
  - (33) All electricity generators, regardless of the type of pricing, shall:
    - When submitting the appropriate bid to Energorynok SE, declare their readiness to generate electricity in accordance with relevant declared volumes;
    - Compete in the volumes of sold electricity in the WEM and therefore seek to maximize their profits<sup>19</sup>.

<sup>17</sup> Currently, the Ministry of Energy and Coal Mining of Ukraine and the Committee are developing the new Procedure for compiling the annual and monthly electricity forecast balance of the UES of Ukraine.

<sup>18</sup> The Letter of the WEM Council No. 645 as of September 2, 2015.

<sup>19</sup> Supported by the experts conclusions (in particular specified in the letter of NGO "Energy Association of Ukraine" No. 02-704/1 as of August 14, 2015) and market participants (in particular those specified in the statement of DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC No. 17/1358 as of June 24, 2015).

- (34) However, in case of failure by the generator to submit respective bid declaring its willingness to sell electricity in the WEM, Energorynok SE cannot include such generator to the load schedule. In this case, Energorynok SE will take measures to cover appropriate volume of demand for electricity by including other generators and/or imports in the schedule.
- (35) At the same time, competition in the electricity market for generation is exposed to administrative intervention by the state, including through the provision of preferences (priorities) to certain types of generation<sup>20</sup>.
- (36) Moreover, all generators have priorities (preferences) stipulated by law, statutory technical documents and AMWEM in respect of involving into the distribution of production volumes (resource filling of the market), in particular:
- Capacity of "green" generators is included in the schedule by priority;
  - Declared capacities of large HPPs and HPSPPs are included in the schedule by priority based on requirements for operation of the Dnipro and Dnister cascades;
  - Priority inclusion of external flows operators (in particular, importers) to the schedule is ensured;
  - NPPs operate mainly under basic schedule due to the low flexibility potential and requirements for safe operation;
  - CHPPs operate mainly under basic schedule in accordance with the need for heating schedule;
  - For each TPP, minimum equipment and minimum capacity are approved, which are included in the schedule.
- (37) Priorities for inclusion in the schedule are provided not for individual business entities, but for certain types of generating equipment.
- (38) The most intense competition is in the struggle for the remaining demand and is between generators working through price bidding.
- (39) At the same time, the availability of priorities (preferences) may lead to non-optimal load distribution between different types of generation, priority purchase of more expensive electricity as compared to cheaper electricity, and uneven distribution of costs.
- (40) Adjustments and definition of generation volumes (generating equipment load) and import in current day are conducted by dispatching center of NEC Ukrenergo SE.
- (41) However, there are no bilateral agreements, which would have regulated relations between generators and NEC Ukrenergo SE on central dispatching (operational) control of the UES of Ukraine (and economic activities of respective generators), as well as on electricity transmission via trunk and interstate networks<sup>21</sup>.
- (42) Electricity generators are prohibited from changing, at own discretion, the load of generating equipment and deviate from the load control schedules approved by NEC Ukrenergo SE and Energorynok SE<sup>22</sup>.
- (43) The mechanism of liability for operational violations and failure to comply with the schedule currently exists only in relation to generators working through bidding, in the form of reduced payment of unit for disruption in accordance with paragraph 8.3.1 of the WEM Rules (actual penalties).
- (44) No sanctions are imposed on other market participants for operational violations and failure to comply with the schedule.
- (45) Disproportionate responsibility of the WEM generators for operational violations and failure to comply with the schedule under certain conditions can lead to violations of legislation on protection of economic competition.

<sup>20</sup> Supported by the experts' and scientists' conclusions, in particular by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine), Memorandum "Issues of competition law in the study of electricity market conducted by the AMCU" (author: Latham & Watkins), the Expert opinion on the conformity of the AMCU conclusions on the definition of dominance and collective dominance in the WEM to the EU law enforcement practice (author: K.V. Smimova, LL.D., associate professor (T. Shevchenko Kyiv National University)), the Expert opinion on the correct interpretation and application of certain provisions of Article 12 of the Law of Ukraine "On Protection of Economic Competition" (authors: A.R. Matsyuk, LL.D., professor, honored lawyer of Ukraine; M.Ya. Shvets, ScD in Economics, professor, honored scientist of Ukraine; T.V. Skomorokha, PhD in Law, honored lawyer of Ukraine).

<sup>21</sup> Conclusion made on the ground of information obtained from electricity generators and NEC Ukrenergo SE.

<sup>22</sup> to Article 14 of the Law of Ukraine "On Electricity", AMWEM and statutory technical documents.

- (46) Price competition in the electricity market is limited by the state through the NEURC<sup>23</sup>.
- (47) The NEURC each month, based on the tariffs for end consumers, approves forecast WMP for the following month, and approaching actual WMP to the forecast level in conditions of constant fluctuations in demand for electricity and the structure of its supply in the WEM is conducted by adjusting the indicators used to calculate payments to generators working through bidding.
- (48) Tariffs of different generators for electricity depend on changes in prices for primary energy sources and seasonal changes in the structure of electricity generation.
- (49) Electricity tariffs for generators not working through bidding, is pre-approved by the NEURC (for the following year with the possibility of adjustment) according to the Procedure for calculation of tariffs for electricity and heating produced by TPP, CHPP, NPP and units using non-conventional or renewable energy sources approved by the resolution of the NERC No. 896 as of October 12, 2005.
- (50) Tariffs for generators not working through bidding are formed by "cost-plus" method, which contributes to the cost of electricity and does not encourage generators to reduce inefficient expenses.
- (51) Therefore, the tariff for generators not working through bidding is not transparent and requires improvement in order to avoid prerequisites for violations of legislation on economic competition protection and price competition development in the WEM.
- (52) Tariff for electricity for generators not working through bidding is set at the average sale price of electricity in the WEM by each of respective generators that approved by the NEURC.
- (53) The average sale price of electricity is determined by the volume of electricity supplied to the WEM by the respective generator and the amount of variable and fixed payments accrued to the generator.
- (54) The method of calculation of variable payments is provided for by subsections 8.1-8.7 of the WEM Rules. They include the following:
  - Payment for electricity sold in the WEM;
  - Payment for the deviation of actual generation from given schedule to create reserve and for compliance with system requirements;
  - Payment for operating capacity;
  - Payment for flexibility;
  - Payment for unit start up;
  - Payment for discharge below the minimum plant equipment;
  - Reducing payment of unit for operational violations;
  - Reducing payment for non-compliance with planned deadlines for major, medium and minor repairs.
- (55) Application of fixed payments is provided for by sub-section 8.8 of the WEM Rules, according to which hourly rates of payments from producers working through bidding are determined under monthly rates of such payments set by resolutions of NEURC.
  - Additional payment for the reconstruction and modernization of generator's power equipment (defined for each settlement period of day schedule according to the monthly rate set by the resolution of NEURC);
  - Additional payments pursuant to laws and governmental decisions for repayment of bad debt (defined for each settlement period of day schedule according to the monthly rate set by the resolution of NEURC);
  - Additional payment for resolution of any dispute in connection with the measurements specification or other agreed adjustments (defined for each settlement period of day schedule according to the monthly rate set by the resolution of the WEM Council and approved by NEURC);
  - Additional payment for units construction to generators working through bidding (defined for each settlement period of day schedule according to the monthly rate set by the resolution of NEURC);

<sup>23</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

- Additional payment to reduce the payments to the generator working through bidding for the use of additional funds received (defined for each settlement period of day schedule according to the monthly rate set by the resolution of the WEM Council (based on submission of Energorynok SE) and approved by NEURC;
  - Payment to the generator for violation of the reconstruction and modernization plan of thermal power plants (defined for each settlement period of day schedule according to the monthly rate set by the resolution of NEURC).
- (56) Based on the set load schedule, Energorynok SE defines for generators, working through bidding, the system marginal price, operating capacity price and flexibility price on the following principles:
1. System marginal price (SMP), in accordance with paragraph 5.7.1 of the WEM Rules, is determined by the price of the most expensive flexible unit among flexible units of generators included to load schedule and working through bidding in each settlement period of the day. SMP is the price at which payment is accrued for the supplied electricity to all units of generators working through bidding. In this case, in order to prevent the increase of payments for electricity for generating companies TPP, paragraph 5.7.2 of the WEM Rules provides for SMP restriction set by the NEURC (Kneure).
  2. Price of operating capacity, price for flexibility and price for the discharge below the minimum plant equipment are calculated by Energorynok SE and may be adjusted (reduced) in order to ensure that actual WMP does not deviate from the forecast by more than 0,015%.
- (57) The amount of funds that will be received by generation companies largely depends on decisions of the NEURC with regards to defining the tariffs, prices, ratios, etc., which under certain conditions can lead to distortion of market pricing mechanisms and price competition between the WEM entities.
- (58) The WEM Rules define the role of the NEURC in formation of payments to be accrued to generators, working through bidding, by approval of forecast WMP, system marginal price and adjustment rates and payments, however:
1. There is no regulatory act that would have regulated the formation of SMP restriction (Kneure), and actual Kneure is significantly lower than the actual bids of market participants<sup>24</sup>.
  2. There is no transparent Procedure for compiling of the Electricity forecast balance of the UES of Ukraine and the its Sale-purchase forecast balance in the UES of Ukraine for the next settlement month, and data of forecast balances compiled under the following conditions is used to calculate forecast WMP<sup>25</sup>.
  4. There is no regulatory act which would have settled the issue of determining the payments for construction of units to generators working through bidding.
  5. The Procedure for approval and adjustment of the investment component in the electricity tariff, approved by the Ruling of the NERC No. 999 as of July 18, 2013, under which is the formation of payments for the reconstruction and modernization of power equipment of generators working through bidding is not transparent.
- (59) At the same time, there is a widespread practice of additional payments pursuant to legislation and government decisions, repayment of bad debts.
- (60) In particular, during the period of temporary emergency measures in 2014 and 2015 the NEURC adopted a number of resolutions regarding the reallocation of funds on the wholesale electricity market and establishing certain surcharges to the rate of Centrenergo PJSC, Donbasenergo PJSC totaling more than UAH 250 million, and provided advance payments to Donbasenergo PJSC of over UAH 70 million, which can lead to a preference for electricity generators over others and, as a result, may lead to restriction or distortion of competition in the electricity market.
- (61) Therefore, despite the considerable economic potential of electricity market participants (including major generators), the state, represented by the Ministry of Energy and Coal Mining of Ukraine and the NEURC, takes measures aimed at repressing the entities' market power by regulating the

<sup>24</sup> Currently on the ground of Preliminary conclusions of the Committee under the study, as well as the recommendations of the Committee as of September 17, 2015 12-pk, provided by the NEURC, the WEM Council is developing amendments to the WEM Rules to introduce transparent and non-discriminatory mechanism of formation of SMP and Kneure.

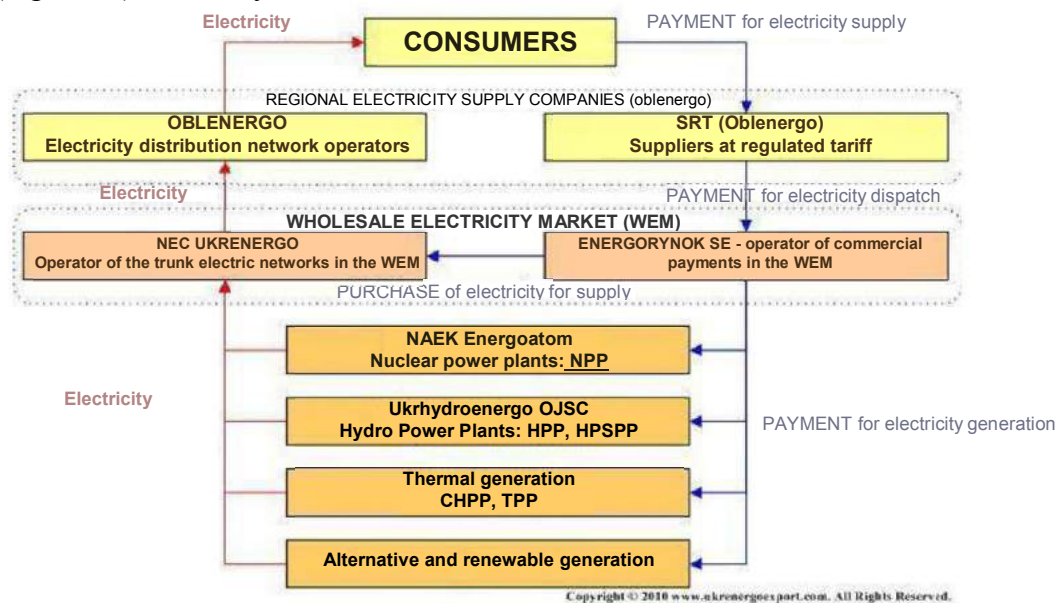
<sup>25</sup> Currently, the Ministry of Energy and Coal Mining of Ukraine and the Committee are developing the new Procedure for compiling the annual and monthly electricity forecast balance of the UES of Ukraine.

pricing and resource filling of the market, and electricity generators, due to features of market electricity pricing regulation, respectively, are restricted in determining the goods turnover conditions on the market<sup>26</sup>.

- (62) However, each generator, regardless the pricing procedure, is interested in increase of domestic production and supply of electricity in the WEM, as the amount of their income (profits) increases as well and, respectively, the efficiency in general.
- (63) Competition in the wholesale electricity market between electricity generators takes place in the form of efforts to maximize their own generation to meet existing demand, i.e. inclusion to load demand of maximum of own generating capacity.
- (64) At the same time, institutional organization of the generating market is built so that power generation companies, regardless of their market share, have limited market power, as they are covered by government regulation.
- (65) Thus, the existing gaps in the regulatory acts result in imperfect government regulation, leveling of market operation mechanisms, distortion of competition mechanisms and the lack of correlation between supply and demand for goods.

### ***Electricity supply***

- (66) Supply of electricity means economic activities related to the provision of electricity to the consumer by technical means of transmission and distribution of electricity under the contract<sup>27</sup>.
- (67) Electricity supply is divided into supply at regulated tariff (by SRT) and supply at unregulated tariff (by SUT).
- (68) Electricity supply is adjacent to the natural monopoly<sup>28</sup>.
- (69) Suppliers at regulated tariff (SRT) - are mainly regional power distribution companies (oblenergo), and in some regions of Ukraine - the structural units of "Ukrzaliznytsia" operating at the NEURC fixed (regulated) electricity tariffs.



*SRT operation scheme*

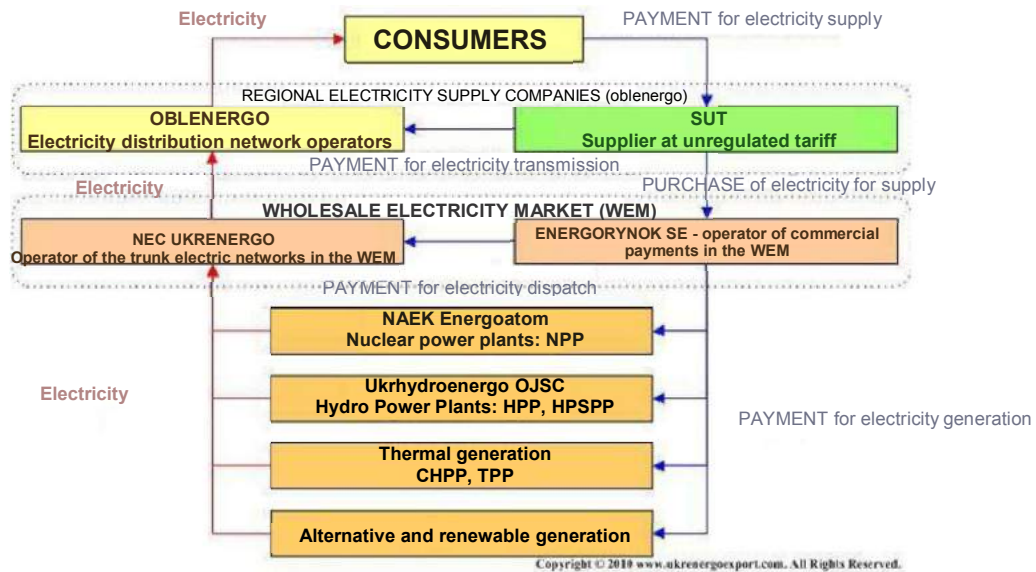
- (70) SRT consumer may be any legal entity or private individual.
- (71) Suppliers at unregulated tariff (SUT) - business entities eligible to supply electricity to consumers at free tariff.

<sup>26</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

<sup>27</sup> Article 1 of the Law of Ukraine "On Electricity".

<sup>28</sup> Article 6 of the Law of Ukraine "On Natural Monopolies".

- (72) Cooperation with SUT allows the consumer to get a lower price for electricity as compared to fixed price of SRT (oblenergo) due to the forced reduction of SUT own profits in a competitive environment.
- (73) Any legal entity may be a consumer of SUT.



*SUT operation scheme*

- (74) SUT and SRT purchase electricity on the WEM for the purpose of resale and/or imports.
- (75) The above is supported by the terms of agreements concluded between the Energorynok SE and the respective SUT and SRT.
- (76) According to the Contract No. 6857/02 as of March 30, 2011 concluded between Energorynok SE and Center for energy modeling LLC, Contract No. 3908/02 as of January 15, 2007 concluded between Energorynok SE and Kolos GC, and contract No. 4674/01/2-30/04 as of April 30, 2008, concluded between Energorynok SE and Kharkivoblenergo JSC, Energorynok SE is obliged to sell and the respective supplier is obliged to purchase electricity and make payments under the terms of respective contract.
- (77) At the same time, SUT has the right to supply electricity generated by electricity capacities that are in its possession or temporary used under lease, unless it is subject to sale on the wholesale electricity market<sup>29</sup>.
- (78) SRT can purchase electricity generated from solar and/or wind by electricity facilities (generating units) of private households, installed capacity of which does not exceed 30 kW, directly from the generators under bilateral agreements at "green" tariff set by the NEURC<sup>30</sup>.
- (79) SRT may conduct licensed activities only within assigned territory<sup>31</sup>.
- (80) SUT can supply electricity at unregulated tariff throughout Ukraine.
- (81) However, SRT together with related companies should not engage in licensed activities on the territory of its licensed electricity supply activities at regulated tariffs.
- (82) The WEM Rules do not provide for electricity suppliers at unregulated tariff to submit to Energorynok SE bids for electricity purchase in the wholesale electricity market.
- (83) However, local suppliers (SRT) should provide Energorynok SE<sup>32</sup> with electricity consumption forecast (for each settlement period of the following day, which includes:
- 1) Volume of electricity purchase on the wholesale electricity market;

<sup>29</sup> Under the clause 2.4 of the Terms and Conditions for business of electricity supply at unregulated tariff approved by the National Energy Regulatory Commission of Ukraine No. 36 as of August 12, 1996;

<sup>30</sup> Under Article 15 of the Law of Ukraine "On Electricity";

<sup>31</sup> Assigned territory - territory of administrative unit, where the local electric networks are located, owned by SRT and electrical network of consumers, receiving electricity from the licensee or networks of other SRT-connected owners that do not have licenses for supply of electricity at regulated tariffs. SRT agrees this territory with the Ministry of Energy and Coal Mining of Ukraine and it is approved by the NEURC in due course. If there are electric networks of other SRTs located on the territory administrative units, the territory assigned to each of these SRTs is determined according to the site location of the power plants that are owned by the SRT, and electric networks of consumers that are powered by networks of SRT.

<sup>32</sup> Under paragraph 3.5.1 of the WEM Rules.



- 2) Volume of electricity supplies to SUT consumers located in the territory of the SRT;
  - 3) Volume of electricity generation by sources that do not sell electricity in the wholesale electricity market and in the SRT territory.
- (84) Under the ruling of the Cabinet of Ministers of Ukraine No. 263 as of May 7, 2015, SRT in the territory where the public authorities are temporarily not performing their powers or not performing their powers in full, shall provide Energorynok SE with data stipulated by paragraph 3.5.1 of the WEM Rules, only for territory of the licensed activity, where public authorities exercise their powers in full.
  - (85) Under the Ruling of the Cabinet of Ministers of Ukraine No. 148 as of May 7, 2014, the SRT, purchasing electricity for the purpose of supplying to the temporarily occupied territory of Crimea and Sevastopol, is obliged to daily provide Energorynok SE in each settlement period with the capacity amount, which should reflect the electricity flow from the territory where public authorities exercise their powers in full to the temporarily occupied territory of Crimea and Sevastopol.
  - (86) Therefore, the suppliers of electricity at regulated tariff and suppliers of electricity at unregulated tariff do not compete with each other in the course of purchase of electricity in the Wholesale Electricity Market of Ukraine.
  - (87) According to the Law of Ukraine "On Electricity" consumers have the right to choose electricity supplier.
  - (88) However, it is a consumer rather than a supplier of electricity who creates demand for electricity.
  - (89) Therefore, competition between suppliers of electricity at regulated tariff and suppliers of electricity at unregulated tariff exists exclusively in the retail electricity market.
  - (90) There is active competition between SUT and SRT for legal entities - consumers.
  - (91) However, SRT, who are also a WES, has a significant competitive advantage over SUT, because SUT has to agree upon (in fact, receive permission) their supply volumes with competitors.
  - (92) The above leads to a significant number of violations of legislation on economic competition protection and the gradual removal of SUT from markets.
  - (93) In order to reduce grounds for violations of legislation on economic competition protection, taking into account numerous requests of SUT to the AMCU and the NEURC, and in order to settle the procedure for electricity distribution and access to the networks, the NEURC, under the Ruling No. 1992 as of July 2, 2015, amended the procedure for electricity suppliers at unregulated tariff to access to local electric networks. The amendments were as follows:
    - The number of documents required to enter into a contract was reduced; obligation was defined for distribution companies to provide access of SUT to their structural units engaged in registration of incoming correspondence for filing and recording of messages and information in a separate log;
    - The procedure for approval by electricity distribution companies of notification to SUT for declared electricity purchase amount from the WEM and other documents required for the supply at unregulated tariff was established;
    - New mechanism of submission by SUT to Energorynok SE of notifications on declared electricity purchase volume in the WEM, without respective approval of electricity distribution company, was created.
  - (94) At the same time, respective amendments did not fully resolve the issue of SUT discrimination.
  - (95) Given the above, the Procedure for electricity suppliers at unregulated tariff access to local electric networks, approved by the Ruling of the NERC No. 1421 as of October 29, 2010, requires re-working.
  - (96) Organizational unbundling of distribution from generation and supply of electricity has to be a positive step towards the development of competition in the supply of electricity<sup>33</sup>.
  - (97) However, unbundling of distribution from adjacent market activities did not take place, and electricity distribution companies combine distribution with supply and generation, which creates conditions for violations of the economic competition protection legislation.
  - (98) Relations between consumers and suppliers of electricity are regulated, in particular, by:

<sup>33</sup> Under the Law of Ukraine "On Fundamentals of the Operation of the Electricity Market" and requirements of the EU Third Energy Package.



- Electricity Usage Rules approved by the resolution of the NERC No. 28 as of July 31, 1996 (for private individuals and legal entities, except the population);
  - Electricity Usage Rules by population, approved by the Ruling of the CMU No. 1357 as of July 26, 1999.
- (99) The electricity consumption without accounting (except as provided by law) is prohibited.
- (100) At the same time, at the electricity markets, due to special mechanism of WMP formation, there are several types of cross-subsidization, including:
1. Tariffs for some categories of consumers (including population and other privileged categories) are subsidized by tariffs for other consumers (industry). However, industrial consumers are further divided into subcategories with different levels of tariffs. Tariffs for the population are artificially low, divided by a number of different criteria into subgroups and accordingly are different in size. Other consumers, who have privileges on payments for electricity, are entities that implement innovative projects, urban electric transport, coal mines and other entities in accordance with decisions of the Government.
  2. Cross-subsidization between regions, with consumers of separate SRTs acting as donors, and other consumers - as recipients.
- (101) One of the tools of cross-subsidization is the use of subsidies to compensate for losses from supply of electricity at regulated tariff (subsidy certificates).

### ***Electricity transmission via trunk and interstate electric networks***

- (102) Under Article 1 of the Law of Ukraine "On Electricity":
- Transmission of electricity means transportation of electricity through trunk and interstate electric networks under a contract;
  - Trunk electric network means electric network designed to transmit electricity from the generator to the points of connection of local networks;
  - Interstate electric network means electric network designed for the transmission of electricity between states.
- (103) Transmission of electricity via trunk and interstate electric networks refers (ETTIN) to natural monopolies<sup>34</sup>.
- (104) ETTIN is a service provided by the relevant business entity, who owns (uses or disposes of) the trunk and interstate electric networks under a bilateral agreement.
- (105) The nature of such service is to transport the goods, "electricity", which cannot be accumulated and stored in large volumes, from the place of generation to the place of consumption.
- (106) However, even the most obvious differences in capacities of different generators level off, when supplied electricity enters the transformers for its preparation for transmission by network<sup>35</sup>.
- (107) However, currently under the legislation in the electricity sector, business entity providing ETTIN, simultaneously provide central dispatching (operational) control (CDC).
- (108) CDC - central control of the UES of Ukraine ensuring reliable and uninterrupted supply of electricity to consumers, in compliance with energy security<sup>36</sup>.
- (109) CDC applies to business entities, electricity units of which are connected to the UES of Ukraine, and includes:
- Planning and operational management of capacities of Ukrainian power plants considering central heating schedules;
  - Planning and control over compliance with the UES of Ukraine operation regime;
  - Prevention of emergencies or disasters in the UES of Ukraine and liquidation of consequences by supporting the right balance of capacity and energy; the use of measures to ensure stable operation of the UES of Ukraine and its parallel cooperation with energy systems of other states;

<sup>34</sup> Article 5 of the Law of Ukraine "On Natural Monopolies".

<sup>35</sup> Supported by the experts' and scientists' conclusions, in particular by information specified in the report of A.G. Gerasymenko, I.V. Vysochyn and S.V. Telyatnikov - the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, Phd in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), Kyiv 2016.

<sup>36</sup> Article 1 of the Law of Ukraine "On Electricity".

- Developing and control over the implementation of new emergency automation and protection, as well as communication and dispatching (operational) control;
  - Control over the operation of emergency automation and protection.
- (110) All operational commands and orders of state enterprise, conducting CDC, are subject to execution by all business entities, electricity units of which are connected to the UES of Ukraine<sup>37</sup>. Interference with the CDC of the UES of Ukraine by state bodies, political parties and movements and other non-governmental organizations are not allowed, except as otherwise provided for by the legislation of Ukraine.
- (111) NEC Ukrenergo SE within 2013-2014 and the first half of 2015 carried out the activity of transmission of electricity through trunk and interstate electric networks under license No. AB220568 as of August 26, 2005 issued by the National Energy Regulatory Commission, and license No. AE 288299 as of July 17, 2014, issued by the National Energy Regulatory Commission.
- (112) In order to ensure reliable (uninterrupted) supply of electricity to consumers, NEC Ukrenergo SE ensures, in particular:
- Development of standards of operational safety of the UES of Ukraine and submission for approval to the Ministry of Energy and Coal Mining of Ukraine;
  - Coordination with business entities, conducting CC of energy systems of other countries, for the development of international networks;
  - Management of electricity overflows and ensuring equal access in the interstate exchange of electricity;
  - Preparation of proposals for the future development of the UES of Ukraine, the list of supporting measures to ensure stable operation of the UES of Ukraine and submission for consideration to the Ministry of Energy and Coal Mining of Ukraine.
- (113) The ETTIN licensee (NEC Ukrenergo SE) shall exercise ETTIN, CDC, planning and development of trunk and interstate electricity networks and other functions according to the AMWEM<sup>38</sup>. However, NEC Ukrenergo SE may enter into the following contracts:
- on CDC of the UES of Ukraine and ETTIN, agreed by the NEURC;
  - on supporting measures<sup>39</sup>;
  - on connection<sup>40</sup>/ disconnection to/from trunk and interstate electric networks;
  - on access to transmission capacity<sup>41</sup>.
- (114) Provision of supporting measures, connection / disconnection to / from trunk and interstate electric networks, providing access to transmission capacity constitute services, can create individual commodity markets, and the provision of which, in accordance with current legislation, can be carried out exclusively by natural monopoly licensee of ETTIN.
- (115) NEC Ukrenergo SE applies tariff for ETTIN<sup>42</sup>, approved by the NEURC for one year (with the possibility of revision) and includes:
- Fees for ETTIN and CDC of the UES of Ukraine;
  - Investment in reconstruction and future development of trunk and interstate electric networks and facilities that provide solution for central dispatching control tasks;
  - Financing supporting measures;
  - Other costs required by law.
- (116) Payment for services of NEC Ukrenergo SE related to connection to electric networks is provided for by Article 172 of the Law of Ukraine "On Electricity" and the secondary legislation<sup>43</sup>.

<sup>37</sup> Article 14 of the Law of Ukraine "On Electricity".

<sup>38</sup> Under the Terms and Conditions for business of electricity transmission via trunk and interstate electric networks approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 152 dated October 11, 1996;

<sup>39</sup> Supporting measures - technical and other means for the generation of reactive power, frequency control, voltage control, rapid start-up, maintenance and other backup regime necessary for compliance with the regulations on reliability of the network (paragraph 1.1 of the AMWEM).

<sup>40</sup> Connection of the electricity unit (connection) - provision by electricity transmission company of services to the customer with creation of technical ability to transfer (receipt) in place of customer's respective capacity unit connection to electricity network of electricity transmission company (including newly built) of required electricity subject to the parameters of quality and reliability ( article 1 of the Law of Ukraine "On Electricity").

<sup>41</sup> Access to transmission capacity of interstate electric networks of Ukraine - the right of energy supplier to receive the service of electricity transmission via interstate electricity networks of Ukraine for export and/or import of electricity acquired under the procedure for electronic auctions for allocation of transmission capacity of interstate electric networks, approved by the Ruling of the NEURC No. 176 as of February 12, 2015.

<sup>42</sup> Paragraph 3.9.2 of the Terms and Conditions for business of electricity transmission via trunk and interstate electric networks approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 152 dated October 11, 1996;

<sup>43</sup> In particular, by the Terms and Conditions for the electric units connection to electric networks, approved by the Ruling of the NERC No. 32 as of January 17, 2013, the Methods of payment calculation for the electric units connection to electric networks, approved by the Ruling of the NERC No. 115 as of February 12, 2013.

- (117) Payment for services of NEC Ukrenerg SE related to access to transmission capacity is provided for by Article 30 of the Law of Ukraine "On Electricity" and the secondary legislation<sup>44</sup>.
- (118) NEC Ukrenerg SE is a member of the WEM and sells goods (works and services) to Energorynok SE under the terms and conditions of the AMWEM and relevant bilateral agreement.
- (119) Goods (works and services), sold by NEC Ukrenerg SE to consumers other than Energorynok SE are sold outside the WEM.
- (120) According to the AMWEM, Energorynok SE is obliged to, in particular:
- Pay for ETTIN under the bilateral agreements (paragraph 3.3.2 of the AMWEM);
  - Purchase of supporting measures under the Market rules (paragraph 3.4.1 of the AMWEM).
- (121) According to legislation and AMWEM, Energorynok SE and NEC Ukrenerg SE entered into Contract No. 136/01 as of September 4, 2000, under which NEC Ukrenerg SE provides CDC of generation and transmission of electricity in the UES of Ukraine and ETTIN in compliance with energy security, and Energorynok SE pays NEC Ukrenerg SE for CDC of generation and distribution of electricity and for ETTIN under this contract.
- (122) However, powers of NEC Ukrenerg SE according to the Contract No. 136/01 as of September 4, 2000 entered into with Energorynok SE are broad, and relevant terms of the Contract provide for the possibility of decisive influence of NEC Ukrenerg SE on the activities of third entities (generators and suppliers).
- (123) According to section 3 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenerg SE and Energorynok SE, NEC Ukrenerg SE is obliged to, in particular:
1. Provide CDC of electricity generation and transmission in the UES of Ukraine in compliance with all requirements of statutory technical documents with regards to dispatching (operational) control of the UES of Ukraine<sup>45</sup>, in particular:
    - 1) Operational and technological control over power equipment, which is under operational management of and administered by NEC Ukrenerg SE;
    - 2) Voltage regulation according to the specifications and technical documentation at control points of the UES of Ukraine;
    - 3) Regulation of frequency in the UES of Ukraine in accordance with applicable rules;
    - 4) Regulation and limitation of the electricity supply and capacity according to the available balance of capacity and payment for supplied electricity;
    - 5) Partial or complete load shutdown of supplier at regulated tariff from trunk and interstate networks in accordance with the Procedure for load shutdown of electricity suppliers at unregulated tariff access, approved by the Cabinet of Ministers of Ukraine;
    - 6) Prevention of violations of the UES of Ukraine operation regime and prevention of system accidents, and the elimination of accidents that have occurred, with minimal losses for the country;
    - 7) Technical support of export and import of electricity in accordance with the contracts concluded by Energorynok SE;
    - 8) Performance (temporarily, until commercial metering operator has been defined) of commercial metering operator functions (daily by hours and monthly by hours) for volumes of generated, transmitted and supplied electricity under the AMWEM and Annexes thereto.
    - 9) Daily calculation of the optimal electric mode, and, based on its results, performance of appropriate technical actions to minimize losses of active and reactive power in the trunk and interstate electric networks.
  2. Transmit electricity via trunk and interstate electric networks<sup>46</sup>, including:

<sup>44</sup> In particular, by Procedure for electronic auctions for allocation of transmission capacity of interstate electric networks, approved by the Ruling of the NEURC No. 176 as of February 12, 2015.

<sup>45</sup> According to paragraph 3.1 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenerg SE and Energorynok SE.

<sup>46</sup> According to paragraph 3.2 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenerg SE and Energorynok SE.

- 1) transmission of electricity from:
  - limits of producers' ownership;
  - state border of Ukraine;
 to:
  - supply points of electricity suppliers;
  - state border of Ukraine;
  - supply points of electricity consumers directly connected to the trunk and interstate electric networks;
- 2) provision of supporting measures and readiness to provide them at any time to the extent necessary to maintain reliable operation of the UES of Ukraine.

(124) According to section 3 of the Contract No. 136/01 as of September 4, 2000 concluded between Energorynok SE and NEC Ukrenergo SE, Energorynok SE is obliged to, in particular:

- 1) Provide NEC Ukrenergo SE with schedules of hourly load distribution between generating sources for the next day (defined schedules), based on optimization of production volumes and wholesale supply of electricity, taking into account electric networks limitations, equipment of power generating plants, fuel, use of water and others resources notified to Energorynok SE. Schedules are to be approved by NEC Ukrenergo SE and provided prior to 16.00 every day in written and electronic forms<sup>47</sup>.
- 2) Provide NEC Ukrenergo SE with interstate overflows schedules<sup>48</sup>.
- 3) Provide NEC Ukrenergo SE with the data required to perform CDC of the UES of Ukraine, restrict consumption and other data stipulated by Annex1 of respective Contract<sup>49</sup>.
- 4) To make payments to NEC Ukrenergo SE for CDC and ETTIN<sup>50</sup>. Payment shall be made every banking day from the clearing account of Energorynok SE according to the estimates and allocation algorithm approved by the NEURC.
- 5) Ensure the purchase of supporting measures that are required by NEC Ukrenergo SE to maintain reliable operation of the UES of Ukraine within the costs which are subject to be set by the WEM Council and approved by the NERC (NEURC)<sup>51</sup>.
- 6) Upon a decision of the WEM Council, ensure, under terms of additional agreements (under paragraph 3.6 of the AMWEM), the construction of any necessary additional generating process of trunk and interstate electric networks or their reconstruction and reimbursement for renovation works due to an emergency, within the costs, amount of which shall be set by the WEM Council and approved by the NERC<sup>52</sup>.

(125) According to section 3 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE, NEC Ukrenergo SE shall bear liability, in particular, for:

- 1) Reduction of operating (possible) capacity of power plants due to failure to perform by NEC Ukrenergo SE of its obligations hereunder<sup>53</sup>.
- 2) Break in the transmission of electricity due to failure to perform by NEC Ukrenergo SE of its obligations hereunder, which led to the interruption of electricity supply to consumers<sup>54</sup>.
- 3) Additional inclusion of equipment to the set hourly load distribution schedules between power generating sources under approval of Energorynok SE, not declared by generation companies under the WEM Rules of Ukraine, or increase (decrease) of the set load for the units declared by generation companies, as well as exceeding the volume of electricity generation at HPPs set by Energorynok SE, if the following actions are carried out with sufficient availability of "hot" and "cold" reserve capacity defined by Energorynok SE, and thus NEC Ukrenergo SE carried out all the measures to reduce consumption to the marginal values<sup>55</sup>.

<sup>47</sup> According to paragraph 3.3 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>48</sup> According to paragraph 3.4 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>49</sup> According to paragraph 3.5 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>50</sup> According to paragraph 3.6 and 3.7 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>51</sup> According to paragraph 3.8 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>52</sup> According to paragraph 3.9 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>53</sup> According to paragraph 3.10 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>54</sup> According to paragraph 3.11 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>55</sup> According to paragraph 3.12 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

- 4) Violation of voltage levels at control points of the UES of Ukraine due to failure to duly perform by NEC Ukrenergo SE of its obligations hereunder<sup>56</sup>.
  - 5) Imposition of restrictions on electricity consumption and capacity as a result of failure to meet the required electricity and capacity balance due to failure to duly perform by NEC Ukrenergo SE of its obligations hereunder<sup>57</sup>.
  - 6) Disconnection of electricity suppliers at regulated tariff under paragraph 3.1.5 hereunder<sup>58</sup>.
  - 7) Failure to comply with interstate electricity overflows schedules pre-agreed with Energorynok SE<sup>59</sup>.
- (126) Therefore, based on the Contract of No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE, NEC Ukrenergo SE has the right to intervene directly in economic activities of third parties (generators and suppliers), provided that no relevant bilateral agreements have been concluded between such parties and NEC Ukrenergo SE.
  - (127) The above in general does not support transparency of the WEM and its individual subjects, and under certain conditions may hinder the development of competition in the WEM.
  - (128) Regarding services of connection (disconnection), provided by NEC Ukrenergo SE, it should be noted that the trunk and/or interstate electric networks can be connected only to the licensee electric unit of transmission of electricity via local electric networks and/or electric unit intended for the generation of electricity<sup>60</sup>, however such connection is classified as non-standard.
  - (129) The customer applies to NEC Ukrenergo SE for connection, in particular, in the event of:
    - Connection of electric units intended for electricity generation with capacity of 70 MW or more (mandatory);
    - Connection of electric units intended for electricity generation with capacity from 10 to 70 MW (at customer's option). The final decision on connection of electric units of the customer shall be made based on feasibility study and taking into account the effect on the quality of electricity generation in the zone of possible connection.
  - (130) Fee for non-standard connection of electric unit of the customer is determined in each case on the basis of project documentation, which determines the cost of electricity networks development to provide connection of electric unit of the customer, taking into account customer's share in the financing of capital construction and/or reconstruction of facilities for joint needs<sup>61</sup>.
  - (131) The value of project documentation for non-standard connection shall be taken into consideration separately and not included in the final fee for the non-standard connection and shall be paid by the customer at the drafting stage of relevant documentation<sup>62</sup>.
  - (132) It should be noted that the connection of electric units that generate electricity using alternative energy sources, are funded in the amount of 50 percent of the funds provided for in the tariff for transmission of electricity, and 50 percent - by repayable financial aid under the concluded connection agreement in accordance with the Rules for connection to electricity networks<sup>63</sup>. Upon customer's request, the amount of repayable financial aid can be increased to the amount of the full cost of the measures necessary for the services of customer's electric units connection.
  - (133) The access to transmission capacity of interstate electric networks of Ukraine is regulated by Article 30 of the Law of Ukraine "On Electricity", article 10 of the Law of Ukraine "On Fundamentals of the Operation of the Electricity Market" and subordinate statutory acts.
  - (134) SUTs that are members of the WEM and have no past-due debt for electricity purchased on the WEM and won the auction of NEC Ukrenergo SE (annual, monthly and daily) have access to transmission capacity of interstate electric networks for the purposes of export and/or import of electricity.
  - (135) NEC Ukrenergo SE provides access for energy suppliers to the trunk and interstate electric networks in the course of export and/or import of electricity within the technical capabilities of

<sup>56</sup> According to paragraph 3.13 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>57</sup> According to paragraph 3.14 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>58</sup> According to paragraph 3.15 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>59</sup> According to paragraph 3.16 of the Contract No. 136/01 as of September 4, 2000 concluded between NEC Ukrenergo SE and Energorynok SE.

<sup>60</sup> Paragraph 1.3 of the Terms and Conditions for the electric units connection to electric networks, approved by the Ruling of the NEURC No. 32.4 as of January 17, 2013.

<sup>61</sup> Paragraph 1.7 of the Methods of payment calculation for the electric units connection to electric networks, approved by the Ruling of the NERC No. 115 as of February 12, 2013.

<sup>62</sup> Paragraph 2.3 of the Methods of payment calculation for the electric units connection to electric networks, approved by the Ruling of the NERC No. 115 as of February 12, 2013.

<sup>63</sup> The Procedure for financing the services on electric units connection to electric networks, approved by the Ruling of the NERC No. 1467 as of November 21, 2013.

electric networks based on their priority use to meet the needs of consumers in Ukraine for electricity in accordance with operational safety standards of the UES of Ukraine.

- (136) Organization of access to transmission capacity of interstate electric networks is performed by NEC Ukrenergo SE in coordination with system operators and/or operators of transmission systems of neighboring countries.
- (137) The volume of transmission capacity is defined in accordance with the Methods of defining the transmission capacity of interstate electric networks of the UES of Ukraine, approved by the Order of the Ministry of Energy and Coal Mining of Ukraine No. 824 as of November 24, 2014, and the value of the available transmission capacity is agreed with the relevant system operator and/or the transmission system operator of the neighboring country.
- (138) NEC Ukrenergo SE, for the purpose of distribution of free transmission capacity of interstate electric networks, is obliged to conduct annual, monthly and daily auctions. During the auction, NEC Ukrenergo SE distributes the access to all free transmission capacity of interstate electric networks defined for the relevant period.
- (139) If the demand for access to transmission capacity of interstate electric networks exceeds the value of free transmission capacity of interstate electric networks, the auction is conducted by satisfying the bids of participants who have offered the highest price. In this case, the price of access to respective transmission capacity of interstate electric networks is determined by the minimum price of satisfied bids of auction participants.
- (140) Given that the demand for access to transmission capacity of interstate electric networks is not greater than or equal to the free transmission capacity of interstate electric networks, NEC Ukrenergo SE provides such auction participants with access to transmission capacity of interstate electric networks at no charge.
- (141) Funds received by NEC Ukrenergo SE as a result of distribution of access to transmission capacity of interstate electric networks at auctions, are used by it to increase the capacity of these networks.
- (142) SUTs, who have got the access to transmission capacity of interstate electric networks, are required to submit daily hour-by-hour electricity import/export schedule<sup>64</sup>. Should the electricity supplier fail to provide daily hour-by-hour electricity import/export schedule within specified period, such energy supplier loses access to transmission capacity of interstate electric networks for the respective day and NEC Ukrenergo SE may distribute unused volumes of transmission capacity via the daily auction.
- (143) If SUT, which has access to transmission capacity of interstate electric networks under the auction, during the calendar month uses the transmission capacity of interstate electric networks of Ukraine for less than seventy percent, such SUT loses access to transmission capacity of interstate electric networks, and such volume of distributed transmission capacity of interstate electric networks becomes free transmission capacity and shall be put up for auction.
- (144) SUTs, which received access to transmission capacity of interstate electric networks, have the right to transfer on a contractual basis to other SUTs the access to transmission capacity of interstate electric networks, by notifying and registering with NEC Ukrenergo SE the transfer of such rights.
- (145) Transmission of electricity intended for export is conducted on the basis of a contract with NEC Ukrenergo SE. NEC Ukrenergo SE concludes with the winner of the auction a contract for access to transmission capacity of interstate electric networks in Ukraine, including technical specifications to ensure exports of electricity. Sample contract form for access to transmission capacity of interstate electric networks of Ukraine is approved by the NEURC.
- (146) Increase of transmission capacity of interstate electric networks is conducted at the expense of investments of NEC Ukrenergo SE or legal entity that is not related directly or indirectly by relations of control with NEC Ukrenergo SE.
- (147) Additional (increased) volume of transmission capacity of interstate electric networks, created by investment of legal entity that is not related directly or indirectly by relations of control with NEC Ukrenergo SE, may be exempted from the provisions of part seven of this article under following circumstances:

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<sup>64</sup> However, SUTs are obliged to comply with the WEM Rules and the Procedure for electronic auctions for allocation of transmission capacity of interstate electric networks, approved by the Ruling of the NEURC No. 176 as of February 12, 2015.

- The investment should increase the competition in the WEM;
  - The investment would not take place if the exemption was not granted;
  - The investment is made in electricity facilities of the UES of Ukraine;
  - No part of the investment or operating costs on the creation and/or operation of additional (increased) volume of transmission capacity of interstate electric networks are not covered by the tariff for the transmission or distribution and supply of electricity by NEC Ukrenergo SE or transmission companies.
- (148) Such exemption is given on the amount of additional (increased) transmission capacity and for the period not less than payback period of the investment project. Persons, investment of which has increased transmission capacity of interstate electric networks, shall have priority access to additional (increased) volume of transmission capacity.
- (149) The operation of newly built facilities of interstate electric networks built by investing legal entity that is not associated directly or indirectly by control relations with NEC Ukrenergo SE, is conducted by transmission company under agreement with the owner/investor. Central operational and technological control of newly built facilities of interstate electric networks is conducted by NEC Ukrenergo SE as part of the UES of Ukraine.
- (150) Based on the above, we can say that, despite the absence of direct contractual relations between SRTs and SUTs and electricity generators (except SUT importers / exporters), on the one part and NEC Ukrenergo SE, on the other part, NEC Ukrenergo SE has considerable powers which allow to perform direct (and sometimes decisive) impact on the activities of such entities.
- (151) Under these circumstances, the conclusion of bilateral agreements between NEC Ukrenergo SE and CDC (generators and suppliers), particularly in the context of market support services, balancing market (including end consumers acquiring the status of the parties responsible for balance) will contribute to the transparency of electricity market and intensifying competition at them.
- (152) Today NEC Ukrenergo SE does not have generating companies and power supply companies, and is functionally and legally separated from other activities in the electricity industry, which meets the requirements of the Second Energy Package of the EU and the Law of Ukraine "On Fundamentals of the Operation of the Electricity Market".
- (153) However, according to the Third energy package of the EU, NEC Ukrenergo SE today does not meet the requirements for unbundling, as it relates to the Ministry of Energy and Coal Mining of Ukraine, which also manages state electricity generation and supply assets (according to Directive 2009 / 72 / EU such enterprises must be a part of different public authorities).
- (154) Therefore, in terms of ensuring the development of competition in the electricity market in the course of reform in accordance with the requirements of the Third Energy Package of the EU, it is important to:
- Meet the requirements for the unbundling of NEC Ukrenergo SE activity from the electricity generation and supply;
  - Ensure the increased transparency of access to networks;
  - Solve issues related to the electric network connections.

***Distribution of electricity (transmission of electricity via local electric networks***

- (155) Under Article 15 of the Law of Ukraine "On Electricity":
- Distribution of electricity - transportation of electricity via local electric networks under a contract;
  - Local electric network - connected electrical network designed to distribute electricity from the trunk network and/or power plant to the consumer.
- (156) Electricity distribution company (EDC) - entity that carries out the business of distribution of electricity under license<sup>65</sup>.
- (157) At the same time, today the majority of statutory regulations on distribution use the term "electricity transmission company" instead of "electricity distribution company".

<sup>65</sup> Article 1 of the Law of Ukraine "On Fundamentals of the Operation of the Electricity Market".

- (158) Distribution of electricity (electricity transmission) by local electric networks (distribution) refers to natural monopolies<sup>66</sup>.
- (159) Distribution is a service provided by the relevant business entity, which possesses (uses or disposes of) local electric networks under a bilateral agreement.
- (160) The nature of such service is to transport the goods - "electricity" - from the place of generation to the place of consumption.
- (161) ETC has the right to distribute electricity on the territory assigned to such ETC, approved by the NEURC<sup>67</sup>.
- (162) ETC together with related companies<sup>68</sup> shall not supply electricity at unregulated tariff within the assigned territory.
- (163) ETC shall not give preference to any energy supplier (except as provided by law in cases where the same preference is granted to all energy suppliers) or unreasonably prevent business entity from carrying out the licensed activities of electricity supply.
- (164) ETC in any form should not abuse its dominant position, as defined by the law "On Protection of Economic Competition" and other legislation, including statutory acts of the AMCU and the NEURC.
- (165) ETC shall comply with laws and regulations on, as follows:
- Ensuring non-discriminatory access to the local electric networks;
  - Ensuring non-discriminatory connection of electric units of customers to the local electric networks;
  - Quality and reliability of electricity transmission services;
  - Compliance with electricity quality indicators;
  - Proper technical condition of power facilities and their operation through repair and maintenance, modernization, reconstruction and complete replacement of worn-out electric networks.
- (166) Transmission tariffs are regulated and approved by the NEURC for the following year with possible further revision.
- (167) ETC networks is developed at the expense of the tariff investment in accordance with the investment program and by the provision of services of connection<sup>69</sup> of new consumers to existing electrical networks.
- (168) At the same time, due to the reform of the electricity market, the Law of Ukraine "On Fundamentals of the Operation of the Electricity Market" stipulates that electricity distribution company has the right to conduct generation, transmission and supply of electricity. Its electricity distribution activity shall be legally and organizationally separate from other activities of vertically-integrated business organization that are not related to the distribution of electricity.
- (169) However, unbundling of distribution from adjacent market activities did not take place, and electricity distribution companies combine distribution with supply and generation, which creates conditions for violations of the economic competition protection legislation.
- (170) The procedure for providing the electric units connection services by transmission organizations is defined by the Law of Ukraine "On Electricity", the Terms and Conditions for the electric units connection to electric networks, approved by the Ruling of the NEURC No. 32 as of January 17,

<sup>66</sup> Article 5 of the Law of Ukraine "On Natural Monopolies".

<sup>67</sup> The territory of carrying out the licensed activity (assigned territory) - the territory of the administrative-territorial unit, where the local electric networks owned for ETC; such territory is agreed with Ministry of Energy and Coal Mining of Ukraine and approved by NEURC in due course. If electric network of other electricity transmission companies are located on the administrative-territorial units, the licensed territory of each of these electricity transmission companies is determined according to the location of the power plants that are owned by these electricity transmission companies.

<sup>68</sup> Related companies mean:

- a) any business entity which, directly or indirectly, in whole or in part (at least 25%): owns shares (stocks) of the charter capital or asset (property) of another business entity; manages shares (stocks,) of the charter capital of another business entity; uses the assets (property) of another business entity under the lease;
- b) any business entity:
  - Shares (stocks) of the charter capital or assets (property) of which, directly or indirectly, in whole or in part (at least 25%) are owned by another business entity;
  - Shares (stocks) of the charter capital of which, directly or indirectly, in whole or in part (at least 25%) are managed by another business entity;
  - Assets (property) of which, directly or indirectly, in whole or in part (at least 25%) are used by another business entity under lease;
- c) which is associated with the licensee or one of the companies referred to in subparagraphs a) and b) of this definition, by control relations pursuant to Article 1 of the Law of Ukraine "On Protection of Economic Competition".

<sup>69</sup> Connection of the electricity unit (connection) - providing by ETC of services to the customer with creation of technical ability to transfer (receipt) in place of customer's respective capacity unit connection to electricity network of ETC (including newly built) of required electricity subject to the parameters of quality and reliability (article 1 of the Law of Ukraine "On Electricity").



2013, the Procedure for financing the services on electric units connection to electric networks, approved by the Ruling of the NEURC No. 1467 as of November 21, 2013.

- (171) Today the connection procedure defines two main groups: Standard<sup>70</sup> connection and non-standard connection.
- (172) In order to determine the type of connection (standard connection or non-standard connection), the power providing point is deemed to be the closest point in the existing (current) electric networks (cable line, air line or transformer substation) of electricity transmission company of voltage level that meets the voltage level at the point of connection.
- (173) The draft connection contract and the draft technical specifications are provided by electricity transmission company to the customer no later than:
1. For the standard connection - 5 business days from the date of application of the customer for connection to electric unit.
  2. For the non-standard connection - 15 working days from the date of application and 30 days, if necessary, in the event of failure to agree with the owner of trunk/interstate electric networks.
- (174) The term for connection services is:
1. For the standard connection - for electric units of capacity level I - 15 working days from the date of payment by the customer to the electricity transmission company of connection cost on the basis of invoices; for electric units of capacity level II - 30 working days from the date of payment by the customer to the electricity transmission company of connection cost on the basis of invoices.
  2. For the non-standard connection - under the connection contract.
- (175) In order to receive the draft connection contract and the draft technical specifications for facility power supply, the customer has to apply for connection of electric unit of a specific capacity with the appropriate set of documents.
- (176) The cost for connection of customers' electrical units to electric networks of the electricity transmission company is determined by<sup>71</sup>:
1. For the standard connection - fixed rates approved by the NEURC<sup>72</sup>.
  2. For the non-standard connection - according to project estimates, developed by the customer and approved by the electricity transmission company, made in compliance with specifications<sup>73</sup>.
- (177) At the same time, today the process for connection of customers units to electric networks is not transparent enough, and the time limits stipulated by the relevant statutory regulations are not consistent with the time limits of the relevant works (services) provided for by the urban planning and land management legislation.
- (178) The above inconsistency creates conditions for violations of the economic competition protection legislation by ETC, namely:
1. Failure to comply with the connection time limits.
  2. Inclusion of unreasonable demands to technical specifications of connection.
  3. Unlawful refusal to connect customer's units to electric networks.
- (179) In 2013-2014, The AMCU conducted a thorough research of the service markets in the field of connection to engineering networks of natural monopolies and drafted a number of proposals on improvement of connection legislation; in particular, the following proposals are appropriate for competition development and ETC activity transparency improvement:
- 1) Granting the standard connection customers the right to refuse from standard connection and choose the non-standard connection.

<sup>70</sup> Standard connection - connection of electric unit (except units intended for electricity generation) of the customer to existing networks of electricity transmission company for a distance not exceeding 300 meters in a straight line from the power providing place to the point of connection, which is differentiated by degrees of power: first stage - up to 16 kW inclusive; second stage - from 16 kW to 50 kW inclusive; third stage - from 50 kW to 160 kW inclusive (Article 1 of the Law of Ukraine "On Electricity").

<sup>71</sup> Under the Methods of payment calculation for the electric units connection to electric networks, approved by the Ruling of the NERC No. 115 as of February 12, 2013.

<sup>72</sup> Factors affecting the payment amount for connection are as follows: power value of the object, connection voltage class and type of populated area, where customer's object is located. Connection cost is calculated on the ground of calculation tables for standard connection in respective region.

<sup>73</sup> This cost includes a fee for capacity and costs of works in accordance design and estimate documentation approved by and agreed with ETC.

- 2) Settlement of the issue of payment for providing technical specifications for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 3) Implementation of duty to choose the executor of works on construction of external electricity supply units for the customer on a competitive basis.
- (180) Consumption of electricity by end consumer may only be allowed subject to connection of its electric units to local electric networks of ETC.
  - (181) In the course of electricity consumption the user simultaneously uses electricity transmission (provided exclusively by ETC) and supply services.
  - (182) Today only industrial customers have the right to choose electricity supplier.
  - (183) Supply of electricity to consumers is conducted by the supplier at regulated tariffs, which is also the ETC.
  - (184) In accordance with the legislation, ETC shall ensure non-discriminatory access for SUT to electrical networks for the implementation of SUT electricity supply activity to respective SUT consumers.
  - (185) The procedure of regulation of relations between SUT and ETC within the term of validity of the contract for electricity transfer via local electric networks is regulated by the Procedure for electricity suppliers at unregulated tariff access to local electric networks, approved by the Ruling of the NERC No. 1421 as of October 29, 2010.
  - (186) Contract for electricity transmission via local electric networks is concluded given with the provisions of the Ruling of the NERC No. 934 as of October 19, 2005 "On approval of the draft contract for electricity transmission via local electric networks between electricity suppliers at unregulated tariff and electricity transmission company".
  - (187) In the event of a contract for electricity transmission via local electric networks, SUT, six days prior to 19th date (inclusive) of the month preceding the settlement month, provides the following for approval of ETC: Notice on declared electricity purchase volume at the WEM by SUT and annexes thereto, notice on the declared amount of generated electricity, certificates of electricity metering at consumer or supplier (notices and certificates).
  - (188) ETC is obliged to provide SUT with access to its business unit, which carries out the registration of incoming correspondence, for filing and registration of notices and certificates.
  - (189) ETC returns the approved (or not approved) notices and/or certificates in a manner previously agreed with SUT (by mail, courier or provides in other way acceptable to the parties, which will ensure the fastest receipt of these documents by SUT).
  - (190) In the event of disagreement or rejection of ETC notices, SUT may file a complaint against the actions or omissions of ETC with the NEURC and the Commission for Solving the Issues with Suppliers at Unregulated Tariff at the WEM created by a decision of the WEM Council.
  - (191) Commission for Solving the Issues with Suppliers at Unregulated Tariff at the WEM may apply to Energorynok SE for acceptance of notices without approval of ETC.
  - (192) However, a lack of regulation of relations between SUT and ETC leads to abuse of dominant position by natural monopolies and extrusion of SUT from the market.

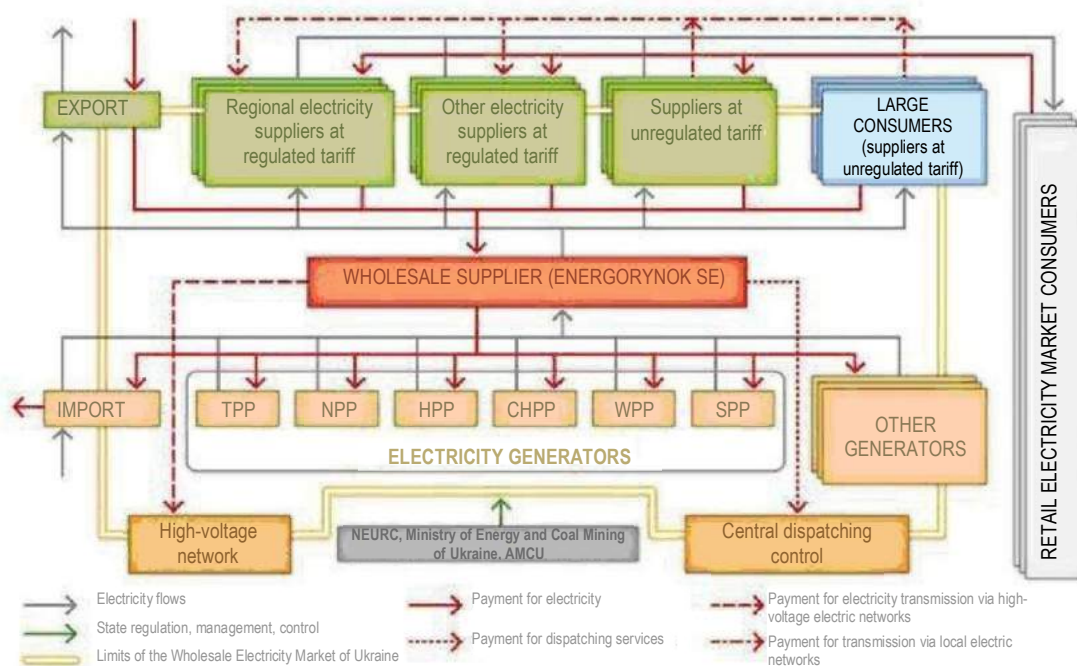
## 1.2. THE MAIN PRINCIPLES OF OPERATION OF THE WHOLESALE ELECTRICITY MARKET OF UKRAINE

- (1) Ukraine has one of four major models of the wholesale electricity market organization, namely the model of a single wholesale buyer - seller.
- (2) All electricity produced at power plants, power or supply volume of which exceed the marginal indicators (except as provided by this Law) and its wholesale is conducted at the Wholesale Electricity Market of Ukraine (WEM)<sup>74</sup>. Functioning of other wholesale electricity markets in Ukraine is prohibited<sup>75</sup>.
- (3) Activity at the WEM is regulated, in particular, by the following basic statutory regulations:
  - The Law of Ukraine "On Electricity", which defines the legal, economic and organizational grounds for activities in the energy sector and regulating relations related to the generation, transmission, supply and use of energy, ensuring energy security of Ukraine, competition and consumer protection;
  - The agreement between the WEM members;
  - Bilateral agreements concluded between Energorynok SE and the WEM members under the agreement;
  - Bilateral foreign economic contracts (agreements) concluded between Energorynok SE and foreign partners to import and export electricity;
  - Licenses of the NEURC (NERC) to conduct generation, transmission and supply of electricity at regulated and unregulated tariffs;
  - Decisions of the Government of Ukraine and resolutions of the NEURC (NERC).
- (4) The current WEM model was introduced during the reform of the electricity sector in 1996 and is an integral regulated system of relations between business entities in the purchase and sale of electricity, operating on the principles of self-governance and transparency.
- (5) The WEM operates in compliance with the following requirements:
  - All business entities engaged in generation, transmission, distribution and supply of electricity have equal access to the WEM services and electricity networks after the receipt of the license for these activities;
  - Electricity is sold and purchased by the WEM Rules;
  - Electricity prices of generating companies and wholesale prices are determined by the WEM Rules;
  - All members of the WEM conclude electricity sale-purchase contracts with Energorynok SE on the ground of the contract, under which the WEM is created;
  - In each settlement period (month) payment for electricity and services purchased in this period by Energorynok SE is ensured in equal percentage to each electricity generating company (other than entities that generate electricity using alternative energy sources (except blast furnace and coking gases, and in case of hydroelectricity - only by micro, mini and small HPPs) and NEC Ukrenergo SE. This payment is ensured taking into account the final payment on the ground of the contract, under which the WEM is created.
- (6) The WEM is created on the ground of the agreement between the members of the WEM (AMWEM), parties of which are electricity generators, suppliers, wholesale electricity supplier (Energorynok SE) and the company conducting central dispatching (operational) control of the UES of Ukraine and transmission of electricity through trunk and interstate electric networks (NEC Ukrenergo SE).
- (7) The agreement defines the purpose and conditions, rights, duties and responsibilities of the parties. The agreement was concluded between the members of the WEM of Ukraine (AMWEM) on November 15, 1996.
- (8) The WEM Rules constitute an integral part of AMWEM and determine the mechanism of functioning of the WEM, the order of load distribution between generating sources, and rules of formation of market prices for electricity.

<sup>74</sup> According to the explanations of the WEM Council (letter dated No.115 as of February 25, 2016), the WEM is a special, legally established market model, which differs significantly from other markets, including state restrictions on freedom of business activity of its members.

<sup>75</sup> Under Article 15 of the Law of Ukraine "On Electricity":

- AMWEM are agreed with the central executive body in the electricity industry - NEURC.



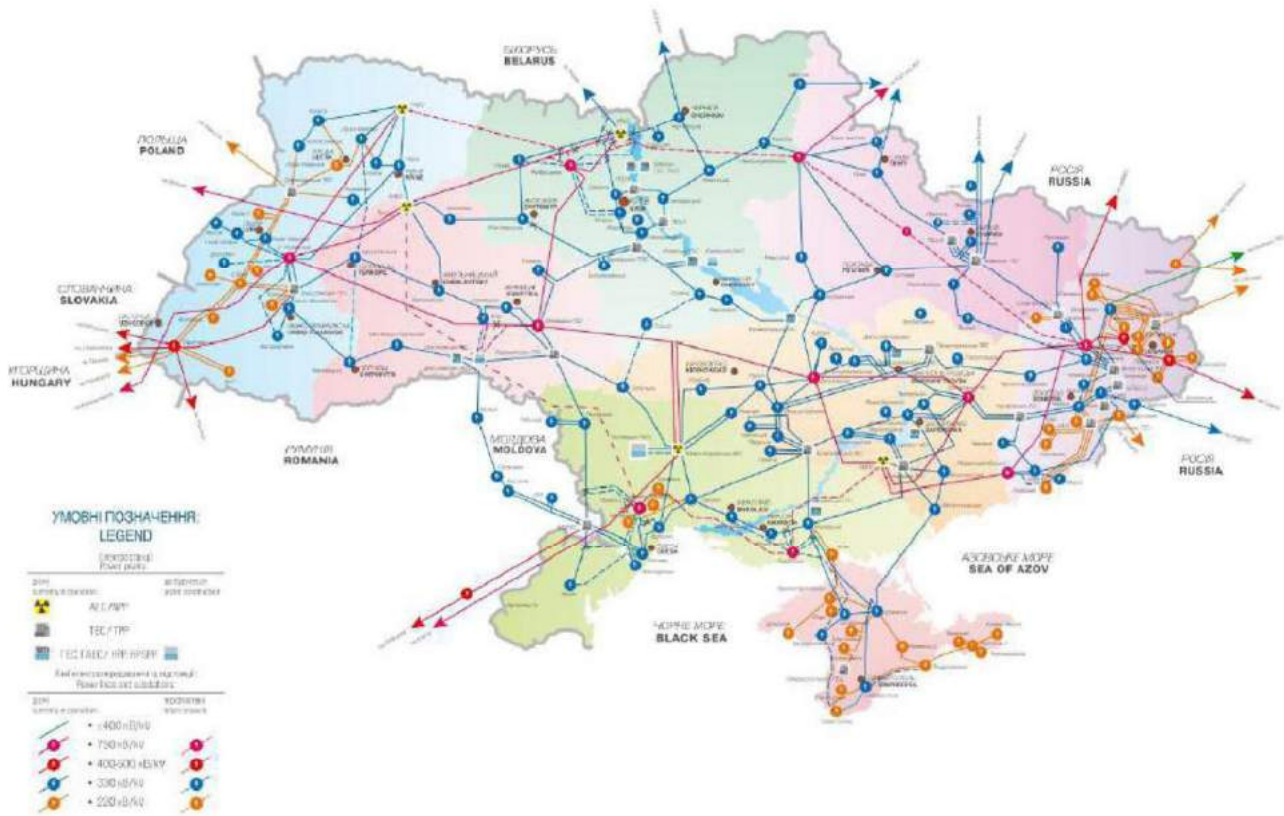
### The WEM operation scheme

<sup>76</sup> Letter of the WEM Council No. 221 as of April 14, 2016.

- (22) Today, the members of the WEM constitute about 400 business entities of all forms of property that obtained respective license for the certain type of activity and joined AMWEM.
- (15) During 2013-2014 and the first half of 2015, market participants consisted of:
1. The electricity generators:
    - 5 electricity generating companies operating thermal power plants (14 TPPs) and working at the daily hour-by-hour price bids;
    - One national nuclear energy company that combines four nuclear power plants, one hydroelectric power plant, one pumped storage power plant and one wind power plant;
    - One hydro power generating company, which unites 9 largest HPPs;
    - 45 thermal power cogeneration plants and other lower capacity generators (isolated generating plants);
    - More than 130 generators of various types of ownership, which generate electricity from alternative (renewable) energy sources, including WPPs, small HPPs and SPPs.
  2. Wholesale electricity supplier - Energorynok SE which ensures the operation of the WEM, including the development of load schedule, definition of the wholesale market price, and settlement with the generators.
  3. The operator of trunk and interstate electricity networks - NEC Ukrenergo SE, which transmits electricity through trunk and interstate electric networks and conducts dispatching based on load schedules developed by Energorynok SE;
  4. Electricity suppliers of different types of ownership, purchasing electricity on the market for supply to the consumers and to exports (SUT and SRT).
- (17) Therefore, the electricity industry of Ukraine operates on the basis of the wholesale electricity market model established in 1990s under example of electricity pool model of Great Britain and Wales. The basis of the existing model consists of the principles of preserving the UES of Ukraine and its centralized management<sup>77</sup>. Since 1996, the wholesale electricity market has been functioning under a "single buyer" (pool) market model. The model is based on the fact that generators generate electricity and sell it to the Energorynok SE, which immediately sells it to distribution companies (regional energy companies (oblenergo) and independent suppliers).
- (18) Then SUT and SRT sell electricity to retailers and large industrial consumers.
- (19) However the prices and tariffs for electricity are at all stages directly or indirectly regulated by the NEURC<sup>78</sup>.
- (20) The basis of electricity industry of the country is the UES of Ukraine.
- (21) The UES of Ukraine operates in parallel with the electricity systems of Belarus, Moldova, the Russian Federation, except the so-called "Burshtyn TPP island", which is synchronized with the European Network of Electricity Transmission System Operators (EOT80-E). Electric connections between the UES of Ukraine and adjacent energy systems are made via 110-750 kW networks.

<sup>77</sup> Supported by the experts' and scientists' conclusions, in particular by information specified in the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

<sup>78</sup> According to Ukrainian Energy Assembly NGO (letter No. 145-02/16 as of March 10, 2016), the main reason that led to the total state regulation and electricity market competition limits, has become the state policy to maintain low prices for the population at the expense of cross-subsidization.

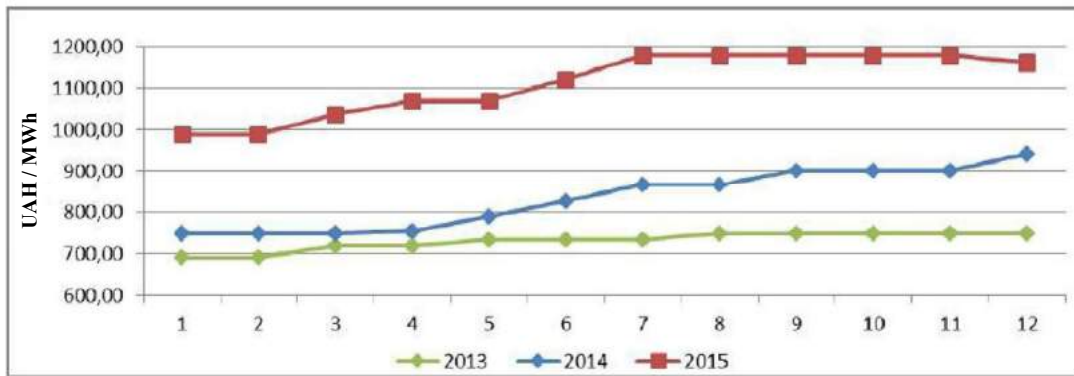


*The United Energy System of Ukraine*

- (22) Therefore, in the late 90s of XX century conditions for liberalization of the electricity sector in Ukraine and the development of competition were created. The economic nature of the chosen model of the WEM was in division of generation, transmission and supply of electricity into separate activities and creation of competitive environment in the energy sector.
- (23) An important indicator of the WEM operation is the WMP which should be formed as a result of interaction between electricity demand and supply. Wholesale price must include fluctuations in energy prices, and tariffs for transmission and supply, upon requests of licensees, must be reviewed by the NEURC on the grounds of reasonable expenses necessary for the implementation and current activities and development of the company.
- (24) However, a more detailed study of the WMP formation mechanism in the electricity sector in Ukraine gives grounds to conclude that it has not met the parameters of efficiency yet. This is caused by a number of serious problems that remain to be unsolved.
- (25) In particular, following the settlement month, according to operational information on deviation of actual WMP from the forecast one approved by the NEURC for the relevant settlement month, shall not exceed 0.015%<sup>79</sup>.
- (26) Approximation of actual WMP to the forecast level in conditions of constant fluctuations in demand for electricity and its supply structure to the WEM is conducted by adjusting the indicators used to calculate payments for flexibility and operating capacity of generators working through bidding.
- (27) In recent years, WMP has grown, and in 2015 the growth was extremely rapid.

<sup>79</sup> Supported by explanations of the WEM Council in the letter No. 645 as of September 2, 2015.

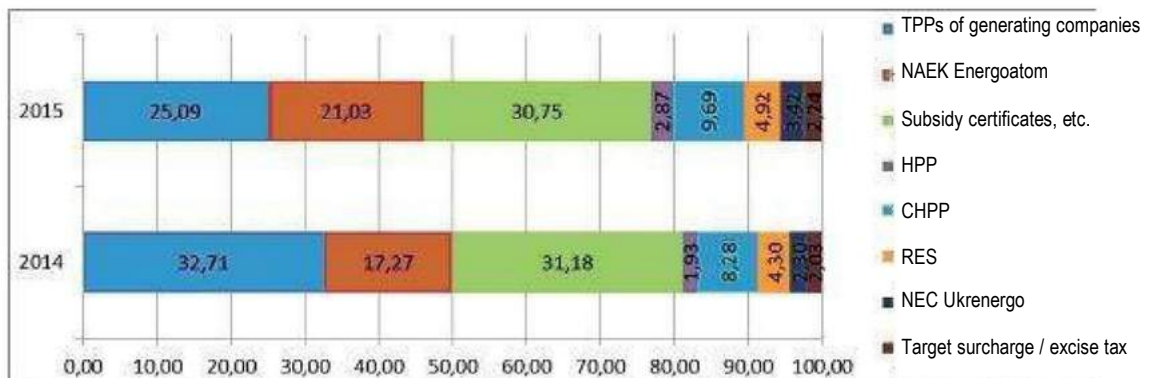




*Dynamics of the WMP in 2013-2015*

(28) According to the NEURC<sup>80</sup>, the growth of WMP in 2015 was caused by:

- Increase by 33.07% of cost of electricity sold in the WEM by RES generators (tariff growth by 53.32%);
- Increase by 72.31% of cost of electricity sold in the WEM by HPPs of Ukrhydroenergo PJSC (tariff growth by 136.64%);
- Increase by 41.58% of cost of electricity sold in the WEM by NAEK Energoatom SE (tariff growth by 42.71%);
- Increase by 36.21% of cost of electricity sold in the WEM by CHPP;
- Increase by 72.99% of NEC Ukrenergo SE payment;
- Increase by 233.44% of Energorynok SE payment, due to the increase in expenses in the company's budget related to the issue, servicing and repayment of bonds and opening credit facilities for settlements with electricity generators;
- On January 1, 2015 amendments were made to the Tax Code of Ukraine regarding the inclusion of electricity to the list of excisable goods, resulting in paid excise tax of 3.2% (prior to January 1, 2015 - a duty on the form of surcharge to current 3% tariff for electricity and thermal energy);
- Increase by 7.4% (from UAH 40 825 million to UAH 43 848 million) of the amount of subsidies to compensate for the losses of electricity supply companies caused by supply of electricity at regulated tariffs to privileged categories of consumers.



*WMP structure in 2015*

(29) Therefore, we can see a non-transparent formation of WMP during the examined period, which does not reflect supply and demand, and its growth is hindered by administrative methods rather than by the competition on the market<sup>81</sup>.

<sup>80</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>81</sup> Supported by the experts' and scientists' conclusions, in particular by information specified in Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, Phd in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)).

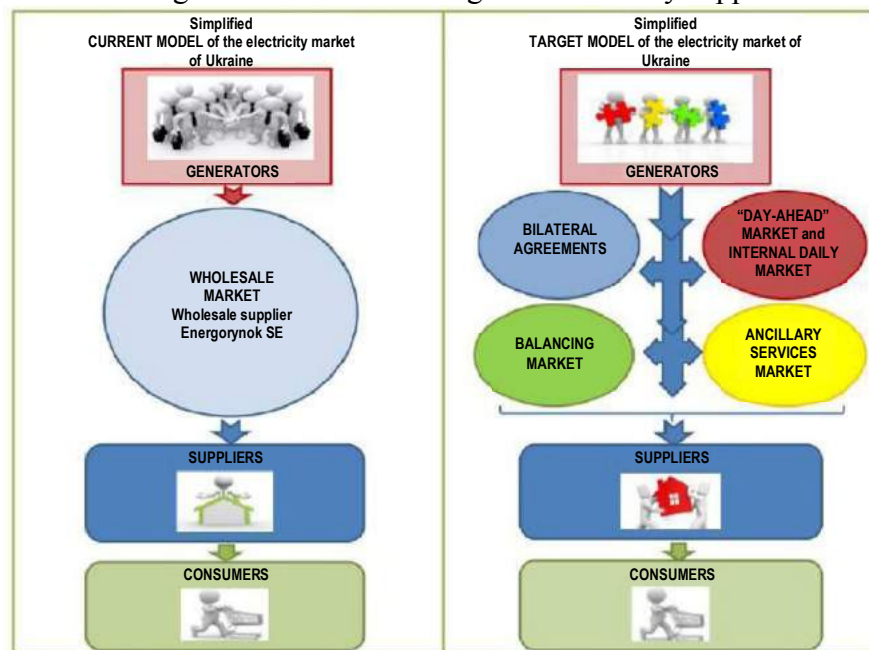
### *The reform of electricity markets*

- (30) The development of electricity market competition and preventing its elimination and restriction is one of the main commitments undertaken by Ukraine under the Treaty establishing the Energy Community<sup>82</sup>.
- (31) Electricity markets of the EU (Great Britain, Germany, France, Poland, Sweden, Finland, Norway, etc.) operate according to the principles set in the Directive 2009/72/EU concerning common rules for the internal electricity market and termination of the Directive 2003/54/EU, the Regulation (EU) N 9714/2009 on conditions for access to the network for cross-border electricity exchanges and termination of the Regulation (EU) No. 1228/2003, current Electric Networks Codes EMT50 Codes EMT50-E, etc.
- (32) It should be noted that Ukraine, as a member of the Energy Community, starting from 2011, according to the Decision of the Council of Ministers of the Energy Community as of October 6, 2011 (Decision 2011/02/MC-EpS) is obliged to implement prior to January 1, 2015, the Third Energy Package (the Directive 2009/72/EU concerning common rules for the internal electricity market and termination of the Directive 2003/54/EU, the Regulation (EU) N 9714/2009 on conditions for access to the network for cross-border electricity exchanges and termination of the Regulation (EU) No. 1228/2003).
- (33) Electricity market of the EU (Great Britain, Germany, France, Poland, Sweden, Finland, Norway, etc.) contains the following: bilateral agreements market, "day ahead" market, internal daily market, balancing market, retail electricity market and ancillary services market.
- (34) Under bilateral electricity sale-purchase agreements market participants determine the contractors, prices and volumes of supplies (goods turnover conditions), which promotes competition and, therefore, encourages efficiency by all market participants.
- (35) Deviations from the planned volume of electricity supply are sold and bought by market participants on the balancing electricity market to the transmission system operator (balancing market operator). In order to cover the imbalances, the transmission system operator on the balancing market sells electricity on the results of the selection of available at the balancing market offers (bids) for sale/purchase of electricity from balancing members (generators and consumers with controlled load). The operation of balancing market and responsibility for imbalance encourage consumers to better forecasting and optimization of consumption schedules.
- (36) On the retail electricity market, consumers buy electricity from electricity suppliers. The consumers at their own discretion may buy electricity from any of the suppliers under the electricity supply contract.
- (37) On the ancillary services market, transmission system operator (system operator) buys ancillary services to ensure sustainable and reliable energy system operation and quality of electricity. Ancillary services market allows to stimulate maintenance and improvement of the current level of ancillary and system services that include primary and secondary frequency control, voltage adjustment, emergency control system, reserves of manual input, etc.
- (38) Therefore, on electricity markets in Europe and other countries, supply and demand for the product (electricity) is exclusively regulated by relations between electricity generators and consumers. The functions of the transmission system operator (system operator) in the market are reduced to stimulate the participants to the proper forecasting of their activities and ensure a sustainable and reliable energy system operation. Furthermore, the transmission system operator (system operator) sells electricity in case of imbalance of electricity using balancing market. The system operator buys ancillary services at the ancillary services market, namely the services to maintain appropriate reserves for loading or unloading with a different response time for orders of the dispatcher. These services are purchased under the contract, where the price, subject matter and parties are specified.
- (39) The tools for development of competition in the EU markets are as follows:
  - Unbundling: separation of natural monopoly (transmission and distribution) from competitive activities (generation and supply);
  - Free access to networks and free market access for new market participants;

<sup>82</sup> Ukraine was granted the status of the Contracting Party to the Energy Community of South East Europe as of February 1, 2011. Protocol of Ukraine's accession was signed on September 24, 2010 and ratified by the Law of Ukraine on Ratification of the Protocol of Ukraine's Accession to the Treaty establishing the Energy Community as of December 15, 2010 No. 2787JL.



- Unification of markets (exchanges associations and associations of balancing markets): transition from national to regional markets and in the final phase – the common European market;
  - Simplification, standardization and transparency of rules and other procedures, including congestion management and distribution of cross-border connections capacity;
  - Development of transmission networks and cross-border connections;
  - Market pricing in the wholesale market and the retail market.
- (40) In the end of 2013 the Verkhovna Rada of Ukraine adopted the Law of Ukraine “On Fundamentals of the Operation of the Electricity Market” No. 663-VII, which is partially implemented in the Ukrainian legislation the provisions of the Second Energy Package of the EU.
- (41) At this, since at that time the EU and the Energy Community has already made a decision on the introduction of “Third Energy Package of the EU”, in order to amend the legislation of Ukraine in line with the Third Energy Package of the EU, in 2015 a preparation of draft Law of Ukraine “On the Electricity Market of Ukraine” was initiated by the Ministry of Energy and Coal Mining of Ukraine with the active participation of the AMCU<sup>83</sup>.
- (42) Adoption of this law will replace the current Law of Ukraine "On Fundamentals of the Operation of the Electricity Market" and the Law of Ukraine "On Electricity" and strengthen the operation of competitive mechanisms of electricity market.
- (43) In particular, the structure of the market segments shall be changed, various mechanisms of sale-purchase of electricity and ancillary services shall be introduced (bilateral agreements, “day-ahead” market and internal daily market, balancing market, and ancillary services market) and new rules of the market (including in terms of pricing - switch from the administrative practice of pricing to market mechanisms), transparent and non-discriminatory rules for market participants to access networks of transmission and distribution operators, role and rights of consumers in the electricity market shall be enhanced, etc.
- (44) Consumers shall have the right to choose and change the electricity supplier.



*Schemes of operating and new electricity market models*

- (45) Adoption of the law that meets the requirements of the Third Energy Package of the EU will be a necessary prerequisite for the development of competition in the electricity market, structural changes in the electricity sector of Ukraine, the basis for the modernization of the sector and the integration of electricity market of Ukraine in the regional energy market, with the subsequent entry to the European energy market.

<sup>83</sup> Draft Law of Ukraine “On the Electricity Market of Ukraine” (registered with the Verkhovna Rada of Ukraine under No. 4493 on April 21, 2015)

### ***Bilateral contractual relations in the WEM***

- (46) According to the Law of Ukraine “On Electricity”, statutory regulations of the NEURC (NERC) and AMWEM between the members of the WEM, bilateral agreements on sale-purchase goods (works and services) that are traded on the WEM are concluded between a Wholesale Electricity Supplier (Energorynok SE) and other members of the WEM with regards to the following:
1. Wholesale purchase of electricity (with electricity generators and importers).
  2. Wholesale sales of electricity (with electricity suppliers).
  3. CDC of the UES of Ukraine and ETTIN (with NEC Ukrenenergo SE).
- (47) Each member of the WEM is obliged to sell all generated and imported electricity to Energorynok SE in the WEM in accordance with AMWEM and bilateral agreements concluded in connection with it<sup>84</sup>.
- (48) Energorynok SE is obliged, in particular, to purchase electricity from generators and make payments under AMWEM and bilateral agreements. Also, it is a purchase of electricity from other business entities that conduct sales on the wholesale market<sup>85</sup>.
- 49) Energorynok SE stated<sup>86</sup>:
- “In accordance with the Law, Energorynok SE purchases electricity from generators and sells it to suppliers under bilateral agreements which all participants of the WEM conclude with Energorynok SE under paragraph 2.3.1 of AMWEM. All electricity that is bought and sold by Energorynok SE, shall meet the state quality standards set by Interstate standard GOST 13109-97 “Electricity. Electromagnetic Compatibility of Technical Means. Electricity quality standards in public electricity supply systems”, put into force as the State Quality Standard of Ukraine by the Order of the State Committee for Technical Regulation and Consumer Policy No. 354 as of June 18, 1999, from January 1, 2000 - DSTU 13109-97 “Electricity state standards in public electricity supply systems”.*
- (50) According to the examined contracts concluded between Energorynok SE and the generators of electricity, the subject matter of the agreement stipulates that the relevant generator agrees to sell and Energorynok SE is obliged to purchase electricity generated by the generator and make payment under the terms of such agreements<sup>87</sup>.
- (51) Electricity generators, depending on the electricity sale conditions in the WEM, are divided into:
- Generators working through bidding;
  - Generators not working through bidding.
- (52) Sale-purchase of electricity from generators not working through bidding is conducted at tariffs for electricity pre-established by NEURC for each of these generators.
- (53) Subject to subsections 8.1-8.7 of the WEM Rules, Energorynok SE defines for generators working through bidding the hourly values of the payments, the amount of which depends on the respective generator at the WEM (volume of generation, flexibility, discipline, etc.)<sup>88</sup>.
- (54) Furthermore, in accordance with subsection 8.8 of the WEM Rules and the monthly values set by the NEURC regulations for generators working through bidding, hourly value of additional payments are determined<sup>89</sup>.
- (55) In accordance with subsections 8.9 and 8.10 of the WEM Rules, Energorynok SE defines for generators working through bidding the total payment and the average price for electricity sold in the WEM within settlement day.

<sup>84</sup> Under paragraph 2.3.1 of the AMWEM.

<sup>85</sup> Under paragraph 3.1 of the AMWEM.

<sup>86</sup> Letter of SE “Energorynok” No. 01/31-9506, as of August 13, 2015.

<sup>87</sup> For example, contracts entered into by and between Energorynok SE and DTEK Skhidenergo LLC (No. 1034/01 as of April 1, 2002), Centrenergo PJSC (No. 71/01-EP as of September 7, 1999), Donbasenergo PJSC (No. 70/01-EP as of August 31, 1999), DTEK Dniproenergo PJSC (No. 69/01-EP as of August 30, 1999), DTEK Zakhidenergo PJSC (No. 62/01-EP as of August 17, 1999), NAEK Energoatom SE (No. 698/05-HAEK/640/01 as of May 18, 2001), Ukrhydroenergo PJSC (No. 3304/01 as of January 31, 2006), Ukrinterenergo SFTC (No. 4297/02 as of October 31, 2008) and Dunaiska SPP-1 LLC (No. 9000/2 as of October 19, 2015).

<sup>88</sup> Payment for electricity sold in the WEM, payment for deviation of actual generation from the set schedule for creation of reserve and performance of the system requirements, reducing payment of units for disruption, reducing payments for failure to comply with scheduled major, medium and minor repairs, payment for operating capacity, payment for flexibility, payment for unit start-up, payment for discharge below the minimum plant equipment.

<sup>89</sup> Additional payment for reconstruction and modernization of power equipment of the generator; additional payment pursuant to laws and government decisions, bad debt repayment; additional payment for the resolution of any dispute in connection with the measurements specification or other agreed adjustments; additional payment for building units of generators working through bidding; additional payment to reduce the payments to the generator working through bidding for the use of additional funds received; reduced payment to producer for violation of the Procedure for reconstruction and modernization of thermal power plants.

- (56) At the end of the reporting month in accordance with paragraph 8.19.1 of the WEM Rules for the relevant (specific) generator working through bidding, Energorynok SE defines the average price according to a daily calculation of payments cumulatively for the reporting month, which is submitted to the NEURC for approval of tariffs for electricity sold in the WEM by electricity generators working through bidding for the reporting month.
- (57) Purchase by Energorynok SE of other goods (works and services), in addition to electricity, from electricity generators is not provided for by the electricity legislation and AMWEM.
- (58) In accordance with agreements<sup>90</sup> concluded between Energorynok SE and the generators of electricity working through bidding, electricity is the only commodity that is sold by the generator of electricity working through bidding and purchased and adequately paid by Energorynok SE.
- (59) However, Energorynok SE and the generators of electricity working through bidding, have not concluded any agreements sale/purchase of ancillary goods (works and services) from such generators, including the services of operating capacity, flexibility, unit start-up, etc.
- 60) Energorynok SE informed<sup>91</sup>:
- "Payments that are charged to generators working through bidding for operating capacity, flexibility, unit start-up, etc., are not the charges for providing by such generator of specific services. Because in the current market model all electricity generated by generators working through bidding, is sold to the wholesale supplier, and currently no separate market segment for ancillary services is provided. Additional payments (for operating capacity, flexibility, etc.) for generators working through bidding, are part of general tariff for the products sold in the WEM, and are stimulating payments for generators."*
- (61) The above position of Energorynok SE is supported by information received from the generators of electricity working through bidding.
- (62) Donbasenergo PJSC informed<sup>92</sup>:
- "According to the bilateral agreement No. 70/01-EP as of August 31, 1999 concluded between Energorynok SE and Donbasenergo PJSC, the electricity is sold rather than service of operating capacity, flexibility, unit start-up, etc. All payments (for operating capacity, flexibility, etc.) are part of the tariff for the electricity sold. Therefore, payments that are charged to the Company in the course of activities related to the sale of electricity in the Wholesale Electricity Market of Ukraine through bidding are the payments for electricity."*
- (63) Generators not working through bidding at the WEM do not sell goods, services and works, except electricity.
- (64) Given the above, in the WEM, Energorynok SE, under the terms of the relevant bilateral agreements, purchases only one commodity from generators and importers - electricity.
- (65) Wholesale supply of electricity means purchase of electricity, the formation of its wholesale prices and sale of electricity at wholesale price to energy supplier<sup>93</sup>.
- (66) Energy suppliers mean members of the WEM that buy electricity on the market in order to sell and/or supply to customers or for export and/or import.
- (67) Energorynok SE sells all electricity to each electricity supplier on the ground of sale-purchase agreements concluded between Energorynok SE and the supplier under AMWEM. Terms of this agreement must comply with standard contracts<sup>94</sup>.
- (68) SUT is obliged to purchase electricity from Energorynok SE under the terms of its activities<sup>95</sup>.
- (69) SRT is obliged to purchase electricity on the wholesale electricity market under the terms of its activities and carry out a proper settlement with WES, as well as with business entity conducting

<sup>90</sup> For example, agreements concluded between Energorynok SE and DTEK Skhidenergo LLC (No.1034/01 as of April 1, 2002), Centrenergo PJSC (No. 71/01-EP as of September 7, 1999), Donbasenergo PJSC (No. 70/01-EP as of August 31, 1999), DTEK Dniπροenergo PJSC (No. 69/01-EP as of August 30, 1999), DTEK Zakhidenergo PJSC No. 62/01-EP as of August 17, 1999).

<sup>91</sup> Letter of SE "Energorynok" No. 01/31-9506. as of August 13, 2015.

<sup>92</sup> Letter of Donbasenergo PJSC No. 01-1.1/02757 as of July 22, 2015.

<sup>93</sup> Under Article 1 of the Law of Ukraine "On Electricity":

<sup>94</sup> In accordance with paragraph 3.4.5 of the Terms and Conditions for the wholesale electricity supply approved by the National Energy Regulatory Commission of Ukraine No. 256 as of December 16, 1996.

<sup>95</sup> In accordance with paragraph 2.4 of the Terms and Conditions for business of electricity supply at unregulated tariff approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 36 dated August 12, 1996;

transmission of electricity due to the supplier of electricity at unregulated tariff, if the electricity is supplied by networks, which do not constitute its property<sup>96</sup>.

- (70) Supplier of electricity at regulated tariffs enters into the sale-purchase agreement with WES according to the agreement, on the ground of which wholesale electricity market is created.
- (71) Therefore, the suppliers of electricity at unregulated tariff and the regulated tariff purchase electricity in the WEM of Ukraine with the purpose of resale and/or import.
- (72) The above is supported by the terms of agreements concluded between the Energorynok SE and the respective SUT and SRT.
- (73) According to the Contract No. 6857/02 as of March 30, 2011 concluded between Energorynok SE and Center for energy modeling LLC, Contract No. 3908/02 as of January 15, 2007 concluded between Energorynok SE and Kolos GC, and contract No. 4674/01/2-30/04 concluded between Energorynok SE and Kharkivoblenergo JSC, Energorynok SE is obliged to sell and the respective supplier is obliged to purchase electricity and make payments under the terms of respective contract.
- (74) Furthermore, certain generators purchase electricity in the WEM, namely Ukrhydroenergo PJSC and NAEK Energoatom SE for supply to HPSPP, TEK LLC and Skhidenergo LLC to compensate for losses in ENTSO-E, DTEK Donetskoblenenergo PJSC and LEO LLC in non-controlled territories, and Ukrinterenergo SFTC to compensate for losses in Russia and ENTSO-E, as well as for electricity supply to the Autonomous Republic of Crimea.
- (75) Given the above, wholesale supplier of electricity under the terms of the relevant bilateral agreements sells and licensees supplying electricity at regulated tariff and at unregulated tariff purchase electricity in the WEM (and in some cases - other entities - members of the WEM).
- (76) NEC Ukrenergo SE may enter into the following contracts<sup>97</sup>:
  - 1. On the central dispatching (operational) control of the UES of Ukraine and transmission of electricity through trunk and interstate electric networks, agreed by the NERC.
  - 2. On supporting measures.
  - 3. On connection/disconnection to/from trunk and interstate electric networks.
  - 4. On access to networks.
- (77) At the same time, Energorynok SE<sup>98</sup> may conclude with NEC Ukrenergo SE agreement on the central dispatching (operational) control of the UES of Ukraine and transmission of electricity through trunk and interstate electric networks, agreed by the NERC.
- (78) Paragraph 3.9.2 of the Terms and Conditions No. 152 provides that the licensee of electricity transmission via trunk and interstate electric networks applies tariff for the transmission of electricity via trunk and interstate electric networks (hereinafter referred to as the tariff). This tariff is subject to regulation and approval by the NERC.
- (79) The wholesale supplier of electricity in the WEM under the terms of the relevant bilateral agreements purchases and the licensee of electricity transmission via trunk and interstate electric networks sells services on electricity transmission via trunk and interstate electric networks, including central control of the UES of Ukraine and supporting measures.
- (80) Therefore, there is the united WEM of Ukraine operating in Ukraine, where, in appropriate time intervals within the territory of Ukraine, there is supply and demand for the goods (works and services), and which operates under article 15 of the Law of Ukraine "On Electricity" and AMWEM.
- (81) Analysis of existing contractual relations allows to separate the following markets that operate in the single WEM<sup>99</sup>:**

<sup>96</sup> In accordance with paragraph 2.7 of the Terms and Conditions for business of electricity supply at regulated tariff approved by the resolution of the National Energy Regulatory Commission of Ukraine No. 15/1 dated June 13, 1996;

<sup>97</sup> Under the Terms and Conditions for the business of electricity transmission via trunk and interstate electric networks approved by the Ruling of the National Energy Regulatory Commission of Ukraine No. 152 as of December 16, 1996.

<sup>98</sup> In accordance with the Terms and Conditions for the wholesale electricity supply approved by the National Energy Regulatory Commission of Ukraine No. 256 as of December 16, 1996.

<sup>99</sup> The WEM Council (letter No. 115 as of February 25, 2016) did not agree with the conclusions of the Committee regarding the presence in the WEM of three separately functioning markets and stated that it is incorrect to examine individual market subjects, such as generators or Energorynok SE, apart from other united market model participants (suppliers and customers). Respective opinion of the WEM is supported by Energorynok SE, NAEK Energoatom SE, Ukrhydroenergo PJSC, Ukrainian Energy Assembly NGO, and DTEK Group.

At the same time, the correct approach of the Committee is supported by:

- 1) **The national market of electricity, which is acquired by Energorynok SE to conduct the wholesale supply of electricity in the WEM of Ukraine (generation market).**
- 2) **The national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity in the WEM of Ukraine (electricity wholesale market).**
- 3) **The national market of electricity transmission via trunk and interstate electric networks, including central dispatching (operational) control of the UES of Ukraine and provision of supporting measures purchased by Energorynok SE to conduct the wholesale supply of electricity in the WEM (electricity transmission services market).**

- Conclusions presented in the report of A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, Phd in Economics; S.V. Telyatnikov, junior research associate, on Analysis of Competition and Market Power on the Electricity Market in Ukraine (Kyiv 2016).
- Opinion of G.M. Filyuk, ScD in Economics, professor, stated in the Research Project "Problems of Competition in the Energy Industry of Ukraine".
- The practice of the European Commission, which, according to the traditional definition of product market boundaries, separates the wholesale electricity market from the market of supply to end consumers, including large business entities, which in turn is the last link of electricity market. However, wholesale electricity market is defined as the first level of supply by all power generating companies, including imported electricity, which is used for resale (for example, decision of the Commission in case M.5467, paragraphs 231-234).

## 2. STATE OF COMPETITION IN THE WEM MARKETS. ISSUES AND SOLUTIONS

### 2.1. ELECTRICITY GENERATION MARKET

#### 2.1.1. The main purchasers in the electricity market

- (1) The national electricity market operates as part of the Wholesale Electricity Market of Ukraine; electricity is purchased by Energorynok SE to conduct the wholesale supply of electricity (generation market)<sup>100</sup>.
- (2) The only commodity in this market is electricity, regardless of the power generating plant (NPP, TPP, CHPP, HPP, HPSPP, etc.).
- (3) The territory of this market is the territory of Ukraine<sup>101</sup>.
- (4) Time limit of this market is the calendar year.
- (5) Given the above, the time limit of the national market of electricity, purchased by Energorynok SE to conduct the wholesale supply of electricity in the WEM is the calendar year. Market research period is 2013, 2014 and the first half of 2015.
- (6) The main consumers of electricity<sup>102</sup> are:
  1. Population - consumption of electricity is about 20 percent of total WEM.
  2. Industry - consumption of electricity about 40 percent of the total WEM, with about 26 percent of electricity purchased from suppliers by industrial consumers of electricity at regulated tariffs, and about 14 percent - from suppliers of electricity at unregulated tariffs.
  3. The volume of electricity consumption for housing and utilities, including waterways, is 5 percent of the total WEM (the share of water utilities is 2 percent).
  4. Electricity consumption in agriculture is 1.5 per cent of the total WEM.
  5. Institutions and organizations financed by the state and local budgets consume 3.4 percent of total electricity.
  6. About 5 percent of the electricity of the total WEM is exported.
  7. The rest of the electricity is used to meet the needs of consumers and to cover losses in electric networks.
- (7) All these consumers purchase electricity under agreements for the supply of electricity at regulated tariffs or sale-purchase of electricity at unregulated tariff from retail suppliers.
- (8) The demand for electricity is constantly variable, which varies depending on time of day, day of week, weather, seasons and more.<sup>103</sup>
- (9) SUT and SRT purchase electricity from Energorynok SE, which under the law has the exclusive right to purchase all electricity generated by power plants in Ukraine and imported to Ukraine energy system from neighbor states.
- (10) Energorynok SE, SUT and SRT do not form the demand for electricity, but reflect the demand of end consumers in the amounts of their own needs.
- (11) Energorynok SE, in the course of purchase of electricity, may at its discretion choose any source, the volume and the price to purchase electricity, and these activities of Energorynok SE are regulated by relevant legislation and AMWEM<sup>104</sup>.

<sup>100</sup> According to the EC practice, the market segment, which, due to state regulation of electricity generating companies, supply electricity to wholesale purchaser, i.e. at "single buyer" model, is considered to be a separate product market (see. decision of the Commission M.3696).

<sup>101</sup> Regarding the geographical boundaries of the wholesale electricity market (generation and sale of electricity by generating companies) - The Commission came to the conclusion that they cannot be larger than the state. For example, the case M.1346 (paragraph 12) determined that the relevant geographic generation market boundaries cannot be wider than boundaries of England and Wales. As the argument, in support of this conclusion, the following aspects are indicated:

(i) Electricity generating companies can sell it only through a special wholesale mechanism called "Pool" and limited to the England and Wales;

(ii) Relations between England and Wales and neighboring countries, including Scotland and France, have a limited capacity which is less than 6% of total capacity.

There is a similar situation in the market, under the study - all the electricity generated and imported, can only be purchased by Energorynok SE and only in Ukraine, while import capacity is only about 10.5% of total power generation (for example, the Decision of the Commission in cases COMP/39.388 and COMP/39.389, in which the geographic boundaries of the wholesale electricity market defined by state boundaries - Germany).

<sup>102</sup> In accordance with the Report on results of the NEURC activity in 2014, approved by the Ruling of the NEURC No. 971 as of March 31, 2015 and published on the official website of the NEURC.

<sup>103</sup> For example: - In October - March - the maximum demand for electricity, the highest daily schedule irregularity, in June and April - consumption of electricity after winter begins to rapidly decline, July - September - period of minimum power consumption (especially at night time);

- In the night electricity demand is minimal, and in the period from 17.00 to 23.00 reaches its maximum volume.

<sup>104</sup> Letter of SE "Energorynok" No. 01/31-9506. as of August 13, 2015.

- (12) Energorynok SE is obliged to purchase electricity from generators (as well as other business entities selling of electricity in the WEM<sup>105</sup> and make payments according to AMWEM and bilateral agreements.
- (13) **Energorynok SE is the only entity that conducts wholesale purchase of electricity from generators and importers.**
- (14) **Therefore, any competition between purchasers of electricity is absent in the WEM, and no potential competitors of Energorynok SE, purchasing electricity from generators and importers, are present.**
- (15) **Based on the above, in 2013, 2014 and the first half of 2015, in the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity in the WEM, Energorynok SE, as the only purchaser, owned market share, the size of which can be considered as a structural feature (indicator) of monopoly (dominant) position<sup>106</sup>.**
- (16) **At the same time, market power of Energorynok SE is significantly limited by state influence on market resources content and market pricing<sup>107</sup>.**

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<sup>105</sup> Purchase of electricity by the WEM participants, received under the import agreements, as well as from businesses that own electricity generated from raw materials (according to the Rulings of the Cabinet of Ministers of Ukraine No. 922 as of June 5, 2000 "On the approval of Energorynok SE status" , No. 755 as of May 5, 2000 "On establishment of Energorynok SE").

<sup>106</sup> Supported by explanation of the results of the Research report "Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor).

<sup>107</sup> Supported by the experts' and scientists' conclusions, in particular by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; A.G. Gerasymenko, ScD in Economics, associate professor, G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine and B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine), Memorandum "Issues of competition law in the study of electricity market conducted by the AMCU" (author: Latham & Watkins), the Expert opinion on the conformity of the AMCU conclusions on the definition of dominance and collective dominance in the WEM to the EU law enforcement practice (author: K.V. Smirnova, LL.D., associate professor (T. Shevchenko Kyiv National University)), the Expert opinion on the correct interpretation and application of certain provisions of Article 12 of the Law of Ukraine "On Protection of Economic Competition" (authors: A.R. Matsyuk, LL.D., professor, honored lawyer of Ukraine; M.Ya. Shvets, ScD in Economics, professor, honored scientist of Ukraine; T.V. Skomorokha, PhD in Law, honored lawyer of Ukraine).

## 2.1.2. MAIN SELLERS IN THE ELECTRICITY GENERATION MARKET AND THE COMPETITION BETWEEN THEM

- (1) In general 263 entities in Ukraine as of June 2015 obtained the license for electricity generation<sup>108</sup>. However, during the study period the number of such entities increased, in particular, during 2013 - the first half of 2015 the license to generate electricity was obtained by 88 entities<sup>109</sup>.
- (2) At the same time, business entities, that obtained license during the study period, are mostly categorized as "green" producers and have low installed capacity.
- (3) Main generating capacities of the UES of Ukraine concentrated at<sup>110</sup>:
  - Five power generating companies - DTEK Dniproenergo PJSC, Donbasenergo PJSC, Centrenergo PJSC, DTEK Zakhidenergo PJSC, DTEK Skhidenergo PJSC, which generally operate 14 TPPs with units capacity of 150, 200, 300 and 800 MW, and three large CHPPs (Kharkiv CHPP-5, Kiev CHPP-5 and 6) with power units of 100 (120) MW and 250 (300) MW of other entities. The total number of units at TPP and CHPP is 106 units, including with the following capacity: 100 (120) MW - 4, 150 MW - 6, 200 MW - 42, MW 250 - 5,300 MW - 42, MW 800 - 7 units;
  - NAEK Energoatom SE: four nuclear power plants with operation of 15 units, 13 of which - VVER-1000 reactors with capacity of 1000 MW and 2 - VVER-440 reactors with capacity of 415 and 420 MW. In addition, the company owns Tashlytska HPSPP that currently operates two hydroelectric units, and Oleksandrivska HPP (2 hydroelectric units).
  - Ukrhydroenergo PJSC, which has cascade HPP on the rivers Dnieper and Dniester with 130 hydroelectric units.
- (4) According to NEC Ukrenergo SE at the end of 2015 most of the generating network assets is worn out and ineffective:
  - 83% of units of TPP and CHPP worked for more than 200 thousand hours (limited resource), are worn out and in need of renovation or replacement. Depreciation of equipment leads to fuel over-consumption, reducing operating capacity and deterioration of environmental performance. As of December 31, 2015 13 power units with total capacity of 6.6 thousand MW are in conservation or not exploited for other reasons and within the last 3 years have not produced electricity, and 7 units and 2 turbo-generators with total capacity of 1.7 thousand MW are planned to decommission within the period in question;
  - NPP units nearing expiry prior to the end of project operation: 9 nuclear units require lifetime extension in the next 10 years;
  - The balance capacity of the UES of Ukraine is characterized by a deficit of flexibility and regulatory capacity; part of NPP, power units of which operate in basic mode, exceed 50%; TPP units designed for operation in basic mode, and are used to support variable part of energy system load schedule;
  - Furthermore, trunk and interstate electric networks are worn out, which hinders development of competition in electricity and does not facilitate the entry of new entities (including importers) in the market of Ukraine.
- (5) The state is the largest owner of generating companies (at installed capacity), primarily, NAEK Energoatom SE, Ukrhydroenergo PJSC, Centrenergo PJSC.
- (6) The total installed capacity of electricity generators in the end of 2015 was 55 468 MW and maximum capacity of interstate electric networks (potential import) - 5750 MW<sup>111</sup>.

<sup>108</sup> Under information published on the official website of the NEURC.

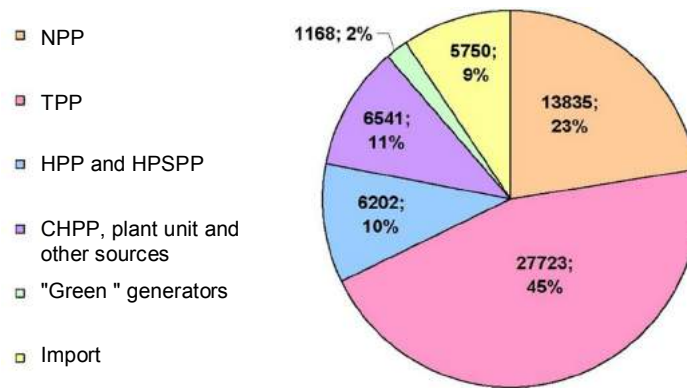
<sup>109</sup> Under information published on the official website of the NEURC.

<sup>110</sup> Under information obtained from NEC Ukrenergo SE, source: <https://drive.google.com/file/d/0BwZR8kgLwyBtMjA2SHM4cWY3Nmc/view?pref=2&pli=1>

<sup>111</sup> Under information published on the official website of NEC Ukrenergo SE - <https://drive.google.com/file/d/0BwZR8kgLwyBtMjA2SHM4cWY3Nmc/view?pref=2&pli=1>

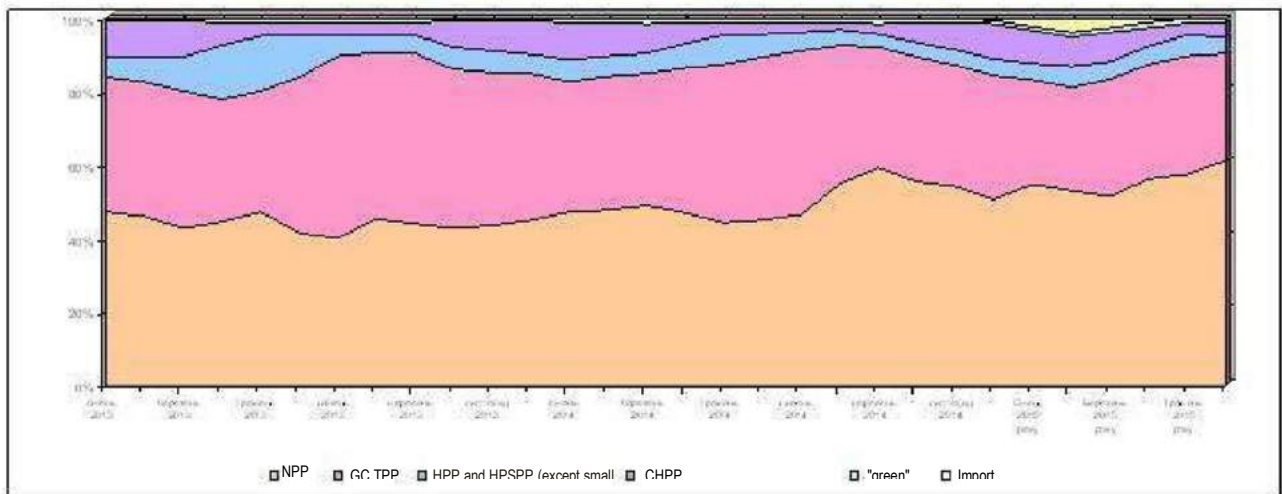


**The structure of the potential supply of electricity in the UES of Ukraine, MW**



*The structure of sources of electricity supply in the UES of Ukraine, MW*

- (7) The WEM sold electricity, as follows: in 2013 - 176 331.43 GWh, in 2014 - 165 974.83 GWh, in 2015 - 75 589.33 GWh. Overall market volume for the period from 2013 to the end of the first half of 2015 - 417 895.59 GWh<sup>112</sup>. However, traditionally proportion of sources, generating electricity using fossil fuels (nuclear and thermal power plants), is higher.



*The dynamics of electricity sales in the WEM by different sources*

- (8) According to the Energorynok SE, average hourly output of electricity was, as follows:
1. NPP: in 2013 - 9498 MWh, in 2014 - 10 090 MWh, in the first half of 2015 - 10 230 MWh.
  2. TPP: in 2013 - 8 938 MWh, in 2014 - 7 081 MWh, in the first half of 2015 - 5 829 MWh. Including GC TPP as part of DTEK Group in 2013 - 6 212 MWh, in 2014 - 5 572 MWh, in the first half of 2015 - 4 331 MWh.
  3. HPP, HPSP in 2013 - 1 608 MWh, in 2014 - 1 025 MWh, in the first half of 2015 - 876 MWh.
  4. CHPP: in 2013 - 1 608 MWh, in 2014 - 1 025 MWh, in the first half of 2015 - 876 MWh.
  5. Generators engaged in the generation of electricity using renewable energy sources in 2013 - 175 MWh, in 2014 - 230 MWh, in the first half of 2015 - 219 MWh.
- (9) The amount of electricity generation is much lower than the potential.
- (10) The actual capacity utilization in different types of generation varies from 11% to 73%. The average rate of capacity utilization in the industry is about 38%. The highest capacity utilization ratio was at nuclear power plants (above 70%), and much lower at other generators<sup>113</sup>.
- (11) Therefore, the installed capacity is almost 2 times higher than the peak electrical load in the UES of Ukraine, which in recent years ranged 23 - 27 GW<sup>114</sup>

<sup>112</sup> Letter of SE "Energorynok" No. 01/32-9919, as of 28.08.2015.

<sup>113</sup> Supported by information specified in the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

- (12) Such large nominal surplus of generating capacity creates prerequisites for significant competition among electricity generators in general and especially among those working through bidding.
- (13) Therefore, today there is a surplus of generating capacity and great potential to attract imports of electricity, contributing to intensification of competition between generators by maximizing their output and can be the spur for the active development of electricity export to neighboring countries.
- (14) Energorynok SE, within the study period, purchased electricity from 167 of under the 171 sale-purchase contract, however:
- 3 generators working through bidding - Donbasenergo PJSC, Centrenergo PJSC, GC TPP DTEK (DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC);
  - 162 generators not working through bidding.
- (15) According to the reviewed contracts concluded between Energorynok SE and the generators of electricity, the subject matter of the agreement stipulates that the relevant generator agrees to sell, and Energorynok SE is obliged to purchase electricity generated by the generator and make payment under the terms of such agreements<sup>115</sup>.
- (16) Since the price competition in the market, due to the significant government influence, is limited and prices (tariffs) for electricity almost do not reflect supply and demand in the market and the level of production costs, it is appropriate to examine the situation of competitive relations by studying the natural indicators.
- (17) However, there is an advantage of the market shares of some business entities compared to others<sup>116</sup>, as supported by sales calculation of generators - sellers of electricity in the WEM in 2013 - 2014, the first half of 2015:

Business entity / period	2013, GWh	2014, GWh	6 months 2015, GWh	Total from 2013 to the end of I half of 2015, GWh
NAEK Energoatom SE	78 241.99	83 223.10	41 993.66	<b>203 458.75</b>
DTEK Group	53 053.97	47 789.57	18 722.60	<b>119 566.14</b>
Centrenergo PJSC	12 585.24	11 356.40	3 367.57	<b>27 309.21</b>
Ukrhydroenergo PJSC	13 587.12	8 546.13	3 627.91	<b>25 761.16</b>
Donbasenergo PJSC	9 005.93	6 355.43	2 473.73	<b>17 835.09</b>

- (18) As well as the calculation of shares of generators - sellers of electricity in the national electricity market in 2013 - 2014, the first half of 2015:

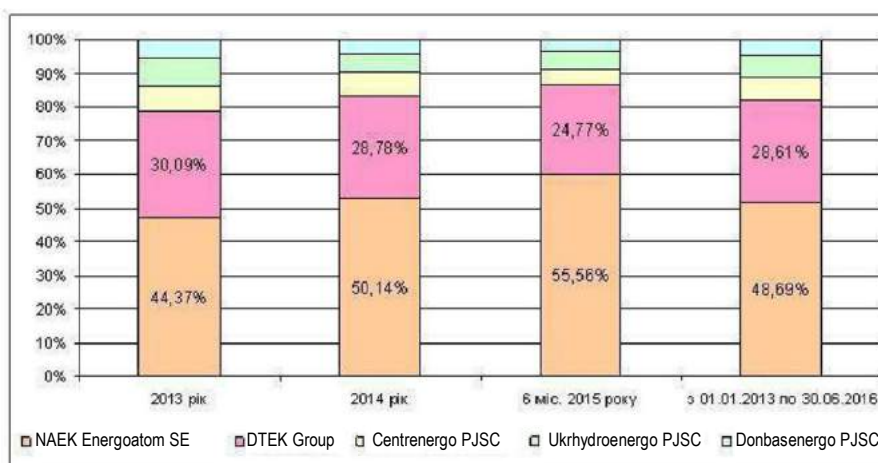
Business entity / Period	2013 %	2014 %	6 months 2015, %	Total from 2013 to the end of I half of 2015, %
NAEK Energoatom SE	44.37%	50.14%	55.56%	<b>48.69%</b>
DTEK Group	30.09%	28.78%	24.77%	<b>28.61%</b>
Centrenergo PJSC	7.14%	6.84%	4.46%	<b>6.53%</b>
Ukrhydroenergo PJSC	7.71%	5.15%	4.80%	<b>6.16%</b>
Donbasenergo PJSC	5.11%	3.83%	3.27%	<b>4.27%</b>

- (19) Other market participants are too small to tangible changes in their shares as a result of redistribution of limited demand.

<sup>114</sup> Supported by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)).

<sup>115</sup> For example, contracts entered into by and between Energorynok SE and DTEK Skhidenergo LLC (No. 1034/01 as of April 1, 2002), Centrenergo PJSC (No. 71/01-EP as of September 7, 1999), Donbasenergo PJSC (No. 70/01-EP as of August 31, 1999), DTEK Dniproenergo PJSC (No. 69 / 01-EP as of August 30, 1999), DTEK Zakhidenergo PJSC (No. 62/01-EP as of August 17, 1999), NAEK Energoatom SE (No. 698/05-NAEK / 640/01 as of May 18, 2001), Ukrhydroenergo PJSC (No. 3304/01 as of January 31, 2006), Ukrinterenergo SFTC (No. 4297/02 as of October 31, 2008) and Dunaiska SPP-1 LLC (No. 9000/2 as of October 19, 2015).

<sup>116</sup> In the electricity sector a major market share is a natural and objective phenomenon not only in Ukraine but all over the world. This is due to high capital intensity of generation in the industry, which results in the effect of generation scale - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine - Research project "Problems of competition in the electricity sector of Ukraine".



*Dynamics of the structure of electricity market*

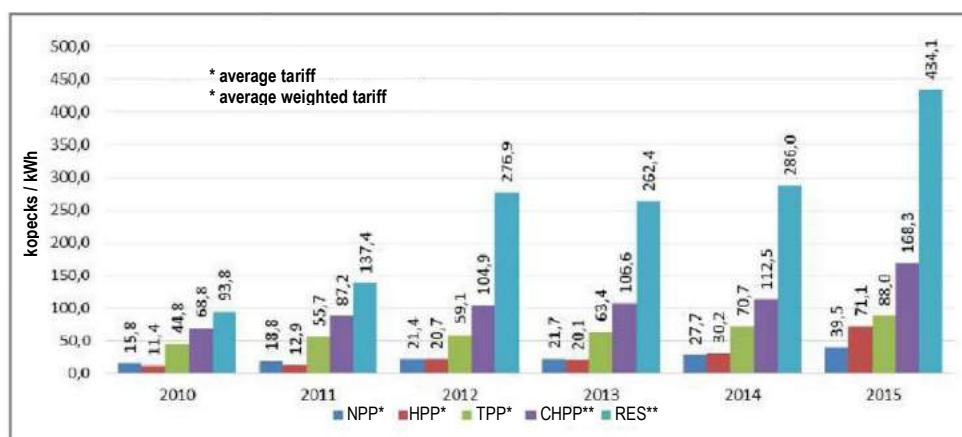
- (20) Regarding import of electricity in Ukraine: it should be noted that the total maximum capacity that can be transmitted via interstate intersections to Ukraine is 5750 MW<sup>117</sup>.
- (21) However, the possibility of import during the study period is not fully utilised, and the most active import purchase took place in the first half of 2015.
- (22) The share of import<sup>118</sup> in 2013 - 2014 was insignificant and amounted to less than two percent (in 2013 - 0.02% or 38 609 231 kWh, in 2014 - 0.1%, or 177 992 929 kWh, in the first half of 2015 - 1.84% or 1 392 911 909 kWh).
- (23) Import rapidly increased starting from December 2014. For example in February 2015 import of electricity reached its peak and amounted to 518 855 584 kWh, which is almost 139 times higher than in the same month in 2014, which amounted to 3 729 061 kWh. Immediately after the peak, the share of imports started to decline, and in June amounted to 0.02%, and the volume amounted to 2 761 993 kWh.
- (24) Proportion of sales of electricity in the WEM under all foreign trade contracts and agreements within 2013 - 2014 and the first half of 2015 amounted to 0.39%.
- (25) During the study period, Ukrinterenergo SFTC, Inter RAO PJSC (the Russian Federation), DTEK Skhidenergo LLC imported electricity in Ukraine.
- (26) Import of electricity has not significantly affected the structure of electricity supply in time within the calendar year, and leap of imports in late 2014 - early 2015 was due to temporary emergency measures to overcome the effects of prolonged disruption of electricity market, introduced by the Cabinet of Ministers Ukraine in this period. However, imports may be a source for potential competition in the electricity market<sup>119</sup>.
- (27) Therefore, the main sellers of electricity in the market are NAEK Energoatom SE, Centrenergo PJSC, Donbasenergo PJSC, Ukrhydroenergo PJSC and DTEK Group.
- (28) Price competition between electricity generators is significantly limited by the state through the NEURC.

<sup>117</sup> In accordance with information published on the official website of NEC Ukrenergo SE and the letter of Ukrpromzovnishekspertryza SE (letter No. 3734as of December 3, 2015).

<sup>118</sup> Letter of SE "Energoatom" No. 01/32-9919, as of 8/28/2015.

<sup>119</sup> Supported by information specified in Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, Phd in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)).

- (29) However, the significant problem is the high energy consumption costs. Thus, consumption of primary energy resources per GDP in Ukraine is 3.4 times higher than in the EU, 2.8 times higher than in Poland, 1.5 times higher than in China, 1.2 times higher than in Russia<sup>120</sup>.
- (30) Inclusion of generating capacity of generators not working through bidding, to the load schedule (of electricity generation) is conducted under the WEM Rules not taking into account tariffs values<sup>121</sup>.
- (31) Energorynok SE cannot refuse generators not working through bidding in purchasing electricity from them<sup>122</sup>.
- (32) However, it should be noted regarding the tariffs for generators not working through bidding that the amount of such tariffs is not formed by the interaction of supply and demand, as it would be subject to price competition in the market, but administratively, based on the generation costs and the required rate of return (by "cost-plus" method).
- (33) During the study there was an increase in the cost of electricity sold by all electricity generators.



*Dynamics of electricity tariffs for generators*

- (34) Rates for electricity generated by the HPP increased significantly: within five years rates increased by 5.46 times, by 2015 compared to 2014 year - by 1.37 times.
- (35) Significant increase for RES electricity - respectively 3.4 times and 62 per cent (in 2015 tariffs for electricity generated from wind energy, biomass and biogas have increased by about 45 percent, solar energy - approximately 45 - 64 percent), NPP- respectively 2.1 times and 43 percent, CHPP - respectively 1.93 times and 50 percent. TPP tariff increased within five years by 1.54 times, by 2015 - 24 percent.
- (36) At the same time, according to rough estimates of experts, the artificial restriction of tariffs (prices) for electricity in the WEM for NAEK Energoatom SE, HPP, TPP is at least 15 - 20 billion per year<sup>123</sup>, due to:
- The constant increase in prices for primary energy sources, particularly, natural gas, thermal coal, fuel oil, the cost of processing and storage of used nuclear fuel (200 million dollars)<sup>124</sup>;
  - Lack of investment component that does not contribute to renewal of generating capacity in Ukraine<sup>125</sup>.
- (37) Thus, the analysis shows that recently the NEURC stepped away from the direct calculation of the cost of electricity based on the cost for electricity of power generating companies, and actually applies the method of "reverse calculation" when the source data is not objective economic and

<sup>120</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine.

<sup>121</sup> The Letter of the WEM Council No. 645 as of September 2, 2015.

<sup>122</sup> The Letter of the WEM Council No. 645 as of September 2, 2015.

<sup>123</sup> Yu. Sakva Five barriers to electricity market in Ukraine // E-Resource - Access mode: <http://hubs.ua/discussions/pyat-bar-erov-dlya-ry-nka-elektricheskoy-energii-v-ukrame-chast-i-59032.html>

<sup>124</sup> By 2014, Ukraine was 98% dependent on Russia on supply of nuclear fuel for nuclear reactors, on December 30, 2014 Ukraine signed contract with Westinghouse (USA) for the supply of nuclear fuel for Ukrainian nuclear reactors, which was a step towards the diversification of nuclear fuel and meets the national interests of Ukraine // Analytical review "Nuclear energy in the world and Ukraine: current state and development prospects", prepared with the assistance of the Verkhovna Rada of Ukraine's fuel and energy complex, nuclear policy and nuclear safety - Kyiv 2015 - electronic resource: [http://www.uceps.org/upload/2015\\_atom-1.pdf](http://www.uceps.org/upload/2015_atom-1.pdf)

<sup>125</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine.

technological rates of generation and transportation of electricity, but certain political and social circumstances<sup>126</sup>.

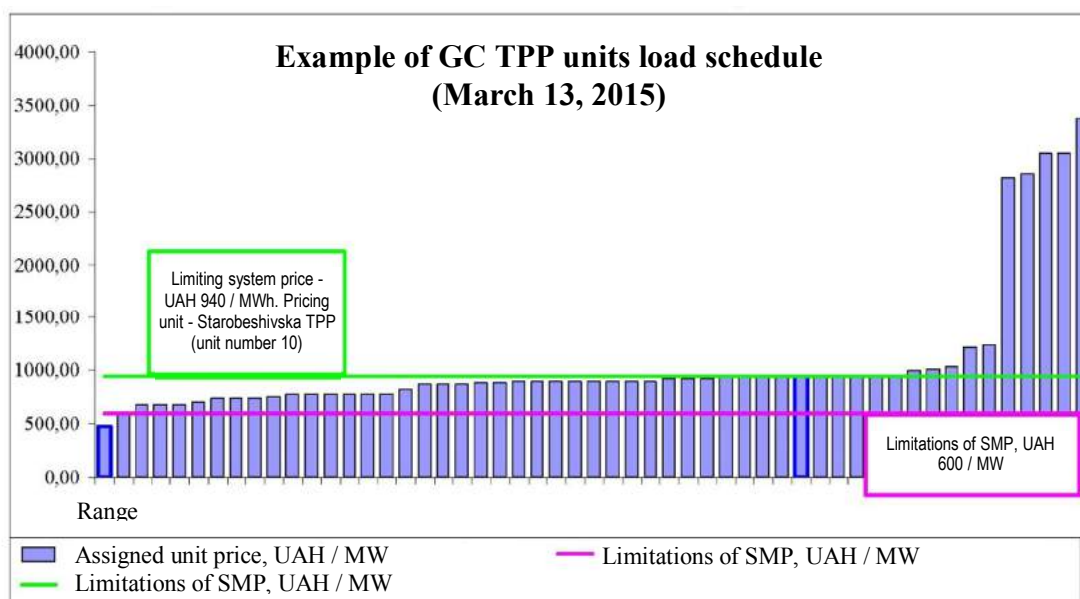
- (38) The NEURC sets tariffs for households and retail tariffs of power supply companies which supply electricity at regulated tariffs, thus the total amount of funds is determined, which will be paid by all consumers for the consumption of electricity in a given month, at the retail electricity market of Ukraine.
- (39) Based on this amount of cash the NEURC sets forecast wholesale market price of electricity per month, selling prices for energy generating companies not working through bidding (NAEK Energoatom SE, Ukrhydroenergo PJSC, CHPP, "green" producers) and restrictions of SMP (Kneurc), which limits the value of bidding of generating companies TPP.
- (40) In accordance with the WEM Rules, WMP is defined as the weighted average cost of purchasing electricity from all generators that sell electricity in the WEM, the cost of control and maintenance of trunk and interstate electric networks, the costs of running the WEM and additional state costs (state duty as a surcharge to the current tariff for heat and electricity, compensation of preferential tariffs for some consumers, especially the population, etc.).
- (41) At the same time, the report of the NEURC for 2014 states as follows: *"Recognizing the importance to the economy and society of the stability of retail prices for electricity, the NEURC during the reporting period was implementing measures to prevent unreasonable increase in retail tariffs by strict control over the formation and their components, primarily WMP"*.
- (42) This approach to pricing, used by the NEURC forces power generation companies sell electricity in terms of social-economic crisis not at economically justified prices based on their cost, but the prices not causing additional social disturbances in the population, excluding the real cost of electricity and developing needs of energy companies.
- (43) Monthly analysis of average tariff for electricity generated by TPP over the study period shows that the tariff for generation companies TPP for electricity supplied to the WEM, even taking into account other payments, in certain periods was significantly lower than the rate for other generators, including CHPP, which operate on coal.
- (44) However, bidding mechanism, provided for by the Rules of the WEM, causes competition between each unit of each plant of each generator working through bidding.
- (45) However, the price proposal should reflect the price level at which such electricity generator is able to supply energy in the WEM<sup>127</sup>.
- (46) Pricing is calculated in accordance with Annex B to the WEM Rules, based on the prices of natural fuels (coal, gas, oil) with regard to transportation costs and reviewed by Energorynok SE.
- (47) On the ground of applications (bids) of generators working through bidding, Energorynok SE adjusts units to the current period of the expected maximum coverage of the electricity load from the cheapest unit for the most expensive unit at the declared price, calculated according to the price bids for the conditions of the unit operation during Start - End at maximum declared power capacity.
- (48) If the unit has not passed the said selection Energorynok SE is not purchasing its electricity.
- (49) Based on the set load schedule Energorynok SE defines for generators, working through bidding, the system marginal price, operating capacity price and flexibility.
- (50) As it was stated, SMP is determined by the price of the most expensive flexibility units included to the load schedule<sup>128</sup>. SMP is the price at which payment is accrued for the supplied electricity to all units of generators working through bidding.
- (51) If the price of the most expensive unit which is included in the load schedule, exceeds limitation of SMP (Kneurc), payment for sold electricity to specified units is determined by the value established by NEURC.
- (52) The limitation of system marginal price (Kneurc) during the study period was not changed significantly and amounted to UAH 380 / MWh as of September 17, 2014, to UAH 445 / MWh as

<sup>126</sup> Supported by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)).

<sup>127</sup> Paragraph 31 of the WEM Rules.

<sup>128</sup> Paragraph 5.7.1 of the WEM Rules.

of November 14, 2014, to UAH 600 / MWh as of June 30, 2015.<sup>129</sup> Under the Ruling of the NEURC No. 2513 as of September 30, 2015 "On Amendments to the Ruling of the NEURC No. 1031 as of August 9, 2012" the indicator of limitation of system marginal price was increased to UAH 680 per 1 MWh.



*Example of limiting system price*

- (53) This an example<sup>130</sup> of application of limiting system price by the NEURC on March 13, 2015
- 1) 54 thermal units were declared for operation (with one unit (unit number 3 of Zaporizhia TPP) was included in the schedule on a compulsory basis).
  - 2) Price of the most expensive unit (which had to be pricing unit under the WEM Rules) included in the operation on March 13, 2015, unit number 10 Starobeshivska TPP (Donbasenergo PJSC), therefore maximum price of electricity for this hour must equal to UAH 940 / MWh. But the SMP which was limited by limitation of SMP was - 600 UAH / MWh. So, by the hour of maximum coverage on March 13, 2015 the price of electricity supplied by the power unit was lower than the market by 30%.
  - 3) Limitation of the price under NEURC, at that day resulted that the hour of maximum coverage all units included in the operation (40 units), except unit No. 4 of Starobeshivska TPP (Donbasenergo PJSC), were more expensive than limitation established by NEURC.
- (54) SMP is not the price at which the producer, working through price bidding, sells electricity to the Energorynok SE.
- (55) However, the SMP and the volume of supplied electricity in the WEM, are crucial in the calculation of the payment to be assigned to the producer, working through price bidding, for sold electricity (such payment is one of the essential components of the weighted average sales price of electricity in the market, according to which the tariff for TPP is approved).
- (56) In practice, Kneurc is crucial in determining the SMP and assessment of payment for electricity sold in the WEM. Kneurc is established by the NEURC at a level preventing TPP units to be pricing forming and SMP during Start-End always corresponds to Kneurc<sup>131</sup>.
- (57) In order to prevent deviation of actual WMP from forecast, the rules provide for adjustment mechanism of payments for flexibility and operating capacity (including their reduction).
- (58) This approach to setting tariffs for electricity for TPP does not provide the necessary funds for maintenance, repairs and equipment modernization<sup>132</sup>.

<sup>129</sup> The Ruling of the NERC No. 1031 as of August 9, 2012 "On approval of indicator of limiting system price and the required operational reserve".

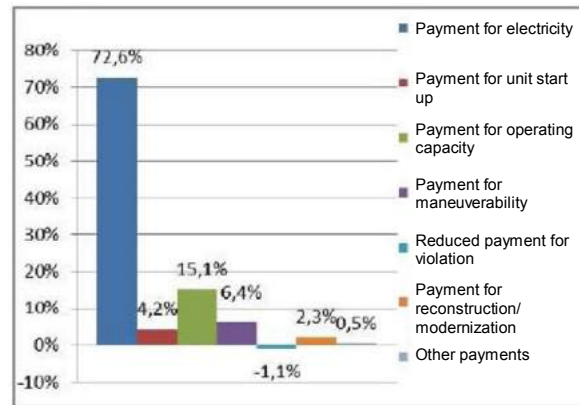
<sup>130</sup> Application of DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC No. 17/1358 as of June 24, 2015.

<sup>131</sup> The Letter of the WEM Council No. 645 as of September 2, 2015.

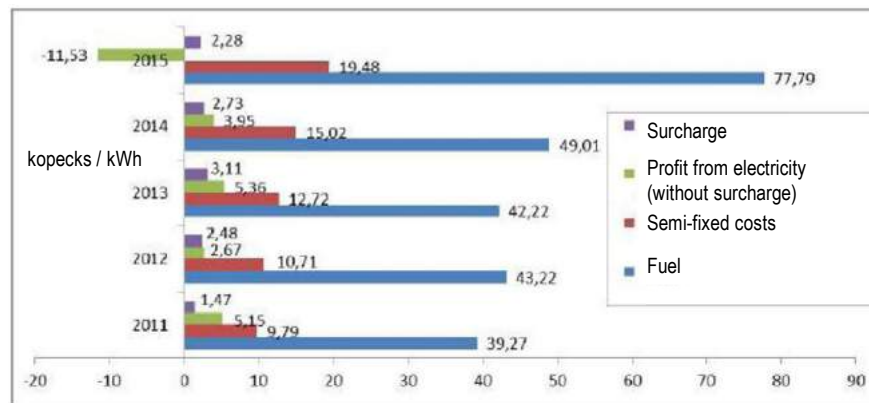
<sup>132</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine.



- (59) The practice of limitation of SMP by the NEURC (Kneurc) may lead to the fact that the actual selling price is lower than the marginal cost of generation.
- (60) However, it should be noted that application of SMP limitation is not transparent, since the procedure and/or the method by which the NEURC calculates and sets SMP limitation are not currently approved.
- (61) At the same time, the prices (tariffs) for generating companies TPP in the reporting month (hourly) are determined and set depending on the characteristics and results of price regulation and actual activity of other generators and NEC Ukrenergo SE<sup>133</sup>.



*GC TPP payments structure in 2015*



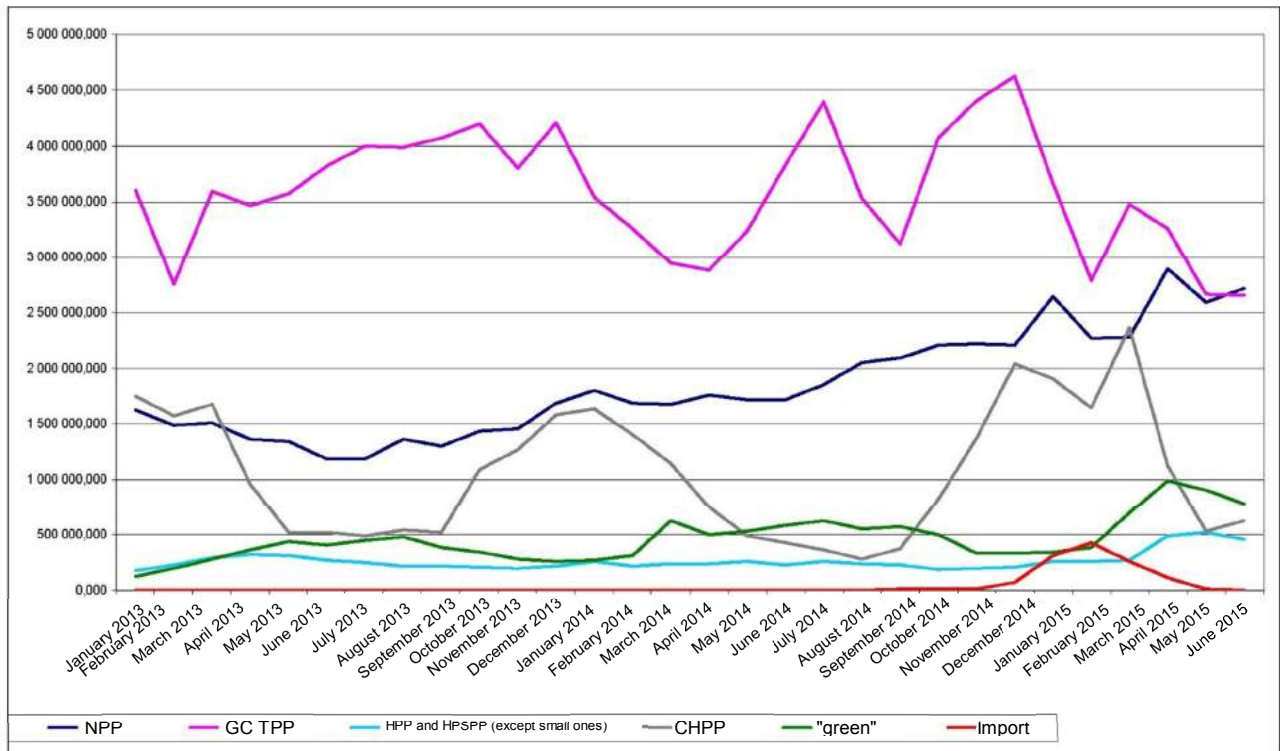
*TPP electricity purchase tariff structure*

- (62) For example, in 2015 the tariff of sale of electricity by generators working through bidding to the WEM increased compared to 2014 by 24.5% (from 70.71 kopecks / kWh to 88.01 kopecks / kWh). Cost of electricity generation in tariff structure increased from 64.04 kopecks / kWh to 97.26 kopecks / kWh (52%). However, the profitability of power generation decreased from 10.43% to -9.52% (with surcharge)<sup>134</sup>.
- (63) The increase of the cost of electricity generation by GC TPP is usually due to increased semi-fixed costs (in 2015 fuel component in the cost structure increased by 58.72% due to increased gas prices by 34% and coal by 52%)<sup>135</sup>.
- (64) As for the structure of electricity sales in value terms, it should be noted that the total amount of the WEM in value terms for the study period was UAH 217 691 688.13 thousand, while the share of NPP was 25.43%, the share of TPP - 49.37%, the share of large HPP and HPSPP - 3.65%, TPP - 14.61%, "green" - 6.36%, and importers - 0.58%.

<sup>133</sup> For example, the decrease in the average selling price of electricity in the WEM by generators for the period from September 21, 2015 to September 30, 2015 compared to the previous period (from September 11, 2015 to September 20, 2015) by 12.45% was due to decrease in the average selling price of electricity in the WEM by generating TPP companies due to reduction of regulatory factors used to determine the price for working capacity and flexibility. // WEM prices analysis // the official website of Energorynok SE.

<sup>134</sup> In accordance with the Report on results of the NEURC activity in 2015, approved by the Ruling of the NEURC No. 515 as of March 31, 2016.

<sup>135</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.



*The dynamics of value of electricity sales in the WEM*

- (65) Thus, from January 2015 to November 2015 Russia imported to Ukraine 2.3 billion kWh of electricity. Funds to pay for electricity imports were assigned to Energorynok SE according to separate decisions of the NEURC that was used for 100% prepayment for electricity supplies from the Russian Federation.
- (66) At the same time, there is a significant administrative impact of the NEURC on pricing and allocation of funds to the WEM, which in turn can affect the sales price indexes for sales of electricity in the WEM by different generators.
- (67) Therefore, all power generating companies in Ukraine, regardless of their type of generation, actually all electricity consumers, are price takers.
- (68) The key direction for pricing normalization is its base on market principles (which is common worldwide, including European practice), which should be based on the liberalization of the electricity market of Ukraine, the implementation of the Third Energy Package of the EU, in particular the Directive 2009/72/EU on the common rules of the internal electricity market, the principles of which are specified by the current Law of Ukraine from No. 663 as of October 24, 2013 "On Fundamentals of the Operation of the Electricity Market". Its performance is significantly delayed and is not in accordance with the established stages.
- (69) The problem of debt for energy received at the WEM and retail electricity markets, due to its magnitude and rate of spread, the problem of debt is of great importance. Level of payments in the electricity market significantly declined since 2014. Debts increase before generators became uncontrollable<sup>136</sup>.

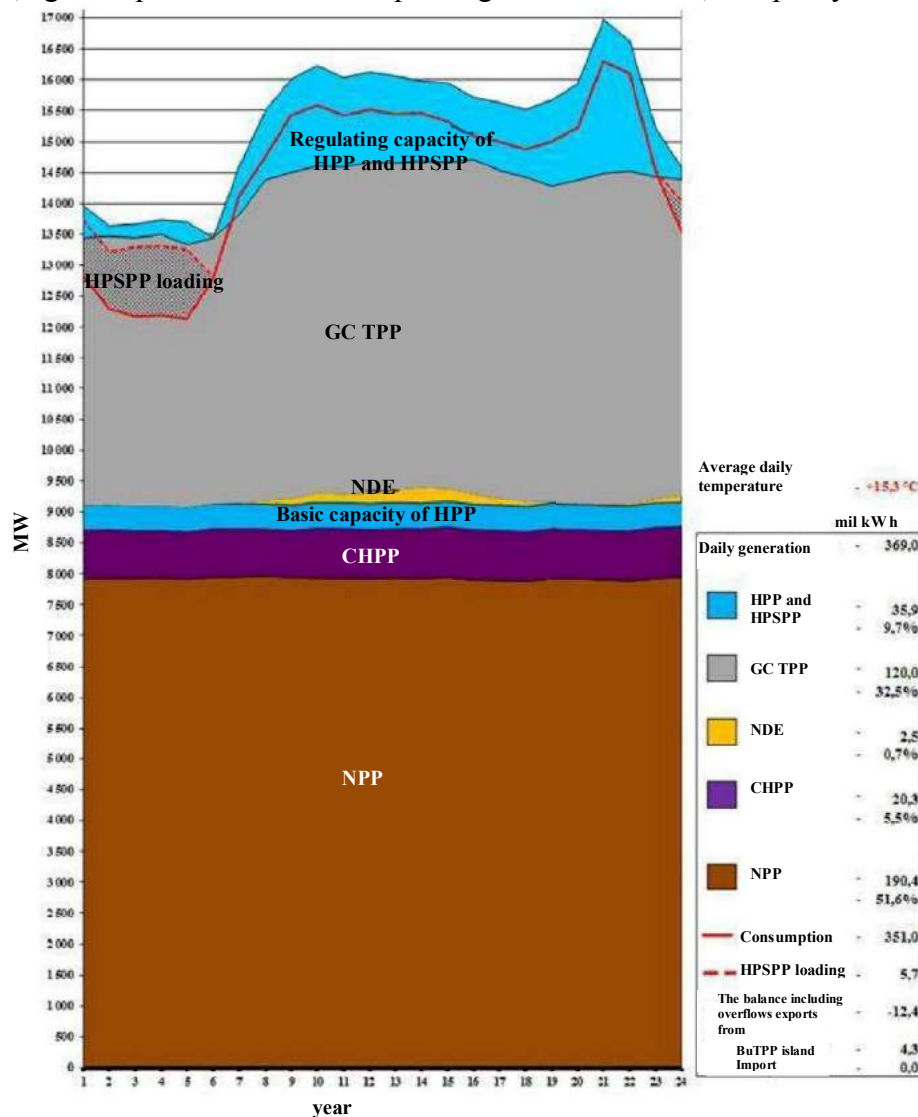
The level of payments of Energorynok SE with energy companies and NEC Ukrenergo SE for electricity purchased from them, %

Indicator	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
NPP	98.9	97	99.6	98.6	98	99	96.7	98.2	97.9	92.7	91.9
TPP	97	96.4	100.2	102.4	99.8	101.9	99.9	98.3	97.7	96.1	98.2
HPP	99	97	101.2	97.8	96.8	101	99.8	95.2	98.5	94.0	91.5
Other	101.8	96.2	99.7	99.2	96.9	98.2	94.8	97.1	98.0	96.1	95.3
NEC Ukrenergo SE	98.5	96.8	99.4	100.3	96.7	99.1	98.3	97.0	98.8	94.8	92.7

<sup>136</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine.



- (70) The consequence of incomplete payment for goods and services is deteriorating financial situation of generators, reducing their competitiveness and negatively affects the companies' investment development, their modernization, the operation of the combined power system in Ukraine.
- (71) Due to the technical characteristics of electricity generation by certain types of plants, continuous changes in demand and its low elasticity<sup>137</sup>, generating capacity of individual companies were **essential** to the resource filling of the commodity market.
- (72) This leads to the formation of the base part of schedule, coverage of which is provided mainly by the NPP<sup>138</sup>, "green" producers that have privileges under the law, and partly TPP and CHPP, HPP.



Sample daily production-consumption schedule<sup>139</sup>

- (73) Instead, HPP and HPSPP, due to high flexibility potential<sup>140</sup> and relatively low cost of electricity, are involved to cover "peak" of the schedule in periods of peak power system load.

<sup>137</sup> The coefficient of price elasticity of demand is 0.1 that is an average of 1% growth rate of power consumption - decreased by 0.1%. This is mainly due to the lack of perfect substitutes, which at this stage of technological progress makes it impossible to replace it with another product (according to the findings of G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine - Research project "Problems of competition in the electricity sector of Ukraine and V. Lir - "Rebound effect or how to avoid payments crisis in the energy sector of Ukraine" / Dzerkalo tyzhnya as of January 30, 2015 - [http://gazeta.dt.ua/energy\\_market/efekt-rikoshetu-abo-yak-uniknuti-krizi-neplatezhiv-v-energetici-ukrayini-.html](http://gazeta.dt.ua/energy_market/efekt-rikoshetu-abo-yak-uniknuti-krizi-neplatezhiv-v-energetici-ukrayini-.html))

<sup>138</sup> Low flexibility of NPP in Ukraine, that operate using WWER, is due to:

- Low operating capacity of fuel elements in flexibility mode, zirconium membranes of which, are destroyed under periodic power lowering;
- Xenon poisoning of WWER reactor due to rapid load decline or in the course of operation at reduced capacity (maximum poisoning occurs within 5-10 hours after power reduction - just at the time of the need to return from the reserve status under the regulation of the daily load demand), leading to reduction of the reactor reactivity;
- Economic feasibility. Compared to TPP, NPP has lower fuel component in the cost structure and is characterized by a greater proportion of fixed costs, which means faster growth in the cost for 1 kWh of electricity at decrease of capacity use indicator as a result of growth of its flexibility [Problems of flexibility increase // Energy. TPP and NPP. All facts about thermal and nuclear energy. [E-source] - Access mode: <http://tesiaes.ru/?p=9250>]

<sup>139</sup> Daily electricity production-consumption schedule in the UES of Ukraine as of May 12, 2016 - <http://www.ukrenergo.energy.gov.ua/Pages/ua/DetailsNew.aspx?nID=2684&urlNews=/pages/ua/ipsoperation.aspx>

<sup>140</sup> Time required to turn on hydro unit and entry into full load is 1-2 minutes. [Fundamentals of energy: 2 p. / Under. Ed. E.V. Ametistov - part 2 - M.: Publishing house MEI, 2003.- 419 p.]

- (74) TPP are included in the schedule under residual principle and can operate at "base" and the "regulatory" mode (in normal period, End-Start period and during maximum load)<sup>141</sup>.
- (75) Therefore, the base part of load schedule is formed mainly by capacity generators of electricity from renewable energy sources, NPP, CHPP (under heating schedule), TPP and HPP. "Variable" part of load schedule is covered mainly by capacity of HPP, HPSPP and TPP generating companies (working in the wholesale electricity market through bidding)<sup>142</sup>.
- (76) Notwithstanding the technical features of load schedule formation, electricity is the only commodity that is characterized by uniformity and interchangeability regardless of the method of generation (NPP, HPP or TPP) and conditions of sale and consumption.
- (77) However, refusal of NAEK Energoatom SE, Ukrhydroenergo PJSC, GC TPP of DTEK Group to generate electricity could lead to imbalance of the UES of Ukraine, shortages and emergencies and the need to use limitation schedules and emergency shutdown of consumers for the amount of deficit<sup>143</sup>.
- (78) Based on the above, in 2013, 2014 and the first half of 2015, in the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity in the WEM, the following electricity sellers (generators) had structural feature (indicator) of monopoly (dominant) position:
- NAEK Energoatom SE (share in 2013 - 44.37%, in 2014 - 50.14%, in the first half of 2016 - 55.56%);
  - Ukrhydroenergo PJSC (share in 2013 - 7.71%, in 2014 - 5.15%, in the first half of 2015 - 4.80%);
  - Business entity consisting of DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, DTEK Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC (which form a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition") - share in 2013 - from 30.09%, in 2014 - 28.79%, in the first half of 2015 - 24.77%).
- (79) Thus, the basic activity parameters<sup>144</sup> of all generating companies, importers and Energorynok SE are clearly regulated by, as follows:
- The agreement between the WEM members;
  - Bilateral electricity sale-purchase agreements concluded between the wholesale supplier and the WEM members under the Agreement;
  - Bilateral foreign economic contracts (agreements) concluded between the wholesale supplier and foreign partners to import and export of electricity;
  - Licenses of the NEURC (NERC) to conduct generation, transmission and supply of electricity at regulated and unregulated tariffs;
  - Decisions of the Government of Ukraine and resolutions of the NEURC (NERC).
- (80) At the same time, market power of respective entities is significantly limited by state influence on market resources content and market pricing<sup>145</sup>.
- (81) However, the state regulation in the electricity should be focused not on the determination and strict regulation of electricity prices, but creation of conditions for development and maintenance of fair competition among power generating companies, promoting cost reduction of natural monopolies, including by ensuring real independence of the state regulatory authority in the energy sector.

<sup>141</sup> In particular, in 2015 (in terms of overproduction) in order to balance the UES of Ukraine units of Zaporizhia TPP, Ladyzhynska TPP and Luhansk TPP were used. In order to balance the UES of Ukraine unloading units of Starobeshivska TPP, Vuhlehirska TPP, and Kurakhivka TPP were used.

<sup>142</sup> Supported by the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>143</sup> Letter of NEC UKrenergo SE No. 01/04-1-2/4354 as of April 15, 2016.

<sup>144</sup> The scope and terms of electricity supply in the WEM, its price, the amount and payment, respectively, and profit.

<sup>145</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; A.G. Gerasymenko, ScD in Economics, associate professor; G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

- (82) Prompt legislative determination of the status and functions of the national market regulator (the NEURC) in the form of relevant law of Ukraine is extremely important.
- (83) In order to enhance competition it is necessary to ensure the choice / change by end consumers of energy supply company and choice by distribution companies of electricity generators in order to conclude electricity sale-purchase contracts, which, in particular, is provided for by the current law of Ukraine "On Fundamentals of the Operation of the Electricity Market". It is important to perform by the state authorities of paragraph 2 of Part VI of the Law of Ukraine on the functioning in the course of transitional period and creation preconditions for introduction of full scale electricity market.

### 2.1.3. THERMAL COAL AS ONE OF THE PRIMARY ENERGY SOURCES

- (1) Geographically coal reserves are concentrated in five regions of Ukraine (Donetsk, Luhansk, Dnipropetrovsk, Lviv and Volyn regions).
- (2) Fossil coal is divided into 2 groups, namely:
  1. Anthracite.
  2. Brown (lignite) and black.
- (3) Industrial classification of fossil coal reflect practice of its usage. In Ukraine, the basis of traditional industrial classification of coal - its type. Type of coal - name of varieties of coal, similar in genetic characteristics and main energy and technological properties
- (4) In accordance with NSU 3472-96 " Anthracite, brown and black coal" type of coal is determined for each layer. Channel coal samples are selected under terms stipulated by NSU 9815. Type of coal is determined following the tests. In cases when the coal of one channel on different parts of coal mine refers to different types, the type of coal is determined according for each part of the coal mine.
- (5) According to information provided by the Ministry of Energy and Coal Mining of Ukraine<sup>146</sup>, within 7 months of 2015 in Ukraine coal mining enterprises produced, in the territory controlled by Ukrainian authorities, gas thermal coal in the amount of 16.5 million tons. The state coal mining enterprises that are managed by the Ministry of Energy and Coal Mining of Ukraine produced 3.3 million tons - 19.9% of total gas coal. At the same time, enterprises of DTEK Group produced 12.6 million tons -76.5% of total gas coal.
- (6) Following the analysis of samples of coal, given the planned extraction of each layer, the average value of these indicators is calculated and the type of coal is defined. The type of coal is registered in the coal mine documentation.
- (7) All brown coal refers to the type B, and anthracite to the type A.
- (8) There are 17 types in total, one for brown (B) coal and one for anthracite (A) coal, and 15 for black coal: long-flaming (D), long-flaming gas (DG), gas (G), gas fat lean (GZhO), gas fat (GZh), fat (Zh), coking fat (KZh), coking (K), coking lean (KO), semi-soft coking low-metamorphized (KSN), semi-soft coking (KS), forge (OS), lean sintered (PS), low-caking (SS), lean (P). Other classifications define 16-18 types of black coal.
- (9) Coal of types G, DG, D have Vdaf volatiles indicators between 35-45%, low ignition temperature (450-500 ° C) and high reactivity. This coal does not need oil-gas "flame", boiler unit have simple burners and unlined lower part of furnaces. Due to high reactivity, pulverized-coal system require special modes of operation and means of fire and explosion.
- (10) Coal types P and A differ by considerably lower volatile substances (Vdaf <18%), high ignition temperature (600 ° C) and low reactivity ability. This coal oil-gas "flame", boilers are equipped with special vortex burners, lower part of furnaces is lined. However, due to the low reactivity, pulverized-coal system do not require special modes of operation and means of fire and explosion.
- (11) Therefore, based on the physical characteristics of different types of coal, combustion characteristics, coal can be divided into 2 groups:
  - a) Highly volatile coal types G, DG, D;
  - b) Low volatile coal types P and A.
- (12) Vugillya Ukraine SE was established according to the Order of the Ministry of Fuel and Energy of Ukraine No 669 as of November 14, 2003 in order to improve the economic mechanism of coal realization.
- (13) Realization of the coal in the market is carried out by conclusion of direct contracts between coal mining enterprises and consumers or through Vugillya Ukraine SE as the operator of the wholesale market of coal products.
- (14) Currently, the market of thermal coal in Ukraine is imperfectly regulated, therefore the Ministry of Energy and Coal Mining of Ukraine, pursuant to paragraph 267.4 of the Action Plan to implement the Programme of the Cabinet of Ministers of Ukraine and the Strategy for Sustainable

<sup>146</sup> Letter of the Ministry of Energy and Coal Mining of Ukraine No. 01/31-2046 as of August 28, 2015.

Development "Ukraine - 2020" in 2015, approved by the Order of the Cabinet of Ministers of Ukraine No. 213-p as of March 4, 2015, draft Law of Ukraine "On the coal market" was developed.

- (15) Under results of the study of respective draft law, the AMCU provided comments to avoid distortion of price competition in the market due to the application of price indicators developed in accordance with the Methods of market indicators and price limits determination, set by the second paragraph of Article 10 of the draft Law.

#### ***Competition on the market of highly volatile coal types (G, DG, D)***

- (16) The main consumers of highly volatile coal types (G, DG, D) in Ukraine are TPPs, which consume about 90% of all extracted and imported coal of respective types.
- (17) There are seven TPP operating in Ukraine, boilers of which are designed to use highly volatile coal types (G, DG, D).
- (18) According to the project requirements of TPP boilers, main consumers of highly volatile coal types (G, DG, D) are, as follows:
- For Centerenergo PJSC (Vuhlehirska TPP);
  - DTEK Dniproenergo PJSC (Zaporizhzhia TPP);
  - DTEK Skhidenergo LLC (Zuivska TPP, Kurakhivka TPP);
  - DTEK Zakhidenergo PJSC (Ladyzhynska TPP, Dobrotvirska TPP, Burshtyn TPP).
- (19) Other consumers of highly volatile coal types (G, DG, D) are CHPP, Ukrainian Railways, population and communal services (coal boilers).  
However, their combined consumption of highly volatile coal types (G, DG, D) is less than 10% of the total consumption
- (20) Considering the above, consumption of highly volatile coal types (G, DG, D) by respective consumers are not significant compared to the volume of consumption of highly volatile coal types (G, DG, D) by TPPs.
- (21) The main sellers of highly volatile coal types (G, DG, D) in 2013 - the first half of 2015 were DTEK Trading LLC, Interenergосervice LLC, SVEK LLC, DTEK LLC, Energoopttorg LLC, DTEK Trading SA, Obukhivske Mine Group, TDK LLC, DTEK Skhidenergo LLC, Mine Komsomolets Donbassa OJSC, DTEK Pavlogradugol PJSC, DTEK Dniproenergo PJSC, Vugillya Ukraine SE, Ukrvostoksnabzhenie LLC.
- (22) DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo LLC, DTEK Trading, DTEK Trading SA, Interenergосervice LLC, related by control and is a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition".

#### ***Competition on the market of low volatile coal types (A, P)***

- (23) The main consumers of low volatile coal types (A, P) in Ukraine is TPPs, which consume about 90% of all extracted and imported coal of respective types.
- (24) There are seven TPP operating in Ukraine, boilers of which are designed to use low volatile coal types (A, P).
- (25) According to the project requirements of TPP boilers, main consumers of low volatile coal types (A, P) are, as follows:
- DTEK Centerenergo PJSC (Trypillya TPP, Zmiiv TPP);
  - DTEK DniproenergoPJSC (Dnieper TPP, Kryviy Rih TPP);
  - Donbasenergo PJSC (Starobeshivska TPP, Slavic TPP);
  - DTEK Skhidenergo PJSC (Luhansk TPP).
- (26) The main sellers of low volatile coal types (A, P) in 2013 - the first half of 2015 were state enterprise Vugillya Ukraine SE, Trust Invest LLC, Energoinvest Trading LLC, Coal Mine "Zhdanivska PJSC RE, Makiyivugillya SE, Shahtarskanratsyt SE, Snizhneanratsyt SE, Torezanratsit SE, Astor Metall LLC, TD Energoalians LLC, DTEK Trading LLC, Coal Mine

Komsomolets Donbassa OJSC, DTEK LLC, Obukhivske Mine GroupEnergoopttorg LLC, DTEK Pavlogradugol PJSC, Ukrvostoksnabzhenie LLC.

- (27) Donbasenergo PJSC and Energoinvest Trading LLC related by control and is a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition".
- (28) DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo LLC, DTEK Trading, DTEK Trading SA, DTEK Skhidenergo LLC, related by control and is a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition".
- (29) DTEK Dniproenergo PJSC, DTEK Skhidenergo LLC, DTEK Zakhidenergo LLC and Donbasenergo JSC consume coal from entities associated with them by relations of control.

### ***Factors that prevent the development of thermal coal market in Ukraine***

- (30) Distribution of the coal in the market is carried out by the conclusion of direct contracts between coal mining enterprises and consumers or through the SE "Vugillya Ukraine" as the operator of the wholesale market of coal products.
- (31) According to information of the SE "Vugillya Ukraine", average sale price of highly volatile coal types in 2013 was - UAH 739, in 2014 - UAH 833 and in I half of 2015 - UAH 1038 per 1 ton.
- (32) Average cost of highly volatile coal types, acquired by the SE "Vugillya Ukraine" as the Operator of the wholesale market of coal production in Ukraine was: in 2013 was - UAH 602, in 2014 - UAH 716 and in I half of 2015 - UAH 984 per 1 ton. At the same time, average sale price of the SE "Vugillya Ukraine" for highly volatile coal types was: in 2013 was - UAH 731.1, in 2014 - UAH 840.1 and in I half of 2015 - UAH 1044.9 per 1 ton.
- (33) Thus, average price of coal in the spot market (according to specialized publications) in 2014 ranged from USD 66 per 1 ton during October - December 2014, or UAH 854.7 for 1 ton in October and November 2014, and UAH 993.3 for 1 ton in December 2014, to USD 83 per 1 ton in January 2014, or UAH 663.17 per 1 ton (at the NBU rate, established during respective period).
- (34) Cost of distributed coal, produced by state coal mining enterprises, is significantly lower than its working cost, and, therefore, the state coal producers are supported by the government.
- (35) According to information, available to the AMCU, government support to enterprises (partners of the SE "Vugillya Ukraine") constituted, as follows:

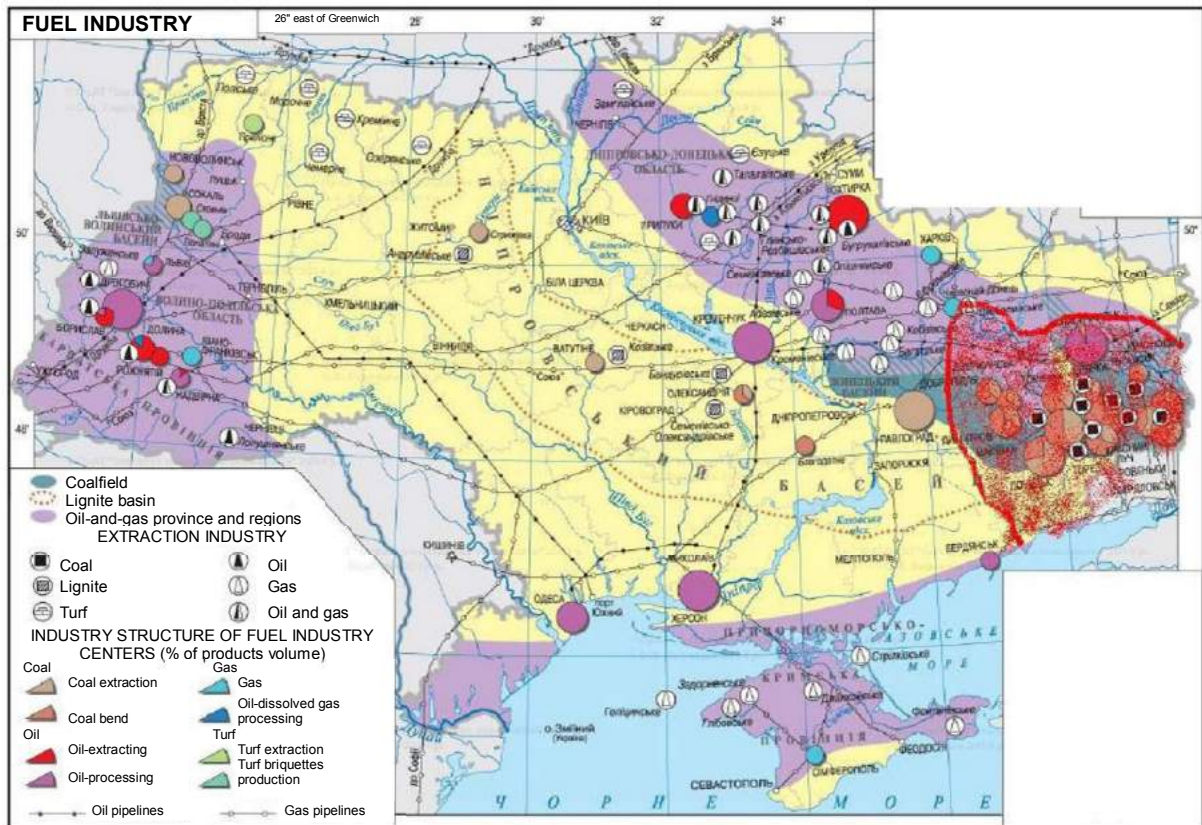
Company name	Year	Price of actually sold coal, UAH / ton (excluding VAT)	Amount of state aid per 1 ton of sold coal, UAH / ton (excluding VAT)	Full price of 1 ton of coal including state support, UAH / ton (without VAT)
Lysychanskvugillya SE	2013	566.28	2679.52	3245.80
	2014	683.39	2240.19	2923.28
	6 months of 2015	953.65	567.03	1520.68
Selydivvugillya SE	2013	425	449.84	874.92
	2014	635	910.49	1545.01
	6 months of 2015	1085	307.42	1392.06
Lvivvugillya SE	2013	619.64	1927.87	2547.51
	2014	713.69	1081.03	1794.72
	6 months of 2015	1063.24	812.43	1875.68
Pivdenno Donbaske Mine Group No. 1 SE	2013	312.86	346.44	659.30
	2014	579.50	580.07	1159.57
	6 months of 2015	720	183.35	903.35

- (36) The Ministry of Energy and Coal Mining of Ukraine in 2013, 2014 and I half of 2015 provided state support to coal mining enterprises mainly to cover working cost of ready coal products. There are no laws regulating criteria for selecting companies, specifications of the scope and direction of state support.
- (37) According to information published on the official website of the Audit Chamber of Ukraine, the Audit Chamber audited effectiveness of the use of the state budget to be provided to the Ministry of Energy and Coal Mining of Ukraine for the state support for coal mining companies for partial coverage of working cost of ready coal products.
- (38) The audit found that in the absence of real reform of coal mining industry, actions of the Ministry of Energy and Coal Mining of Ukraine resulted only increase of budget funding for partial coverage of

working cost of ready coal products. By 2014, budget expenses of the Ministry of Energy and Coal Mining of Ukraine yearly increased. In 2012-2014 UAH 32.2 billion was used for these purposes. In 2012 and 2014 20 coal mining enterprises received state support, and in 2013 - 21.

- (39) According to the auditor, despite the allocation of state support to state coal enterprises, volumes of coal production by respective enterprises reduced. However, losses of state enterprises, and working cost of ready coal products only increased. Reduction of state coal production leads to increase of import or failure to supply the state TPP with coal in full amount for electricity production in the amount required for the sustainable functioning of the UES of Ukraine.
- (40) The auditors stated that allocation of the state budget for partial coverage of working cost of ready coal products in 2012-2014 was conducted under deficient legal support. As a result of delay of the Ministry of Energy and Coal Mining of Ukraine of working out draft law "On state support of the coal industry", at the moment there is no regulation of the selection criteria of enterprises, specifications of the scope and direction of state support.
- (41) According to information available to the AMCU, during 2013 - I half of 2015, there were no regulatory restrictions for imports of coal in Ukraine.
- (42) However, subparagraph 3 of paragraph 2 of the Ruling of the Cabinet of Ministers of Ukraine "On approval of the list of products, export and import of which is subject to licensing, and quotas for 2014" No. 950 as of December 25, 2013 stipulates that export of the anthracite in 2014 (UCGFEA code 2701110000) is subject to licensing under approval of the Ministry of Energy and Coal Mining of Ukraine. Respective Ruling came into effect on November 29, 2014.
- (43) Annex 7 to the Ruling of the Cabinet of Ministers of Ukraine "On approval of the list of products, export and import of which is subject to licensing, and quotas for 2015" No. 1 as of January 14, 2015 stipulates that export of the anthracite in 2015 (UCGFEA code 2701110000) is subject to licensing in 2015.
- (44) Conditions of access to the coal market significantly affect the competition of generation companies TPP in the WEM of Ukraine, as the structure and cost of fuel influences the inclusion of TPP units to load schedules to be developed by the Energorynok SE. Lower fuel costs increases the probability of inclusion to the load schedule and increase electricity supply, as well as possibility of providing flexibility services. The lack of fuel significantly limits the offer of capacity, since respective units are not included in the operation.
- (45) Competitive relations in the electricity market provide the opportunity for each company to determine the conditions of business activities to achieve the best results, including through selection of suppliers on their sole discretion and the conditions of supply of raw materials.
- (46) Actions of the Ministry of Energy and Coal Mining of Ukraine, namely:
  - a) Failure to ensure equal access to the coal market;
  - b) Lack of determining the fair market price for coal, which is important for determining the price of electricity;
  - c) Lack of procedure for determining reasonable level of state support for state coal enterprises, distort competition in the energy coal market of Ukraine, which in turn leads to violations in the electricity market of Ukraine.
- (47) The above is confirmed by the conclusions of the Ministry of Energy and Coal Mining of Ukraine in letter No. 01/34-38P as of September 4, 2015, provided to the AMCU.
- (48) The respective letter stated that the inefficient use of state support, theft and its focus exclusively to financing current expenditures without funding technical renovation and major construction in recent years resulted to significant reduction in production, deterioration and obsolescence of coal mines (90 %) and the accumulation of large amounts of creditor indebtedness of mining companies. Production of coal reduced by 12 % during 2013-2014. Considering the dynamics of production in I half of 2015 such decrease could reach 17 % year on year.
- (49) These negative factors led to the fact that the working cost of coal products on perspective coal mines for 6 months 2015 was UAH 1743 / ton instead of UAH 1450 / ton. In the absence of state support in II half of 2015, according to the Ministry of Energy and Coal Mining of Ukraine, the production cost of 1 ton of coal products at prospective coal mines shall exceed UAH 2000 / ton, and coal production loss shall exceed UAH 4 billion.

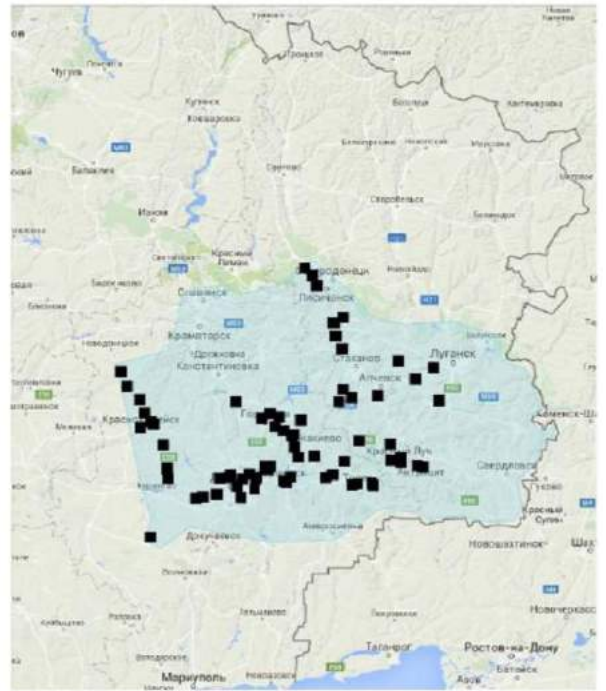




- (50) Ukrainian coal mines supply generating companies TPPs of Ukraine with coal of gas group only. Lean and anthracite coal are produced by coal-mining enterprises in Donetsk and Lugansk regions, which are located on the territory of Ukraine temporarily uncontrolled by the Ukrainian government. Prior to June 2014 the coal mining enterprises fully met the needs of the Ukrainian economy in coal. Since July 2014 the demand for coal types A and P is supplied by coal from the area of anti-terrorist operations or imports, but coal is supplied in insufficient quantities. It should be noted that due to location of major coal enterprises extracting low volatile coal types (A, P) in the area of anti-terrorist operations (see pic. 1,2) during 2014 - I half of 2015 there was a decrease in supply to the local these types of coal, resulting increased need for imported resources.
- (51) This fact is confirmed by the increasing coal import, particularly from South Africa, Australia and Russian Federation in 2014 and 2015.
- (52) According to information of the Ministry of Energy and Coal Mining of Ukraine provided to the AMCU in letter No. 01/34-38P as of September 4, 2015, due to military actions in the Eastern part of the country, coal enterprises were caught up in the temporary uncontrolled territory, making mining impossible. According to the Ministry of Energy and Coal Mining of Ukraine, within 7 months of 2015, the share of coal mining by the state coal mining companies, operating in the temporary uncontrolled territory constituted 20 %, the share coal mining by the DTEK companies constituted 70 %.
- (53) The share of coal mining by the state coal mining companies in the controlled territory has been significantly decreasing from the beginning of 2015, within 6 months of 2015 production decreased by 23 %.



■ - mines, located  
on the territory of ATO



- (54) According to the Scientific-Technical Center "Psyhea" PE, in the Donetsk, Lugansk and Dnipropetrovsk regions (the main coal-mining regions) small illegal coalmines have been operating for several years. This problem arose following closure of mines in small towns of respective regions, where these mines were city forming enterprises, the only place of employment.
- (55) They operated illegally for several years, and starting from 2005 initiated transformation into private coal mining companies (non-state coal mines). The State Committee of Ukraine for Industrial Safety, Labor Protection and Mining Supervision in Donetsk region issued more than 100 permits which legalized coal mining at non-state coal mines.
- (56) According to the Ukrpromzovnishexpertise SE the volume of illegal extraction of coal types A, P in 2013 constituted 2 931 thousand ton, and in 2014 - 1 829 thousand ton.

#### 2.1.4. Conclusions on the generation market competition

- (1) The national electricity market operates as part of the Wholesale Electricity Market of Ukraine; electricity is purchased by Energorynok SE to conduct the wholesale supply of electricity (generation market)<sup>147</sup>.
- (2) The only product in the national market of electricity, purchased by the Energorynok SE for the supply (generation market), is electricity, regardless of the type of power generating plants (nuclear, thermal, hydro-electric etc.). The territory of respective market is the territory of Ukraine<sup>148</sup>. Time boundaries of this market is the calendar year.
- (3) The value of offers of electricity (generation of electricity) depends proportionally on the demand (consumption), which varies not only in different seasons, but also during the day.

Source content of basic daily schedules of production / consumption of electricity in UES of Ukraine mainly is supplied by NPP, partly by renewable energy, CHPP, imports, large TPP and HPP.

TPP operate both in the basic part of daily schedules, and its variable part and are included to it under residual principle.

HPP and HPSPP operate in variable (peak) part of schedule, however, such power plant have priority for inclusion in operation due to high capacity of respective power plants to regulate load and relatively low working cost of production of electricity.

The electricity is the only commodity that is characterized by uniformity and interchangeability regardless of the method of generation (NPP, HPP or TPP) and conditions of sale and consumption.

- (4) In the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity (generation market), in 2013, 2014 and the first half of 2015:
  - 1) Herfindahl-Hirschman index increased during the study period from 2903.95 in 2013 to 3718.04 in the first quarter of 2015 (by 28%) - indicating the high level of market concentration.
  - 2) The share of NAEK Energoatom SE in the market during respective period increased from 44.37 percent in 2013, up to 50.14 percent in 2014 and up to 55.56 percent in I half of 2015.
  - 3) The share of the DTEK Group (DTEK Skhidenergo PJSC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC) in the market during respective period decreased from 30.09 percent in 2013, down to 28.79 percent in 2014 and down to 24.77 percent in I half of 2015.
  - 4) The share of the Centerenergo PJSC in the market during respective period decreased from 7.14 percent in 2013, down to 6.84 percent in 2014 and down to 4.46 percent in I half of 2015.

<sup>147</sup> This approach is sustainable European practice for the definition of boundaries of the wholesale electricity market, which includes import and generation of electricity for resale (see judgments in cases COMP/39.388 and COMP/39.389. Also in the Case No IV/M.1346 - EDF / LONDON ELECTRICITY (paragraph 12), the Commission noted that the relevant electricity markets include, based on market entities activities generation market (electricity generation at power plants), transmission (transmission via high voltage networks), distribution (transmission via low voltage networks) and supply market (electricity supply to end consumers). However, the differences should be taken into consideration between electricity market model and features of its operations in Europe and in Ukraine, which has "single buyer" market model who acts as an intermediary between generators and suppliers of electricity and consumers.

<sup>148</sup> Regarding the geographical boundaries of the wholesale electricity market (generation and sale of electricity by generating companies) - The Commission came to the conclusion that they cannot be larger than the state. For example, the case M.1346 (paragraph 12) determined that the relevant geographic generation market boundaries cannot be wider than boundaries of England and Wales. As the argument, in support of this conclusion, the following aspects are indicated:

(i) Electricity generating companies can sell it only through a special wholesale mechanism called "Pool" and limited to the England and Wales;  
 (ii) Relations between England and Wales and neighboring countries, including Scotland and France, has a limited capacity which is less than 6% of total capacity.  
 There is a similar situation in the market, under the study - all the electricity generated and imported, can only be purchased by Energorynok SE and only in Ukraine, while import capacity is only about 10.5% of total power generation  
 (for example, the Decision of the Commission in cases COMP/39.388 and COMP/39.389, in which the geographic boundaries of the wholesale electricity market defined by state boundaries - Germany).

- 5) The share of Ukrhydroenergo PJSC in the market during respective period decreased from 7.71 percent in 2013, down to 5.15 percent in 2014 and down to 4.80 percent in I half of 2015.
  - 6) The share of Donbasenergo PJSC in the market during respective period decreased from 5.11 percent in 2013, down to 3.83 percent in 2014 and down to 3.27 percent in I half of 2015.
- (5) Total joint share of 3 business entities, namely: SE "National Nuclear Power Generating Company "Energoatom", DTEK Group (PJSC "DTEK Skhidenergo", PJSC "DTEK Zakhidenergo" and PJSC "DTEK Dniproenergo", LLC "Wind Power", PJSC "Donetskoblenergo" (Myronivska TPP), PJSC "Kyivenergo") and PJSC "Ukrhydroenergo" at the state market of electricity, purchased by the SE "Energorynok" for the purposes of supply, was as follows:
- 1) in 2013 - 82.17 %;
  - 2) in 2014 - 84.08 %;
  - 3) in I quarter 2015 - 85.13 %.
- (6) In 2013, 2014 and the first half of 2015, in the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity in the WEM, the structural features (indicator) of monopoly (dominant) position were shown by:
- 1) the buyer - Energorynok SE;
  - 2) the sellers: NAEK Energoatom SE, Ukrhydroenergo PJSC and business entity consisting of DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, DTEK Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC (which form a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition")<sup>149</sup>.
- (7) Notwithstanding the above, the market power of the above entities who hold the largest share in the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity (generation market), in 2013, 2014 and the first half of 2015, is constrained by administrative factors.

The pricing in the market is conducted by the National Energy and Utilities Regulatory Commission.

Resource filling of the market is regulated by:

long-term and mid-term planning by the Ministry of Energy and Coal Mining of Ukraine, which is the approval of the forecast balance of electricity of Ukraine of the UES of Ukraine and the forecast balance of electricity, fuel and the cost of generating companies TPP (annual / quarterly / monthly); short-term planning is performed by Energorynok SE by developing load schedule under the Rules of the Wholesale Electricity Market.

NEC Ukrenergo SE performs the functions of centralized dispatching control of the UES of Ukraine, and therefore has impact on the volumes of sales of electricity in the WEM of Ukraine by generators of electricity.

<sup>149</sup> Under the COMP/39.388 and COMP /39.389 cases, each of the major energy generating companies within the same market had a chance to individually hold dominant position even with a limited presence in the market, including to behave to certain extent independently from competitors, their customers and end consumers.

This approach was based on:

(I) the structure of the wholesale electricity market of Germany - the market is very concentrated, shares of three key players were 20-30%, 30-40% and 10-20% respectively - total average of about 70% - aggregate share of generating companies. Large capacity of main market participants, allowing them to act independently of each other - the other participants do not have sufficient capacity. Dominant business entities were vertically integrated companies with large market shares at the market (retail supply of electricity to end consumers) and actually had access to cheap electricity (nuclear, hydro and lignite);

(ii) the features of the specified market: Electricity is a standardized commodity, the price of electricity is transparent and all participants have access to relevant information; the market is not characterized by a significant increase;

(iii) the largest generators of electricity have been linked with a number of generation and wholesale supply of electricity contracts (paragraph 4.1 (18), could adopt a common policy on price increases, reacting accordingly on the increase or decrease of generation and effecting prices (paragraph 4.1 (20) ); and

(iv) business entities that were recognized as holding dominant position, were able to use identical behavior on pricing and increase of power capacity and scope of supply; and

(V) high barriers to market access, including a small proportion of imports that does not cause substantial competitive pressure on market participants

(In this case concerning the share of imports at 16 percent)

These dominant business entities were able to keep stable position in the wholesale electricity market. However, it should be noted that in this case the Commission did not issue formal opinion on the presence of collective dominant position. Furthermore, it is necessary to take into consideration the differences between the model and features of the market functioning in Germany and in Ukraine, as well as differences in the position and activities of Ukrainian generators that due to the peculiarities of Ukrainian market have lack of possibility to effect pricing and determine generation volumes.

- (8) Electricity import in Ukraine:
- 1) May be conducted through the state border of Ukraine with Romania, Hungary, Slovakia, Belarus, Russia and Moldova.
  - 2) Is technically limited by maximum available installed capacity of interstate electric networks, which equals to 5750 MW per hour, which is a technical barrier for importers to entry into the WEM of Ukraine.
  - 3) Is possible only in the event of obtaining by the importer, under results of auction held by NEC Ukrenergo SE, of access to installed capacity of interstate electric networks.
- (9) Cost of fuel (coal, gas, fuel oil) used by thermal power generation companies for the generation of electricity:
- 1) Is one of the decisive factors for inclusion of TPP units to the load schedule, developed by Energorynok SE (lower fuel cost increases the probability of inclusion in the load schedule and electricity supply increase).
  - 2) Significantly influence the tariff for electricity sold in the WEM of Ukraine for the relevant generator working through bidding.
- (10) There are 14 TPP operating in Ukraine, designed to use one of two coal types:
1. High volatile coal G, DG, D is consumed by:
    - Vuglegirska TPP (Centrenergo PJSC);
    - Zaporizka TPP (DTEK Dniproenergo PJSC);
    - Zuivska TPP (DTEK Skhidenergo LLC);
    - Kurakhivska TPP (DTEK Skhidenergo LLC);
    - Ladyzhynska TPP (DTEK Zakhidenergo PJSC);
    - Dobrotvirska TPP (DTEK Zakhidenergo PJSC);
    - Burshtynska TPP (DTEK Zakhidenergo PJSC);
  2. Low volatile coal A, P is consumed by:
    - Trypilska TPP (Centrenergo PJSC);
    - Zmiivska TPP (Centrenergo PJSC);
    - Prydniprovskaya TPP (DTEK Dniproenergo PJSC);
    - Starobeshivska TPP (Donbasenergo PJSC);
    - Slovianska TPP (Donbasenergo PJSC);
    - Luganska TPP (DTEK Skhidenergo LLC);
    - Kryvorizka TPP (DTEK Dniproenergo PJSC);
- (11) The highly volatile coal types (G, DG, D) and low volatile marks (A, P) are not interchangeable, given the physical characteristics and essentially different conditions of explosion of pulverized-coal systems, fire, and burning in boilers of TPP.
- (12) Within 7 months of 2015 in Ukraine coal mining enterprises produced, in the territory controlled by Ukrainian authorities, gas thermal coal in the amount of 16.5 million tons. The state coal mining enterprises that are managed by the Ministry of Energy and Coal Mining of Ukraine produced 3.3 million tons - 19.9% of total gas coal. At the same time, enterprises of DTEK Group produced 12.6 million tons - 76.5% of total gas coal.
- (13) Significant proportion of thermal coal was sold in Ukraine within business entities linked by control relations, namely:
- 1) DTEK Dniproenergo PJSC and DTEK Skhidenergo LLC during 2013 - the first half of 2015 purchased from DTEK Trading LLC and coal companies that are part of the vertically integrated company DTEK, about 97% of low volatile coal types (A, P). 92.5% of low volatile coal types (A, P), which was sold by DTEK Trading LLC during the first half of 2015

for electricity generation by DTEK Dniproenergo PJSC and DTEK Skhidenergo LLC, was purchased from coal extraction entities that are part of the vertically integrated company DTEK.

- 2) Donbasenergo PJSC purchased from Energoinvest Trading LLC in 2014 and the first half of 2015 about 42% of low volatile coal types (A, P).
- 3) Centrenergo PJSC during 2013 - the first half of 2015 purchased from Vugillya Ukraine SE and entities under management of the Ministry of Energy and Coal Mining of Ukraine, about 70 % of low volatile coal types (A, P). Vugillya Ukraine SE purchased respective coal from coal extraction entities under management of the Ministry of Energy and Coal Mining of Ukraine.

(14) The lack of coal market and coal shortage leads to reduction in the indicator of installed capacity utilization of generating companies TPP.

(15) Factors that prevent the development of competition in the national market of electricity, purchased by the SE "Energorynok" for the purposes of supply the electricity in the WEM of Ukraine (generation market), and that provide grounds for violations of economic competition protection legislation, are, as follows:

1. The lack of price competition between electricity generators.
2. Significant level of debts for payments for electricity that is constantly growing, including debts for previous periods.
3. Inconsistency of contract terms to business practices, in particular, the lack of contracts for the provision of ancillary services, their cost etc.
4. Problems of the coal sector, including:
  - 1) Significant amount of state aid for state coal extracting enterprises;
  - 2) Lack of full scale thermal coal market.
5. Delay in the unbundling of the natural monopoly entities activity from activity in the potentially competitive markets.
6. Failure to apply incentive regulation for natural monopolies.
7. Incomplete regulations governing connection to electric networks, including:
  - 1) Inconsistency of standard connection terms, stipulated by law with terms provided for by the law in the field of urban planning and land management;
  - 2) Lack of connection service and possibility to choose the type of connection (standard or nonstandard).
  - 3) Unsettled issue of payment for providing technical conditions for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 4) Absence of obligation of electricity transmission organizations to choose the executor of construction works of external electricity supply units for the customer on a competitive basis.
8. Inequality of opportunities for access to electricity networks of suppliers at regulated tariffs and at unregulated tariff.
9. Inequality of opportunities for resource filling of the electricity market, in particular, due to the existence of preferences and priorities of individual types of generation capacities in the course of inclusion to the power generation load schedule.
10. Imperfect legislation regulating the liability for electricity debts.
11. Significant amount of cross-subsidies in the electricity sector.
12. Lack of transparency, selectivity of advance and additional payments to generators working through bidding, due to:
  - 1) The lack of transparent and non-discriminatory procedure and/or methods of calculation of advance payments for electricity generators;
  - 2) The practice of charging additional payments to generators working through bidding, pursuant to legislation and government decisions, repayment of bad debts.

13. The growing imbalance in tariffs for electricity generators, in particular:
  - 1) The significant gap between the lowest tariff in the market (for electricity generated at NPP) and the highest tariff on the market (for electricity generated using renewable energy sources);
  - 2) The significant gap between the tariffs for TPP and CHPP despite the use of the same primary energy sources for electricity generation.
14. The imbalance of payments to electricity generators for actually supplied goods in the absence of 100-percent payment.
15. Different liability of generators working through bidding and generators not working through bidding, for disruption and failure to comply with terms of major, mid-term and current repairs.
16. Lack of transparent SMP, due to the lack of procedure and/or method of calculation and/or the formation by the NEURC, indicator of SMP.
17. Lack of transparent formation of electricity forecast balance of the UES of Ukraine and the forecast balance of electricity, fuel and the cost of generating companies TPP (annual / quarterly / monthly) due to the lack of transparent and non-discriminatory procedure for their formation by the Ministry of Energy and Coal Mining of Ukraine.
18. Technical and technological limitations due to the peculiarities of equipment (generating capacity and networks), including:
  - 1) Limitations of generation caused by established capacity of electrical units, technical condition of generating equipment, transfer capacity of electrical networks connected to respective electrical unit, availability of and access to primary energy sources (coal stocks in warehouses, sufficient water level at HPP, etc.);
  - 2) Limited ability to import electricity by installed capacity of interstate electric networks;
  - 3) Various possibilities of generating units to change the load and flexibility.
19. The high level of deterioration of power generating facilities and electric networks.
20. The political constraints, namely:
  - 1) Concentration of generating companies in the area of anti-terrorist operations;
  - 2) Concentration of coal enterprises engaged in coal mining of low volatile coal types (A, P) in the area of anti-terrorist operations
  - 3) Illegal production of coal types A, P;
  - 4) Unstable investment climate and regulatory policy.

### 2.1.5. **Proposals on the generation market competition development**

- (17) For the purposes of development of competition in the national market of electricity, purchased by Energorynok SE for the purposes of supply the electricity (generation market), and eliminate grounds for possible violations of economic competition protection legislation, we propose:

#### **I. TO RECOMMEND THAT**

1. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
ensure the adoption of regulatory act aimed at determining the procedure for and/or the method of calculation and/or the formation by the National Energy and Utilities Regulatory Commission, of system marginal price limitation.
2. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures to introduce price competition between electricity generators and importers.
3. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
develop and adopt regulatory act, which would define transparent and non-discriminatory procedure for and/or methods of calculation of advance payments for electricity generators, including payments for the account of loans.
4. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
introduce ancillary services sale mechanisms (procedure for ancillary services purchase and relevant agreements).
5. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures for cancellation (decrease) of practice of additional payments to generators working through bidding.
6. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures to improve the settlements at the WEM of Ukraine between electricity generators and Energorynok SE.
7. **The Ministry of Energy and Coal Mining of Ukraine, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures for creation of equal conditions for electricity generators and importers in terms of ensuring the resource content of the market.
8. **The Ministry of Energy and Coal Mining of Ukraine**  
develop and adopt regulations for establishing transparent and non-discriminatory formation procedure of:
  - 1) The electricity forecast physical balance of the UES of Ukraine (annual / quarterly / monthly).
  - 2) The forecast balance of electricity, fuel and the cost of generating companies TPP.
9. **The Ministry of Energy and Coal Mining of Ukraine**  
take measures for introduction of the thermal coal market in Ukraine.

- 10. The Ministry of Energy and Coal Mining of Ukraine**  
take measures for bringing the state support of state coal enterprises to a level which shall not result in distortions of competition in the thermal coal market of Ukraine in accordance with Article 18 of the Treaty establishing the Energy Community.
- 11. The National Energy and Utilities Regulatory Commission, the Council of the Wholesale Electricity Market of Ukraine**  
take measures to stop (decrease) cross-subsidization of certain categories of consumers through the wholesale market price for electricity.
- 12. The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
take measures to increase the transfer capacity of trunk and interstate electric networks and full integration of the UES of Ukraine to the ENTSO-E.
- 13. The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
ensure transparent conditions for access to capacity of interstate networks, in particular by:

  - 1) Ensuring auctions for access to installed capacity of interstate networks to import electricity.
  - 2) Ensuring increase of transparency and competition during the auction for allocation of installed capacity of interstate electric networks by introducing electronic auctions and daily auctions.



## II. FILE WITH THE PROPOSAL WITH

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On Electricity Market" (registered with the Verkhovna Rada of Ukraine at No. 4493 on April 21, 2016) by:
  - 1) Amendment on the need for approval by the Antimonopoly Committee of Ukraine of all draft legislation and decisions that may effect competition (Article 2 of the draft Law).
  - 2) Exclude regulations providing for benefits (priorities) to certain electricity generators as compared to competitors in the course of resource filling the market and pricing, namely:
    - i) part 5 of Article 44 of the draft Law (with regards to providing priorities to generation capacities that use primary energy sources produced in Ukraine);
    - ii) Article 92 provided for by amendments to the Law of Ukraine "On Alternative Energy Sources" under subparagraph 5 of paragraph 23 of Final and transitional provisions of the draft law (with regards to defining surcharge to the "green" tariff under condition of compliance with the requirements of use of Ukrainian generation equipment).
  
2. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:
  - 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).
  - 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
  - 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.
  
3. **The Cabinet of Ministers of Ukraine**  
with regards to development and filing to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.
  
4. **The Cabinet of Ministers of Ukraine**  
to take measures to prevent the adoption of decisions aimed at providing benefits and preferences to certain entities with regards to repayment of bad debts, charging additional fees, provision of other benefits and advantages which may result in prevention, elimination or restriction of competition.

## 2.2. WHOLESALE ELECTRICITY MARKET AND THE FACTORS PREVENTING THE DEVELOPMENT OF COMPETITION

- (1) The national market of electricity which is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market) operates as part of the Wholesale Electricity Market of Ukraine.
- (2) Electricity is purchased by suppliers in the WEM for supply to consumers (and from small manufacturers who are not required to sell electricity in the WEM).
- (3) Percentage of electricity purchased by SRT in the total electricity volume sold by Energorynok SE in 2013 - 2014 and the first half of 2015 was 80.13 percent.

Information on electricity sales volume by wholesaler									
No.	Market participants	2013		2014		6 months of 2015		2013-2014 and 6 months of 2015	
		GWh	%	GWh	%	GWh	%	GWh	%
1	Electricity supplier at regulated tariffs	139,582	81.13	125,796.11	77.87	60,719.24	82.81	326,097.22	80.13
	including:								
1.1	DTEK Dniprooblenergo PJSC	23,068	13.41	20,407.89	12.63	11,075.93	15.11	54,552.24	13.41
1.2	DTEK Power Grid LLC	10,895	6.33	9,511.02	5.89	3,915.15	5.34	24,321.58	5.98
1.3	Kyivenergo PJSC	9,641	5.60	9,511.67	5.89	4,579.15	6.25	23,732.20	5.83
1.4	DTEK Donetskoblenergo PJSC	9,926	5.77	7,937.27	4.91	3,068.51	4.18	20,931.31	5.14
1.5	Zaporizhiaoblenergo OJSC	7,426	4.32	5,971.72	3.70	4,322.40	5.89	17,720.21	4.35
1.6	Odesaoblenergo PJSC	6,591	3.83	6,390.20	3.96	3,152.75	4.30	16,133.90	3.96
1.7	Kharkivoblenergo JSC	6,549	3.81	6,426.63	3.98	3,103.39	4.23	16,079.45	3.95
1.8	Kyivoblenergo PJSC	6,215	3.61	6,126.35	3.79	2,980.53	4.06	15,321.62	3.77
1.9	Other SRT	59,270	34	53,513	33	24,521	33	137,305	34
2	Electricity supplier at unregulated tariffs	21,801	12.67	23,560.86	14.58	6,714.32	9.16	52,076.36	12.80
3	Other business entities	803	0.47	4,143.66	2.56	4,088.72	5.58	9,035.78	2.22
4	Electricity exported from the territory of Ukraine	9,871	5.74	8,052.77	4.98	1,802.15	2.46	19,725.90	4.85
5	External flows	0	0.00	0.00	0	0.00	0.00	0.00	0.00
6	Electricity purchased at the WEM	172,057	100.00	161,553.39	100	73,324.43	100.00	406,935.26	100.00

- (4) During 2013-2014 and the first half of 2015 40 SRTs purchased electricity from Energorynok SE<sup>150</sup>:
  - Weight ratio of energy purchased by DTEK Dniprooblenergo PJSC amounted to 13.41 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by DTEK Vysokovoltni Merezshi LLC amounted to 5.98 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by Kyivenergo PJSC amounted to 5.83 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by DTEK Donetskoblenergo PJSC amounted to 5.14 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by Zaporizhiaoblenergo OJSC amounted to 4.35 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by Odesaoblenergo PJSC amounted to 3.96 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by Kharkivoblenergo JSC amounted to 3.95 percent of the total volume of electricity sold by Energorynok SE;
  - Weight ratio of energy purchased by Kyivoblenergo PJSC amounted to 3.95 percent of the total volume of electricity sold by Energorynok SE;

<sup>150</sup> Under the letter of SE "Energorynok" No. 01/32-9919. as of 28.08.2015.

- Weight ratio other suppliers at regulated tariff amounted to less than 3 percent and in total amounted to 34 percent of the total volume of electricity sold by Energorynok SE.
- (5) Percentage of electricity purchased by SUT in the total electricity volume sold by Energorynok SE in 2013 - 2014 and the first half of 2015 was 12.8 percent. Percentage of each SUT was insignificant.
- (6) Weight ratio of SUT of the total purchase of electricity on the WEM in 2015 amounted to 8.2%, i.e. reduced compared to 2014 almost by half (in 2014 - 15.8%)<sup>151</sup>. Percentage of SRT increased compared to 2014 and amounted to 81.7%.
- (7) Furthermore, separate business entities, engaged in power generation, purchase electricity in the WEM, namely: Ukrhydroenergo PJSC and NAEK Energoatom SE for supply to HPSP, TEK LLC and Skhidenergo LLC to compensate for losses in ENTSO-E, DTEK Donetskoblenenergo PJSC and LEO LLC in non-controlled territories, and Ukrinterenergo SFTC to compensate for losses in Russia and ENTSO-E, as well as for electricity supply to the Autonomous Republic of Crimea.
- (8) Significant problem in the WEM is non-payment for electricity.
- (9) SUT must pay for electricity that is purchased from Energorynok SE in advance.
- (10) SRT have no such obligation.
- (11) Payments of debt for electricity by business entities of centralized water supply and disposal (resulting from the difference in rates), provided for by the Law of Ukraine "On the State Budget of Ukraine for 2015" and the Ruling of the Cabinet of Ministers of Ukraine No. 37538 as of June 4, 2015, were made in amount of UAH 1,862.8 million in 2015.<sup>152</sup>
- (12) Debt of the electricity consumers before supply companies and other receivables at the end of 2015 amounted to UAH 21.2 billion and increased compared to the beginning of the year by UAH 1.9 billion, or 10%, while debt of supply companies before Energorynok SE amounted to UAH 26.5 billion and increased by UAH 4.4 billion (20%). Debt of Energorynok SE before generators of electricity amounted to UAH 25 billion, and increased compared to the beginning of the year by one billion (48%).
- (13) Only in 2015 the following entities had the largest increase in debt for 2015<sup>153</sup>:
  - Regional electric networks SE - UAH 2,136.9 million;
  - DTEK Donetskoblenenergo PJSC - UAH 1,379.8 million;
  - Lugansk energy association LLC - UAH 1,136.4 million;
  - DTEK Vysokovoltni Merezshi LLC - UAH 609.7 million;
  - Zaporizhiaoblenergo OJSC - UAH 605.6 million;
  - DTEK PEM-Energovugillya PJSC - UAH 548.2 million.
- (14) The main reasons for increasing of debt of supply companies were underpayment for the consumed electricity by the coal industry entities (UAH,1 538.4 million) and enterprises providing services of centralized water supply and disposal (UAH 55.4 million), total debt amounted to UAH 4,381 9 million.
- (15) Incomplete payment for goods and services is deteriorating financial condition of companies that operate in all stages of generation (electricity generation stages, its distribution, transmission by main lines and supply to end consumers). In turn, this negatively affects the investment development of companies, their modernization, operation of combined power system in Ukraine. The delay in solving of this issue threatens the energy security of the country.
- (16) At the same time, in the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market), cross-subsidization through the wholesale market price for individual electricity consumers was carried out, creating additional financial burden for consumers who do not have appropriate privileges, which reduces the competitiveness of domestic generators on the relevant product markets, thus:
  1. Tariffs for some categories of consumers (including population and other privileged categories) are subsidized by tariffs for other consumers (industry). However, industrial

<sup>151</sup> Report of Energorynok SE on main activity in 2015.

<sup>152</sup> I.O. Sakva The low level of payments in the electricity market and the uncontrolled growth of debt // [E- source]. - <http://hubs.ua/discussions/pyat-bar-erov-dlya-ry-nka-elektricheskoy-energii-v-ukraine-chast-ii-60672.html>

<sup>153</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

consumers are further divided into two subcategories with different levels of tariffs. Tariffs for the population are artificially low and distributed by a number of different criteria to subgroups and accordingly are different in size. Other consumers, who have privileges on payments for electricity, are entities that implement innovative projects, urban electric transport, coal mines and other entities in accordance with decisions of the Government.

- 2 Cross-subsidization between regions, with consumers of separate regional energy companies acting as donors, and other consumers - as recipients.
- (17) One of the tools of cross-subsidization is the use of subsidies to compensate for losses from supply of electricity at regulated tariff (subsidy certificates). Thus, the total amount of subsidies in 2015 amounted to over UAH 43 billion, which is 7.4% more than in 2014. The structure of WMP by 2015 included 30.75% of subsidy certificates<sup>154</sup>.
- (18) The use of subsidy certificates is distorting market mechanisms and infringes the rights and interests of consumers compared to others, in particular:
  - 1) Application of cross- subsidization and setting fixed tariffs for electricity generators in the generation market prevents from the development of price competition between market participants.
  - 2) Application of cross-subsidization and individual determination for each supplier of purchase price of standardized, unified product in the wholesale market leads to the fact that the purchase price of electricity does not correlate with the level of demand and discrimination of SUT compared to SRT.
  - 3) Infringement of the rights and interests of some categories of consumers as compared to others in the retail electricity markets (depending on the type (category) of consumption, voltage, supplier, region of location, etc.).
- (19) The main reason for the application of cross-subsidization is that the industry continues to be used as a donor to solve social and political problems. The elimination of cross-subsidization is a prerequisite for reforming the electricity market.
- (20) Supplying companies are not able to directly select the generators of electricity for concluding electricity sale-purchase contracts, which distorts the conditions and opportunities of competition between them.
- (21) The majority of end consumers of electricity of Ukraine has no possibility to choose / change the supplier and has no direct impact on prices and tariffs for electricity.
- (22) This gap between generating companies and end consumers of electricity with regards to the choice of the latter (through supplying companies) of more efficient generators does not create incentives for innovation development of generating companies.
- (23) In other words, end consumers actually, without having market power, are unable to maintain or stimulate competition between generators and between suppliers in the electricity market of Ukraine and, thus, contribute to the structural transformation of the market and increase its effectiveness<sup>155</sup>.
- (24) This task is fully vested in the mechanisms of state regulation and partially - self-regulation.
- (25) Thus, consumers act as a collective entity, creating demand for electricity, significantly affecting the level of the wholesale market price.
- (26) Administrator of payments system (Energorynok SE) acts as intermediary between suppliers and generators, and redistributes funds from consumers to generators according to the algorithm set by the NEURC, which is based on inverse calculation of the cost of electricity for generators and other market players (the level of subsidies is defined based on tariffs determined without taking into account economic grounds, which are transferred to other consumers by cross-subsidization), which does not promote development of competitive relations in the market.
- (27) Therefore, the national electricity market operates as part of the Wholesale Electricity Market of Ukraine; electricity is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market).
- (28) During 2013, 2014 and the first half of 2015 Energorynok SE had share in the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity in the

<sup>154</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>155</sup> Supported by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)).

WEM of Ukraine (electricity wholesale market), which can be considered as a structural feature of monopoly (dominant) position.

- (29) The market power of Energorynok SE during 2013, 2014 and the first half of 2015 in the national electricity market, which is sold by Energorynok SE to conduct the wholesale supply of electricity (electricity wholesale market), was constrained by administrative factors.
- (30) In the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market), cross-subsidization through the wholesale market price for individual electricity consumers was carried out, creating additional financial burden for consumers who do not have appropriate privileges, which reduces the competitiveness of domestic generators on the relevant product markets.
- (31) There is a significant level of indebtedness of electricity suppliers at regulated tariffs to Energorynok SE for consumed electricity.
- (32) The NEURC activity in the market is not sufficiently transparent.
- (33) In order to enhance competition it is necessary to ensure the choice / change by end consumers of energy supply company and choice of electricity generators by distribution companies in order to conclude electricity sale-purchase contracts, which, in particular, is provided for by the current law of Ukraine "On Fundamentals of the Operation of the Electricity Market". It is important to perform by the state authorities of paragraph 2 of Part VI of the Law of Ukraine on the functioning during the transitional period and creation of preconditions for introduction of full-scale electricity market<sup>156</sup>.
- (34) In order to promote competition in the electricity market of Ukraine and eliminate the grounds for possible violations of the legislation on economic competition protection, we propose:

#### **I. TO RECOMMEND THAT**

1. **To the Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Council of the Wholesale Electricity Market of Ukraine**  
to take measures to improve the settlements at the WEM of Ukraine between Energorynok SE and electricity suppliers at regulated tariff.
2. **The National Energy and Utilities Regulatory Commission, the and Council of the Wholesale Electricity Market of Ukraine**  
take measures to stop (decrease) cross-subsidization through the wholesale market price for electricity of certain categories of consumers.
3. **The National Energy and Utilities Regulatory Commission**  
develop a regulatory act or amend the Procedure for electricity suppliers at unregulated tariff access to local electric networks approved by the resolution of the NERC No. 1421 as of October 29, 2010, in terms of preventing rejection, disagreement or delaying the review of communications and notices of electricity suppliers at unregulated tariff by electricity transmission companies.

#### **II. FILE WITH THE PROPOSAL WITH**

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:
  - 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).

<sup>156</sup> Supported by information specified in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)).

- 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
- 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.

**2. The Cabinet of Ministers of Ukraine**

with regards to development and introduction to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.

### 2.3. ELECTRICITY TRANSMISSION MARKET - ISSUES AND SOLUTIONS

- (1) NEC Ukrenergo SE is the subject of natural monopoly and the only entity holding license on ETTIN issued by the NEURC.
- (2) NEC Ukrenergo SE does not experience and is not subject to significant competition due to the absence of any competitor in the relevant markets:
  - CDC of the UES of Ukraine and ETTIN, agreed by the NEURC;
  - Providing ancillary services (means);
  - Connection/ disconnection to / from trunk and interstate electric networks;
  - Access to transmission capacity.
- (3) NEC Ukrenergo SE - is technological link that unites electricity generators
  - NPP, TPP and HPP generating entities and regional power distribution companies, interacts with the power systems of neighboring countries, provides export and import of electricity<sup>157</sup>.
- (4) At the same time, as the activity of NEC Ukrenergo SE in these areas can have a significant impact on competition in the potentially competitive markets, it is worth looking at some of its aspects.

#### *Regarding CDC of the UES of Ukraine and ETTIN*

- (5) During the 2013 - 2014 NEC Ukrenergo SE<sup>158</sup> provided services of electricity transmission via trunk and interstate electric networks, including central control of the UES of Ukraine under the following agreements:
  1. Under the agreement with Energorynok SE No. 136/01 as of September 4, 2000 (for the amount of UAH 3 985 937.3 for 2013 (99.9%), UAH 3 695 418.5 for 2014 (99.6%), UAH 2 186 952.7 for I quarter 2015 (99.5%));
  2. Under the agreement with Ukrinterenergo SFTC No. 44/1-44 as of March 30, 2007 (for the amount of UAH 1 283.7 for 2013, UAH 11 890.3 for 2014, UAH 10 061.4 for I quarter 2015);
  3. Under the agreement with Trade Electric Company LLC No. 01/5579-13 as of December 30, 2013 (for the amount of UAH 2 574.7 for 2014, UAH 9.3 for I quarter 2015);
  4. Under the agreement with Skhidenergo LLC No. 103/01-12 as of March 30, 2012 (for the amount of UAH 2 624.2 for 2013, UAH 598.4 for I quarter 2014).
- (6) It should be noted that Ukrinterenergo SFTC, Trade Electric Company LLC and Skhidenergo LLC do not hold the license on the wholesale supply of electricity, and the services, rendered by NEC Ukrenergo SE under agreements with these entities, were related to control and transmission (transportation) of electricity via trunk and interstate electric networks of southwest part of the UES of Ukraine ( "Burshtyn TPP island") in terms of parallel cooperation of "Burshtyn TPP island" with energy association ENTSO-E.
- (7) Therefore, the main consumer of CDC of the UES of Ukraine and ETTIN services of NEC Ukrenergo SE is the wholesale supplier (Energorynok SE).

#### *Regarding the state and interstate electric networks*

- (8) As of January 1, 2015 NEC Ukrenergo SE owns 137 substations of 110-750 kW (including 133 substations of 220-750 kW, 4 substations of 110 kW) and 22 969 km (circuits) of trunk and interstate overhead transmission lines with voltage of 35-800 kW, namely: 99 km with 800 kW; 4121 km with 750 kW; 375 km with 500 kW; 339 km with 400 kW; 13 423 km with 330 kW; 3976 km with 220 kW; 538 km with 110 kW (interstate); 98 km with 35 kW (interstate)<sup>159</sup>.
- (9) The trunk and interstate electric networks of the UES of Ukraine account 23.0 thousand km, of which 4.9 thousand km are in network with the voltage of 400 - 800 kW, 13.4 thousand km - 330 kW, 4.0 thousand km - 220 kW and 0.7 thousand km - 35-110 kW, and 137 substations with total transformer capacity of 78.6 thousand MVA<sup>160</sup>.

<sup>157</sup> Under information published on the official website of NEC Ukrenergo SE.

<sup>158</sup> Under the letter of NEC Ukrenergo SE No. 02-2/02-2-1-2/9356 as of August 14, 2015.

<sup>159</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine, Kyiv, 2016

<sup>160</sup> Under information obtained from NEC Ukrenergo SE, source: <https://drive.google.com/IIIe/d/0BwZR8kgLwyBtMjA2SHM4cWY3Nm/c/view?pref=2&pli=1>

- (10) The UES of Ukraine is cooperating with the electric power associations of Belarus, Republic of Moldova, Russian Federation (Center UES, South UES), except the so-called "Burshtyn TPP island" (includes Burshtyn TPP, Kaluska TPP and Tereble-Rikhska TPP), which is synchronized with the European Network of Electricity Transmission System Operators (EOT80-E). Electric connections between the UES of Ukraine and adjacent power systems are made via networks 110-750 kW.
- (11) The total maximum capacity that can be transmitted in interstate intersection to Ukraine is 5 750 MW<sup>161</sup>, with 3 000 MW on the border with Russia.
- (12) In the end of 2015 most of the trunk and interstate electric networks are worn out and ineffective, in particular, over 90% of transmission lines with voltage of 220 kW and higher and 55% of the basic equipment of substations worked the estimated service life (25 years) and 56% of power lines and 17% substations have been operating for more than 40 years.
- (13) Significant problems in the UES of Ukraine arising from lack of transmission capacity for supply to nuclear power plants and power transmission to centers of consumption; with insufficient reliability of power supply in several regions of the country (south of Odessa region, Chernivtsi region, Kyiv city and Kyiv region); with lack of compensation of power network and complexity of supporting the voltage quality<sup>162</sup>.
- (14) The level of technological power consumption<sup>163</sup> in the main power network (800-220 kW voltage level) in 2015 amounted to 4 369.3 million kWh, or 2.99% of the electricity supply to the network (146 358 600 000 kWh), which compared to 2014 is more by 0.33%.
- (15) Therefore, as of today the condition of interstate and main electric networks in Ukraine is unsatisfactory, which in turn prevents the development of competition in related markets (particularly in electricity).
- (16) The above is explained, including, by low volume of financing of NEC Ukrenergo SE in the development of trunk and interstate electric networks, in particular, by low investment component of the tariff and its focus primarily on solving local emerging issues (repairs, new equipment, etc.) and not on the strategic development of networks in general.
- (17) The urgent problem is the reconstruction, modernization and update of outdated and physically worn equipment throughout the technological chain: power generation, transmission and distribution networks. Stabilization and development of electric power, and the economy can only be based on the latest scientific and technological achievements<sup>164</sup>.

#### ***Regarding tariff for ETTIN and CDC***

- (18) The Procedure for approval of the tariff for the electricity transmission via trunk and interstate electric networks for the licensee, approved by the Ruling of the NEURC No. 1456 as of December 26, 2003 (as amended).
- (19) The tariff for transmission of electricity via trunk and interstate power network and cost structure for NEC Ukrenergo SE is approved according to the Method of calculating tariffs for electricity transmission via trunk and interstate electric networks, and central control of the UES, approved by the Ruling of the NERC No. 563 as of June 4, 2006.
- (20) During the study period the tariff for transmission of electricity increased.
- (21) Thus, in 2014 compared to 2013 the tariff increased by 9%, in 2015 compared to 2014 - by 12.5%. In 2016 the inclusion of investment component in the tariff structure was provided, which resulted in its growth in almost two times (from 2.793 kopecks / kWh in 2015 to 5.332 kopecks / kWh in 2016).
- (22) Thus, in connection with the temporary emergency measures on electricity market, the NEURC reviewed ETTIN tariff and cost structure for NEC Ukrenergo SE and reduced overall costs,

<sup>161</sup> In accordance with information published on the official website of NEC Ukrenergo SE and the letter of Ukrpromzovnisheksperytyza SE (letter No. 3734 as of December 3, 2015).

<sup>162</sup> Under information obtained from NEC Ukrenergo SE, source: <https://drive.google.com/IIIe/d/0BwZR8kgLwyBtMjA2SHM4cWY3Nm/c/view?pref=2&pH=1>

<sup>163</sup> Technological power consumption in transmission by electric networks (technological consumption of electricity) - is the amount of power losses in the network, the cost of electricity for own needs of substations and power consumption in melting ice (in accordance with the Rules on Electricity Usage, approved by the ruling of the NEURC No. 28 as of July 31, 1996).

<sup>164</sup> Supported by information, specified in the Research project "Problems of competition in the electricity sector of Ukraine" - G.M. Filyuk, Ph.D, Professor, Honored Economist of Ukraine, Kyiv, 2016.



provided for by tariff structure, by UAH 150 000 thousand. As a result, the average tariff NEC Ukrenergo SE in 2014 was 2.369 kopecks / KWh (excluding VAT), decrease by 4.6%)<sup>165</sup>.

- (23) In June 2015, in connection with the Ruling of the Cabinet of Ministers of Ukraine No. 26317 as of May 7, 2015, NPC Ukrenergo SE reviewed the tariff due to removal of costs (in the amount of UAH 85 685 thousand), carried out in the uncontrolled territory of Donbass. Also decrease of 7.1% of the electricity supply in network of NPC Ukrenergo SE was taken into consideration, according to the forecast balance of electricity of the UES of Ukraine. With the above changes, the average tariff of NPC Ukrenergo SE for the transmission increased by 5.4% as of June 1, 2015. Due to increase in Investment program of NPC Ukrenergo SE for 2015, tariff for transmission was revised as of August 1, 2015 (increased by 34.4%) by increasing the cost of return on capital investments in the amount of UAH 1 374 000 thousand and increased some operating costs. On December 1, 2015, by reducing the Investment program, tariff for electricity transmission decreased by 3%<sup>166</sup>.
- (24) Therefore, we can state the worn-out-condition of interstate and main networks of NPC Ukrenergo SE, the lack of funding for ETTIN for new capital assets, which in turn prevents the development of competition in related markets and prevents the introduction of the single electricity market with EU countries.
- (25) Under these conditions, a positive effect can be achieved by implementation by NPC Ukrenergo SE of incentive regulation and refusal from "cost plus" tariffs.
- (26) However, despite the presence of favorable conditions for the implementation of incentive tariff for natural monopolies, today the NEURC does not actually apply stimulating tariff.
- (27) Therefore, the national market of electricity transmission via trunk and interstate electric networks services, including central control of the UES of Ukraine and provision of supporting measures, purchased by Energorynok SE to conduct the wholesale supply of electricity (electricity transmission services market), constitutes the part of the WEM of Ukraine.
- (28) During 2013, 2014 and the first half of 2015, in the national market of electricity transmission via trunk and interstate electric networks, including central control of the UES of Ukraine and providing supporting measures, purchased by Energorynok SE to conduct wholesale supply of electricity (transmission market), relevant shares, which can be considered as a structural feature of monopoly (dominant) position, were held by:
  - a. NEC Ukrenergo SE (the seller);
  - b. Energorynok SE (the buyer).
- (29) Failure of NPC Ukrenergo SE to apply incentive regulation and the formation of respective "cost plus" tariffs discourages NPC Ukrenergo SE to reduce costs of products, improve quality and increase the number of services provided<sup>167</sup>.
- (30) In general, introduction of incentive regulation may contribute to the operational costs of power companies; improving the quality of transport and electricity supply services; attracting capital investments in modernization and construction of new generating capacity.
- (31) The NEURC activity in the market is not sufficiently transparent.
- (32) In order to promote competition in the electricity market of Ukraine and eliminate the grounds for possible violations of the legislation on economic competition protection, we propose:

## **I. TO RECOMMEND THAT**

- 1. The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
take measures to increase the capacity of trunk and interstate electric networks and full integration of the UES of Ukraine to the ENTSO-E.

<sup>165</sup> In accordance with the Report on results of the NEURC activity in 2014 approved by the Ruling of NEURC No. 971 as of 3/31/2015.

<sup>166</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>167</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

2. **The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
ensure transparent conditions for access to capacity of interstate networks, in particular by:
  - 1) Ensuring auctions for access to installed capacity of interstate networks to import electricity.
  - 2) Ensuring increase of transparency and competition during the auction for allocation of installed capacity of interstate electric networks by introducing electronic auctions and daily auctions.
3. **The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
take measures for the unbundling of NEC Ukrenergo SE activity on electricity transmission via trunk and interstate electric networks from activities of central dispatching (operational) control of the UES of Ukraine.
4. **The National Energy and Utilities Regulatory Commission**  
take exhaustive measures aimed at transition of natural monopolies in the electricity sector to stimulating (incentive) regulation.
5. **The National Energy and Utilities Regulatory Commission**  
take measures aimed at introducing the mechanism of purchase of electricity by electricity transmission and electricity distribution companies in order to compensate for the technological electricity losses during its transmission and distribution.

## II. FILE WITH THE PROPOSAL WITH

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:
  - 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).
  - 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
  - 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.
2. **The Cabinet of Ministers of Ukraine**  
with regards to development and introduction to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.

### 3. ELECTRICITY DISTRIBUTION. ACTUAL STATE OF COMPETITION. ISSUES AND SOLUTIONS.

- (1) The retail electricity market of Ukraine is divided geographically, where each regional electricity company that supplies electricity at regulated tariffs is assigned with certain supply area (region of Ukraine, Kyiv and Sevastopol).
- (2) Each regional / municipal electricity supply company that supplies electricity at regulated tariff owns the majority (up to 100 percent) of regional (regional or municipal) market.
- (3) In 2015 119 electricity suppliers carried out electricity supply activities in the retail energy market (42 suppliers - at a regulated tariff and 77 suppliers - at unregulated tariff).
- (4) Population has no possibility to choose the power supply company.
- (5) Non-domestic consumers have limited choice between the SUT and the SRT.
- (6) However, the traditional sales price for electricity from the WEM for SUT (due to lack of subsidies and the additional financial burden due to application of cross-subsidization) is higher than for the SRT.
- (7) SUT are engaged in the supply of electricity to non-domestic consumers on competitive basis at contract prices. In 2015, the average monthly number of customers SUT constituted 1435, which is by 8 consumers more than in 2014 year<sup>168</sup>.
- (8) SUT may supply electricity to consumers throughout Ukraine, but most of SUT and their customers in 2015 remains on the licensed territory of Kharkivoblenergo JSC (in average about 25 SUT and more than 1 100 consumers)<sup>169</sup>.
- (9) SRT supply electricity to domestic and non-domestic customers in the territory assigned by the NEURC.
- (10) Today in Ukraine there are 42 companies that combine the activities of electricity distribution and supply (and in some cases - electricity generation) on behalf of one legal entity.
- (11) Furthermore, some companies are part of vertically integrated organizations, in the portfolio which there are electricity distribution and generation companies. Therefore, Ukraine has not yet conducted legal unbundling of the electricity distribution operators, as provided for by the legislation of the Energy Community. At the same time, the requirements of the Directive 2009/72/EU with regards to the unbundling are reflected in the draft law "On Electricity Market of Ukraine", the adoption of which provides legal basis for implementation of the unbundling process.
- (12) The electricity consumption in the Ukraine in 2011 - 2013 was within 158 billion kWh, and during 2014 - 2015 decreased by 7.2%<sup>170</sup>.
- (13) Regarding electricity consumption indicators by structure consumer groups over the past five years<sup>171</sup>:
  - Electricity consumption in the industrial sector decreased in 2014 - 2015 respectively by 11.7% compared to 2011;
  - Electricity consumption within five years decreased and in 2015 constituted 57.4% of the volume in 2011;
  - Electricity consumption by agricultural consumers indicates insignificant increase;
  - Electricity consumption by population and non-industrial consumers is steadily increasing.

Indicators	Electricity consumption by years, million kWh					(+ ) Increase (-) Decrease in 2015 compared to 2011, %
	2011	2012	2013	2014	2015 (forecast)	
<b>Electricity consumption (gross)</b>	157700	157747	158079	149982	146421	-7.2
<b>Electricity consumption (net)</b>	136067	135765	140508	133197	130198	-4.3
including:						
Industry	65474	63767	65863	57574	57813	-11.7
Agricultural consumers	3141	3333	3428	3236	3232	2.9

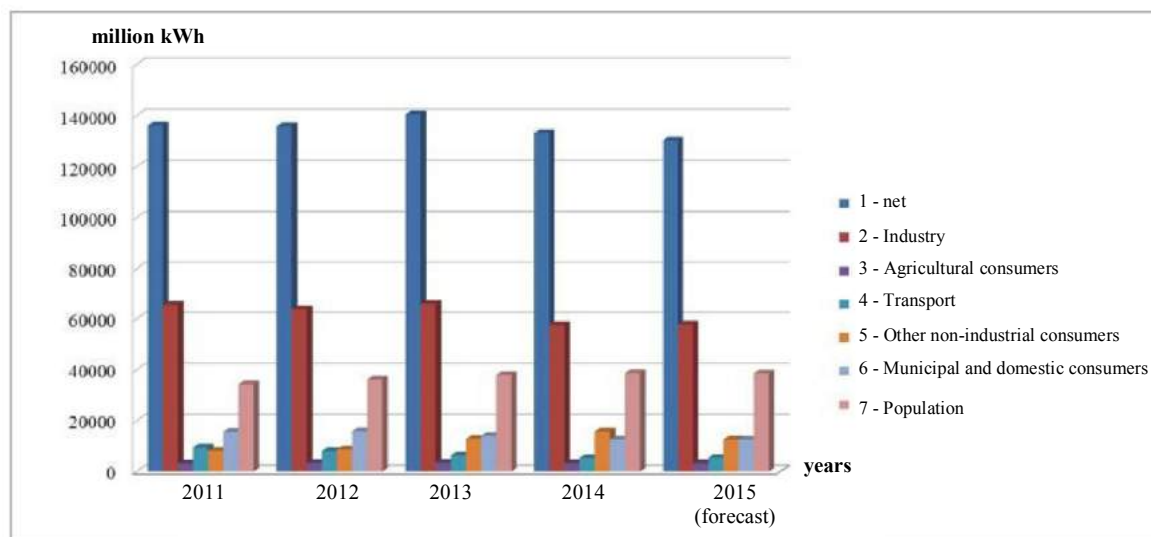
<sup>168</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>169</sup> In accordance with the Report on results of the NEURC activity in 2015 approved by the Ruling of NEURC No. 515 as of March 31, 2016.

<sup>170</sup> Electric networks development plan for 2016-2025 - source: Official website of the Ministry of Energy and Coal Mining of Ukraine - [http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art\\_id=245064086&cat\\_id=245064078](http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art_id=245064086&cat_id=245064078)

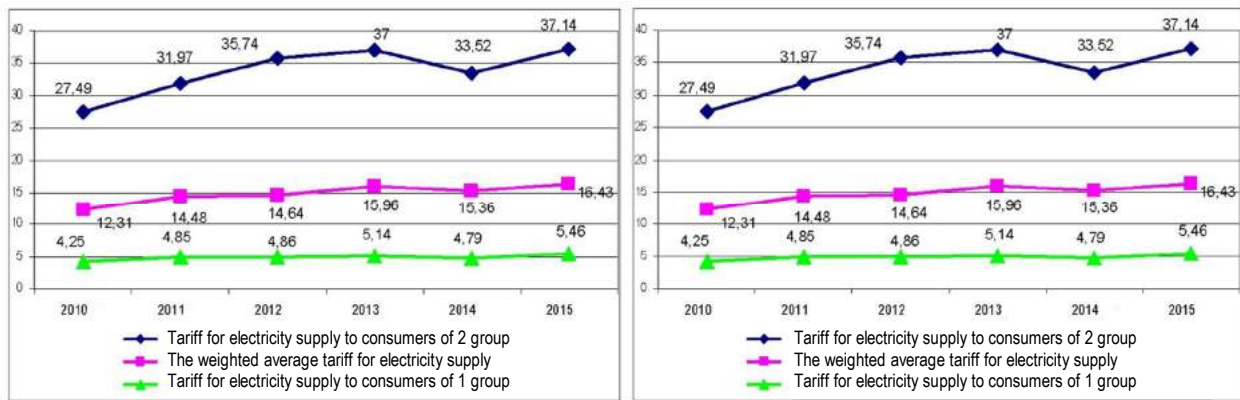
<sup>171</sup> Electric networks development plan for 2016-2025 - source: Official website of the Ministry of Energy and Coal Mining of Ukraine - [http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art\\_id=245064086&cat\\_id=245064078](http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art_id=245064086&cat_id=245064078)

Indicators	Electricity consumption by years, million kWh					(+ ) Increase (-) Decrease in 2015 compared to 2011, %
	2011	2012	2013	2014	2015 (forecast)	
Transport	9439	8124	6390	5332	5418	-42.6
Other non-industrial consumers	8193	8687	12887	15711	12582	53.6
Municipal and domestic consumers	15556	15767	13978	12599	12532	-19.4
Population	34263	36087	37963	38744	38622	12.7



*Total electricity consumption in Ukraine*

- (14) The supply of electricity in the retail markets is conducted by SUT on a competitive basis at contractual prices.
- (15) SRT supply electricity to non-domestic and domestic consumers at tariffs regulated by the NEURC.
- (16) Thus, the NEURC sets electricity tariffs for domestic consumers and retail rates for electricity (for non-domestic consumers) supplied by suppliers at regulated tariff.
- (17) The NEURC also conducts regulation of tariffs for electricity supply for SRT.
- (18) Retail tariff for consumers of SRT is formed independently under the formula provided for by the license, which includes wholesale price, tariffs for transmission and distribution. They structurally consist of:
  - a) purchase price of electricity on the wholesale electricity market and/or from electricity generators;
  - b) tariff for electricity transmission via local electric networks of corresponding voltage of the licensee, supplying electricity at regulated tariff, in the territory of which the consumer is located, set by the NEURC;
  - c) component that provides coverage for the cost of electricity supply (supply tariff);
  - d) technical losses in local electric networks.
- (19) Retail tariffs are set for all consumers on the territory of Ukraine (except population) regardless of the industry, and are differentiated only by voltage class (class 1 and 2).
- (20) Tariffs for electricity for the population as calculated and approved by the NEURC.
- (21) The share of the wholesale market price for electricity in the structure of retail tariffs of about 80%.
- (22) Thus, the average level of tariffs for electricity supply by SRT in 2015 constituted:
  - For consumers of 1 group (all customers except household) - UAH 5.46 / MWh, which is 14% higher than in 2014;
  - For consumers of 2 group (household) - UAH 37.14 / MWh, which is 10.8% higher than in 2014.
- (23) In 2015, the average level of tariffs for electricity transmission constituted: for the 1st voltage class - UAH 21.88 / MWh; for the 2nd voltage class - UAH 133.29 / MWh (transmission is conducted by 45 ETC under the relevant licenses).



*The dynamics of electricity supply and transmission tariffs*

- (24) It should be noted that the formation of retail electricity tariffs is also associated with two problems:
- a) using the "cost plus" pricing method;
  - b) large-scale cross-subsidies.
- (25) The "cost plus"<sup>172</sup> pricing method has several advantages, but also significant disadvantages, namely:
1. The lack of incentives to conserve resources, since the state represented by the NEURC declares control for all costs, and cash saved by energy companies is removed by the regulator, at the same time the costs born under objective circumstances or necessary costs are not taken into consideration<sup>173</sup>.
  2. Costs included in these tariffs, and the real cost of energy companies can vary significantly (in terms of costs of energy resources, generation efficiency and domestic consumption, transmission losses, etc.).
  3. Lack of sufficient incentives for the introduction of the newest, advanced technology, resulting increase in possibility of providing expensive and poor quality services.
- (26) Disadvantages of this method of price regulation provide grounds for concluding that its application in the energy sector is not able to provide the solution of efficiency and equity problem in macro scale and many problems of the industry - formation of competitive environment in the electricity market, attracting investments, sustainable electricity development<sup>174</sup>.
- (27) Regarding cross-subsidization: today electricity supply to certain categories of consumers (population, coal and steel industry, urban electric transport etc.) is carried out at the rates lower than the rates for other consumers.
- (28) The amount of subsidies provided to energy suppliers to cover losses of electricity supply to such consumers is included in the WMP and therefore to the retail price of electricity for non-domestic consumers.
- (29) Therefore, tariffs in the electricity market for industrial users are much higher than the market price, and tariffs for the population and a number of other non-domestic consumers, i.e. the costs arising from the supply of electricity to the population and a number of other non-domestic consumers are subsidized by business sector.
- (30) The amount of subsidy certificates is added to the average wholesale price for generated electricity, and therefore the rest of the industrial consumers are forced to pay these subsidies because they are included in their tariffs.

<sup>172</sup> In the world "cost plus" practice has different names: method of regulating the rate of return, method of limiting the rate of return on capital // V.D. Bazylevych, G.M. Filyuk Natural monopolies: Monograph / V.D. Bazylevych, G. M. Filyuk Knowledge, 2006

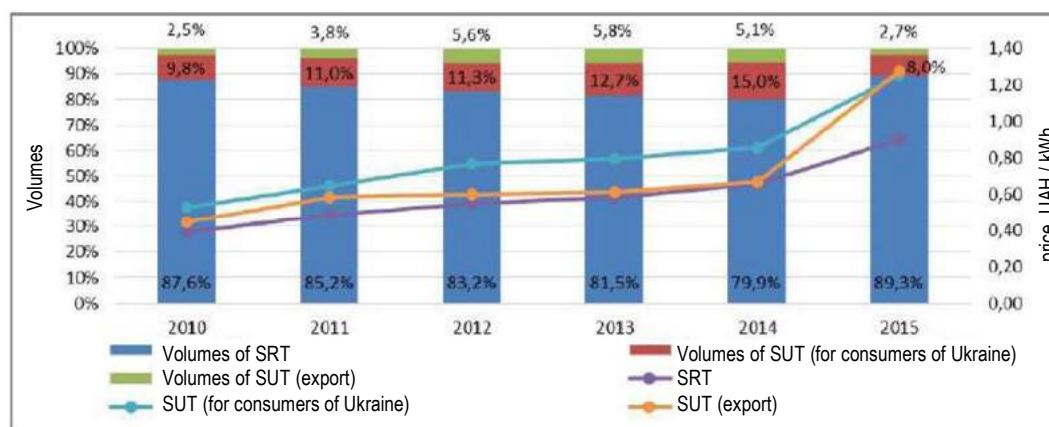
<sup>173</sup> Yu. Kyashko Electricity tariffs for the population should be increased // Energy Research Center. - E-source - <http://eircenter.com/%D1%96ntervyu/yurij-kiyashko-%C2%ABtari-fi-na-elektroenergiyu-dlya-nasele-nnya-neob-xidno-pidvishhuvati%C2%BB.html>

<sup>174</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).

- (31) The share of subsidy certificates in the structure of WMP for electricity has increased from 25% in 2009 to 30.5% in 2014. In 2015, the share of subsidy certificates in the structure of WMP decreased by 2.53% to 27.11%.
- (32) The practice of cross-subsidization leads to the following consequences:

For electricity consumers	For business entities (including companies operating in the energy sector)	For economy in general
1. Subsidizing wealthy consumers 2. Lack of incentives for energy-efficient use of limited resources 3. Growth of expenses on other goods and services	1. Erosion of funds that could be used for industrial modernization. 2. Obstacles for creating an effective electricity market. 3. Lack of incentives for energy companies to reduce their costs. 4. Reduction of the quality of services provided. 5. The lack of incentives and opportunities for innovation. 6. Investments are prevented. 7. Incentives to minimize revenues, increased corruption potential 8. Opportunities for price abuses. 9. Growth of non-payment crisis and accounts payable of energy companies, etc. 10. Inability to compete due to the price factor and so on.	1. Increased inflation due to rising costs of companies. 2. Hidden parasitism and opportunism in the behavior of subsidized consumers. 3. Increase in the economy destabilization. 4. Increased risk of environmental disasters etc.

- (33) Further cross-subsidies in the energy sector create negative synergistic effect: the larger the subsidy certificates, the higher the WMP, the higher will be the price for industrial customers, the smaller will be their profitability.
- (34) Cancellation of the subsidy certificates will release more than 40 million, which will be a major source of investment in the sector. This will help establish "fair" tariff for electricity generators.
- (35) Percentage of electricity purchased by SUT in the WEM in 2015 decreased twice comparing to 2014 and amounted to 10.7%.
- (36) Share of electricity suppliers at regulated tariff in 2015 increased by 11.76% compared to 2014 and amounted to 89.3% (SUT, unlike SRT are subject to advance payment for electricity).



*The actual volume and the purchase price of electricity in the WEM*

- (37) Combination within one entity of activity on distribution of electricity (electricity transmission) via local electric systems and activities on electricity supply at regulated tariff, creates conditions for such entities (power companies) for violations of the legislation on economic competition protection.
- (38) The grounds for committing violations of the legislation on economic competition protection by electricity transmission companies, such as obstructing suppliers of electricity at unregulated tariff access to the relevant markets, in particular, constitutes not regulated relations between suppliers of electricity at unregulated tariff and electricity transmission company in the course of acceptance, disagreement, review of notices of electricity suppliers at unregulated tariff by electricity transmission companies.
- (39) Under the analysis of violations of legislation on economic competition protection, identified by the Antimonopoly Committee of Ukraine during 2014 - 2015, it was found that major part of such violations is the abuse of monopoly (dominant) position on the electricity market. Thus, the AMCU authorities:

- Adopted more than 60 decisions in cases of monopoly (dominant) position abuse by electricity transmission companies;
  - Provided over 150 recommendations to eliminate actions that have signs of violations of legislation on economic competition protection.
- (40) Nearly third part of respective violations by electricity transmission companies was related to, in particular, their relations with SUT, namely the creation of various barriers to access of SUT to local networks of electricity transmission companies<sup>175</sup>.
  - (41) These obstacles, in particular, constituted in rejection, disagreement or delaying of SUT notices and certificates consideration by electricity transmission companies, etc.
  - (42) The procedure for SUT access to local electric networks is set by the Procedure for electricity suppliers at unregulated tariff access to local electric networks, approved by the Ruling of the NERC No. 1421 as of October 29, 2010, which primarily aims to establish the mechanism of relations regulation between SUT and electricity transmission companies in the course of conclusion of agreement on electricity transfer via local electric networks.
  - (43) However, given statistics show that numerous complaints and statements coming from SUT, significant number of cases of violation of legislation on economic competition protection in such actions of ETC, as well as appeal of the Ukrainian association of independent electricity suppliers No. 47-PNT as of January 5, 2016 with proposals, which would have a positive impact on the resolving of the difficult situation in relations between SUT, ETC, points out the imperfection of the legislation in this sector (including the Procedure), which forms the basis for monopoly (dominant) position abuse by ETC.
  - (44) The above is supported by application of the Ukrainian association of independent electricity suppliers to the AMCU No. 47-PNT as of January 5, 2016 with proposals, which would have a positive impact on the resolution of the difficult situation in relations between SUT, ETC and numerous applications of SUT to the AMCU.
  - (45) In order to prevent grounds for the commission of violations of legislation on economic competition protection by ETC, such as obstructing suppliers of electricity at unregulated tariff access to the relevant markets, the AMCU, in its letter No. 128-29 / 01-1243 as of February 9, 2016, provided to the NEURC compulsory recommendations proposing the NEURC to draft regulatory act or amend the Procedure for electricity suppliers at unregulated tariff access to local electric networks in part of preventing rejection, disagreement or delaying the review of communications and notices of electricity suppliers at unregulated tariff by electricity transmission organizations.
  - (46) Implementation of these recommendations by the NEURC will lead to prevention of committing violations of legislation on economic competition protection and promote competition in the electricity supply market.
  - (47) Therefore, the NEURC activity in the market is not transparent enough, which could create conditions for committing violations of legislation on economic competition protection.
  - (48) Unbundling of distribution and supply of electricity is important for the increase of competition in the wholesale and retail electricity markets of Ukraine.
  - (49) Considering the fact that power companies and other licensees in the transfer of electricity via local electric systems are the owners of these networks, it is advisable to keep their function of distribution, but release from function of supply and assigned to the supplying companies, which in turn can be their trade representatives, however, formally independent of them - the so-called last instance supplier or guaranteed supplier that does not violate provisions of the Directive 2009/72/EU.
  - (50) It is advisable to develop state regulation of natural monopolies in the electricity distribution sector on the principles of incentive regulation.
  - (51) Approbation of incentive regulation should be conducted for several years in the form of pilot projects for power companies that match criteria of transition to incentive tariff regulation.

<sup>175</sup> Supported by examined applications and cases over violation of legislation on economic competition protection, available to the Committee.



- (52) In general, introduction of incentive regulation may contribute to the operational costs of power companies; improving the quality of transport and electricity supply services; attracting capital investments in modernization and construction of new generating capacity.
- (53) In order to enhance competition it is necessary to ensure the choice / change by end consumers of energy supply company and choice of distribution companies by electricity generators in order to conclude electricity sale-purchase contracts, which, in particular, is provided for by the current law of Ukraine "On Fundamentals of the Operation of the Electricity Market". It is important to perform by the state authorities of paragraph 2 of Part VI of the Law of Ukraine on the functioning in the course transitional period and creation preconditions for introduction of full electricity market<sup>176</sup>.
- (54) In order to promote competition in the electricity market of Ukraine and eliminate the grounds for possible violations of the legislation on economic competition protection in the electricity distribution sector, we propose:

## I. TO RECOMMEND THAT

1. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine** take measures to improve the settlements at the WEM of Ukraine between:  
Energoynok SE and electricity suppliers at regulated tariffs, and  
electricity suppliers at regulated tariffs and consumers.
2. **The National Energy and Utilities Regulatory Commission, the and Council of the Wholesale Electricity Market of Ukraine** take measures to stop (decrease) cross-subsidization of certain categories of consumers through the wholesale market price for electricity.
3. **The National Energy and Utilities Regulatory Commission** take exhaustive measures aimed at transition of natural monopolies in the electricity sector to stimulating (incentive) regulation.
4. **The National Energy and Utilities Regulatory Commission** take measures aimed at introducing the mechanism of purchase of electricity by electricity transmission and electricity distribution companies in order to compensate for the technological electricity losses during its transmission and distribution.
5. **The National Energy and Utilities Regulatory Commission** develop a regulatory act or amend the Procedure for electricity suppliers at unregulated rates access to local electric networks approved by the resolution of the NERC No. 1421 as of October 29, 2010, in terms of preventing rejection, disagreement or delaying the review of communications and notices of electricity suppliers at unregulated tariff by electricity transmission companies.

## II. FILE WITH THE PROPOSAL WITH

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine** with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:

<sup>176</sup> Supported by scientists' and experts' opinions, in particular by information contained in the Research Report on Evaluation of Competitiveness of Electricity Market of Ukraine and Market Power of Market Entities (authors: R.Z. Podolets, PhD in Economics; B.S. Serebrennikov, PhD in Economics (Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine)), the Research Report on Analysis of Competition and Market Power on the Electricity Market in Ukraine" (authors: A.G. Gerasymenko, ScD in Economics, associate professor, I.V. Vysochyn, ScD in Economics, associate professor, I.Yu. Borovyk, PhD in Economics; S.V. Telyatnikov, junior research associate. (Kyiv National University of Trade and Economics)), the Research Project on Problems of Competition in the Energy Industry of Ukraine" (author: G.M. Filyuk, ScD in Economics, professor, honored economist of Ukraine).



- 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).
- 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
- 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.

**2. The Cabinet of Ministers of Ukraine**

with regards to development and introduction to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.

#### 4. CONNECTION TO THE ELECTRIC NETWORKS. ACTUAL STATE OF COMPETITION. ISSUES AND SOLUTIONS.

- (1) ETC is a natural monopoly entity and the only entity entitled to exercise activity of distribution (transfer) of electricity via local electric systems in assigned territory within electrical networks in possession, use, disposal of ETC.
- (2) ETC do not experience and are not subject to significant competition due to the absence of any competitor in the relevant markets, as follows:
  - Transmission of electricity via local electric systems in assigned territory within electrical networks that are in possession, use and disposal of ETC;
  - Connection to local electric systems in assigned territory within electrical networks that are in possession, use and disposal of ETC;
  - Access to local electric systems in assigned territory within electrical networks that are in possession, use and disposal of ETC.
- (3) As of today, the condition of electrical distribution networks is characterized, as follows<sup>177</sup> :
  - More than 6.6% of electricity lines with voltage of 35-110 (150) kW and 11.5% of electricity lines with voltage of 0.4- 10 (6) kW are technically inoperable and require significant annual rising costs for maintenance and repair;
  - About 22.3% of transformers with voltage of 35-110 (150) kW and 14.9% transformers with voltage of 10 (6) kW worked for provided technical documentation lifetime, have significant losses, are unreliable and in need of replacement;
  - The actual cost of electricity in electric networks in average is 12.1%, and in the networks of individual companies - 18%;
  - Due to changes in the structure of electricity consumption, namely: growth of load in cities and its reduce in rural areas - electricity networks of large and the most important cities require increased capacity and construction of additional substations with voltage of 110 (150) kW.
- (4) Connection to networks of ETC may be conducted only by such ETC.
- (5) During 2009 - 2012 there was a trend to a gradual moderate increase in the value of the associated capacity under concluded contracts on connection and issued technical conditions in the whole country.
- (6) Due to legislative regulation of the connection of electrical units of consumers to electric networks according to the Law of Ukraine "On Amendments to the Laws of Ukraine on payment for connection to the networks of natural monopolies» No. 5021-VI, in 2013 was expected activation of customers on issues of connection to the electrical electric networks.
- (7) However, taking into consideration the social-economic and military-political situation in Ukraine, during 2014, value of the associated capacity decreased<sup>178</sup>.
- (8) Currently, the process of connection to electric networks is rather long and complicated.
- (9) In 2015, Ukraine ranked 138<sup>179</sup> in the Doing Business in terms of "Connecting to the power supply system": the number of procedures - 5, term of connection to the electric networks - 263 calendar days.
- (10) ETC has no right to refuse connection by the units of the customer to the network.
- (11) Solely electric units of the licensee conducting supply of electricity via local electric networks and/or electric units designated for electricity generation may be connected to the trunk and/or interstate electric networks.
- (12) There are two types of connection to electric networks:
  - standard connection;
  - non-standard connection.

<sup>177</sup> Electric networks development plan for 2016-2025 - source: Official website of the Ministry of Energy and Coal Mining of Ukraine - [http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art\\_id=245064086&cat\\_id=245064078](http://mpe.kmu.gov.ua/mmugol/control/uk/publish/artide?art_id=245064086&cat_id=245064078)

<sup>178</sup> In accordance with the Report on results of the NEURC activity in 2014, approved by the Ruling of the NEURC No. 971 as of March 31, 2015.

<sup>179</sup> DB 2015 Rank.

- (13) ETC conducts standard connection for first level electric units within 15 working days, and for the second and third levels electric units - for 30 and 45 days respectively.
- (14) For the purpose of non-standard connection, the customer shall:
  - Conclusion within 30 working days;
  - Develop project documentation for external electric supply units - period is determined in agreement with the project organization;
  - Coordinate project documentation with ETC - maximum period is 30 working days;
  - Make amendments to the project documentation and its re-approval - maximum period 60 working days;
  - Conduct construction works - period determined in accordance with project documentation and applicable construction codes and regulations.
- (15) The total period for non-standard connection depends on the capacity characteristics, the customer, and the need for construction works. In most cases the non-standard connection period is 0.5 - 1 year.
- (16) The final stage of connection of the consumer to electric networks is conclusion between the consumer and the ETC of the relevant contract.
- (17) Electricity supply / use agreements are standard, which makes it impossible to change the terms by the consumer.
- (18) Complexity of the connection procedure both for the customer and for the ETC causes significant number of violations of legislation on economic competition protection in this sector.
- (19) The Verkhovna Rada of Ukraine registered a draft Law of Ukraine No. 4310-1 "On Amendments to the Laws of Ukraine (regarding improvements to the electric network connection)", which provides significant simplification of procedures, shorter terms for the connection and costs reduction for business. Experts of the Office of effective regulation BRDO participated in development of the draft law<sup>180</sup>.
- (20) The key features of the draft law are clear definition of the connection services to electric networks provided by natural monopolies, the introduction of partial liberalization of the market services of connection to electric networks and compliance with current requirements.
- (21) Thus, the draft Law:
  1. Specifies the service of the natural monopoly on connection to electric networks, provides clear answers to the customer on the cost and terms of standard or comprehensive standard connection. Eliminates the possibility of abuse by ETC of monopoly in the issuance of technical conditions for connection to the power network.
  2. Introduces category of "integrated standard connection" - services for connection to electric networks of ETC, which does not fall within the parameters of the standard connection of customer electrical units with capacity up to 5000 kW.
  3. Introduces penalties for failure to comply with terms of connection by ETC.
  4. Reduces the exclusive influence of ETC and provides for the customer to independently develop the necessary project documents and conduct construction of transmission lines.
  5. Provides for submission of documents for connection via e-mail.
  6. Implements requirements for ETC (natural monopoly) for transparency and disclosure.
- (22) As stated above, the Antimonopoly Committee of Ukraine is actively involved in drafting legislation aimed at simplifying procedures for connection, and facilitates the introduction of rules aimed at the development of competition in this area.
- (23) In order to promote competition in the electricity market of Ukraine and eliminate the grounds for possible violations of the legislation on economic competition protection in the electric network connection sector, we propose:

<sup>180</sup> The draft law, which could improve Ukraine's position in the ranking DB, was registered in the Rada - [http://www.epravda.com.ua/news/2016/04/11/588978/view\\_print/](http://www.epravda.com.ua/news/2016/04/11/588978/view_print/)

## I. TO RECOMMEND THAT

1. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine,**  
through development and adoption of relevant regulatory acts:
  - 1) Bring terms of provision of connection services in line with the terms prescribed by other regulatory acts, necessary for performance of works, providing (obtaining) services related to connection to electric networks;
  - 2) Provide to connection services customers, connection of which complies with the standard connection, the right to refuse from the standard connection services and choose the non-standard connection service.
  - 3) Settle the issue of payment (or non-payment) for providing technical specifications for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 4) Implement of duty to choose by ETC of the executor of construction works of external electricity supply units for the customer on a competitive basis.

## II. FILE WITH THE PROPOSAL WITH

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On Electricity Market" (registered with the Verkhovna Rada of Ukraine under No. 4493 on April 21, 2016) and/or draft Law of Ukraine "On Amendments to the Laws of Ukraine (regarding improvements to the electric network connection)" (registered with the Verkhovna Rada of Ukraine under No. 4310-1 on March 28, 2016) and/or draft Law of Ukraine "On Amendments to the Laws of Ukraine with regards to simplified procedure for connection to electric networks" and/or other draft laws, aimed at solving issues related to connection and electricity supply by:
  - 1) Amendment on providing connection services to customers, connection of which complies with the standard connection, the right to refuse from the standard connection services and choose the non-standard connection service.
  - 2) Amendment on settlement of the issue of payment for providing technical specifications for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 3) Amendment on implementation of duty to choose the executor of works on construction of external electricity supply units for the customer on a competitive basis.
2. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:
  - 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).
  - 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
  - 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.

**3. The Cabinet of Ministers of Ukraine**

with regards to development and introduction to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.

## **5. STATE AID TO BUSINESS ENTITIES OF UKRAINE IN THE ENERGY SECTOR**

### **5.1. UKRAINE'S INTERNATIONAL OBLIGATIONS REGARDING STATE AID TO BUSINESS ENTITIES IN THE ENERGY SECTOR**

- (1) Ukraine joined the Treaty establishing the Energy Community (Treaty) on September 24, 2010 by signing the Protocol on Ukraine's accession to the Treaty establishing the Energy Community entered into force for Ukraine on February 1, 2011.
- (2) Under Articles 18(c) and 18(2) of the Treaty, any state aid in favor of certain entities or certain energy resources is not compatible with the Treaty, as it may affect trade in energy and materials, transported in the Network, and the need of trade evaluation based on the criteria used in the EU.
- (3) However, Article 6 of the Treaty, in particular, stipulates that the Parties shall take all necessary measures - either overall, or specific - to ensure the obligations arising from the Treaty.
- (4) However, the Treaty does not provide for obligation of Ukraine to adopt national legislation on state support.
- (5) The responsible body that coordinates the work within the organization regarding the obligations arising from Ukraine's membership in the Energy Community is the Ministry of Energy and Coal Mining of Ukraine.
- (6) Action Plan for the implementation of obligations under the Treaty (hereinafter - Action Plan) is approved by the Order of the CMU No. 733-r as of August 3, 2011.
- (7) In 2014, Ukraine signed an association agreement between Ukraine, on the one hand, and the EU, the European Atomic Energy Community and their Member States, of the other hand (hereinafter referred to as the Agreement).
- (8) One of the components of the Agreement is Ukraine's commitment to create an effective system of monitoring and control of state aid to business entities.
- (9) Article 267 of Chapter 10 of Section IV of the Agreement sets clear requirements for stages and terms of creation in Ukraine of a national system of state support control.
- (10) In particular, according to respective Article:
  - 1) within three years from the date of entry of Agreement into force, Ukraine shall adopt national legislation on state aid and establish an independent body, which will have the powers necessary to apply Article 262 of the Agreement in full. Any new support granted in Ukraine must meet the provisions of Articles 262 and 264 of this Agreement within one year from the date of establishment of such body;
  - 2) within five years from the date of entry of this Agreement into force, Ukraine shall create full register of state aid programs, which was provided prior to creation of the authorized body in the field of state aid and must bring these programs into compliance with the criteria set out in Articles 262 and 264 of this Agreement within no more than seven years from entry of this Agreement into force;
  - 3) within first five years after the entry of this Agreement into force, any state aid, provided by Ukraine shall be assessed by the rules identical to the EU rules.
- (11) In July, 2014 the Verkhovna Rada of Ukraine adopted the Law of Ukraine "On state aid to business entities" No. 1555-UP, which established the legal basis of the monitoring of state aid to business entities, control over the admissibility of such aid to competition.
- (12) Under the Law of Ukraine "On state aid to business entities", the AMCU is determined as the authorized body on state aid in Ukraine. Under the Law, the powers of the AMCU in this area include, in particular: determining the procedure: submission and processing of notices for new state aid and amendments of the terms of the current state aid, review of cases on state aid, state aid monitoring, maintaining the register of state aid, definition of forms and requirements for submission of information on current state aid.
- (13) However, in April 2014 the Secretariat of the Energy Community initiated dispute settlement procedures concerning failure of Ukraine to comply with the Agreement, namely Articles 6, 18 (c) and 18 (2) on the inadmissibility of state aid which distorts or may distort competition, particularly by implementing the said provisions in the legislation. Thus, the Energy Community Secretariat

note specifies that "Ukraine for more than two years failed to complete the process of creating the legal framework and conditions for monitoring state aid".

- (14) Later, the Secretariat informed that if by the end of 2017 Ukraine will carry out practical steps to directly enforce those commitments (initiate creating the list of state aid programs in energy sector, or initiate development of secondary legislation), further dispute settlement procedure could be suspended and the case will be forwarded to the Ministerial Council of the Energy Community.
- (15) Upon the order of the Prime Minister of Ukraine as of May 7, 2015 No. 17233/2/1-15 on the execution of the action plan for implementation in 2015 - 2016 years of Ukraine's obligations regarding the state aid control in the energy sector arising under Treaty establishing the Energy Community, the AMCU together with the Ministry of Energy and Coal Mining of Ukraine, the Ministry of Finance and the NEURC, under the EU project "Harmonization of the procurement system in Ukraine with EU standards" collects and analyzes information on the legislation, which provides for state aid, and state aid detection measures, which apply to companies in the energy sector, the volume of aid and further analysis of the compatibility of these measures with the requirements of the Law of Ukraine "On state support to business entities" and the EU regulations.
- (16) Currently the AMCU has analyzed more than 20 programs and support measures, which were reported to the AMCU by the authorities - state aid providers, and which the AMC found during the execution of its powers in the protection of economic competition and open-source information.
- (17) The analysis of the collected data established, as follows:
  - 7 support measures do not constitute state aid to business entities;
  - 18 programs have signs of the state aid.

## 5.2. STATE AID TO BUSINESS ENTITIES IN UKRAINE IN THE COAL INDUSTRY SECTOR IN THE CONTEXT OF THE EU LEGISLATION

- (1) In the EU subsidies to the coal industry is recognized as incompatible with the competition, and are prohibited. However, the EU Commission was empowered to authorize such support programs if found acceptable for competition and trade.
- (2) Basic rules for state aid in this sector are contained in the following regulations:
  - The Notification of the Commission concerning certain aspects of competition cases resulting from the termination of the Treaty establishing the European Coal and Steel Community,
  - The Decision of the Council on state aid to facilitate closure of uncompetitive mines.
- (3) Compatible state aid in the Coal Mining Industry of the EU can be recognized, as follows:
  - for corporate recovery and restructuring in the sector of coal mining is prohibited;
  - other specific rules, in particular, regarding support for research, development and innovation, support for environmental protection, support for education is still provided within the maximum, except if otherwise provided by the respective provisions.
- (4) The Decision of the Council as of 10 December 2010 on state aid to facilitate the closure of uncompetitive mines 2010/787/EU (hereinafter referred to as the Council Decision 2010/787/EU) contains three requirements for assistance in closing coal mines<sup>181</sup>:
  - 1) Article 2 (2) contains the list of economic activities related to the coal industry, the costs of which may be covered by support, namely: support should cover only the costs related to coal used for electricity generation, combined heat and power generation, production of coke and fueling of blast furnaces in the steel industry, where such use takes place in the European Union.
  - 2) Article 3 includes the list of conditions for granting aid covering the operating costs of coal extraction under which such support may be compatible with the internal market:
    1. The relevant units shall operate in order to form part of the shutdown plan, term of which does not extend beyond December 31, 2018;
    2. The relevant units must be shutdown in accordance with the shutdown plan;
    3. The notified support shall not exceed the difference between the foreseeable production costs and expected income for the year. Actually paid aid shall be annually adjusted based on actual costs and revenues, but not later than the end of the year following the year, in which aid was provided;
    4. The amount of support per ton of coal equivalent must not lead to lower coal prices in the EU than for coal of similar quality from third countries;
    5. The relevant units shall be operating as of December 31, 2009;
    6. The total amount of aid for shutdown granted by a Member State shall comply with its reduction;
    7. The total amount of shutdown support in the coal sector of the Member State shall not exceed, for any year after 2010, the amount of aid granted by such Member State, and permission for which was granted by the Commission in accordance with Articles 4 and 5 of the Regulation (EU) No. 1407/2002 in 2010;
    8. Member States shall develop plan to take measures aimed at mitigating the environmental impact of coal production of producers, for which the aid is granted pursuant to this Article, such as energy efficiency sector, renewable energy or carbon recovery and storage sector.

If the units were not closed at the date, set by terms of the shutdown, approved by the Commission, the Member State shall return all the support for the entire period, during which the aid was provided under the plan of shutdown.

In addition, the requirements apply regarding accumulation of aid and the separate accounts for different activities. This means that all the aid received by business entities shall be reflected in the debit-credit as a source of income, other than income from main activities.

<sup>181</sup> Policy Paper No. 36 of the EU project "Harmonization of the State Procurement System in Ukraine with the EU standards" on a pilot project to create register of state support in the energy sector of Ukraine



- 3) Annex to the aforementioned Decision of the Council contains the list of eligible costs that can be covered.
- (5) In the course of execution of the orders of the Prime Minister of Ukraine as of May 7, 2015 No. 17233/2/1-15, the AMC obtained from the Ministry of Energy and Coal Mining of Ukraine, the NEURC and the Ministry of Economic Development and Trade of Ukraine information on measures of state aid for business entities in coal mining sector.
- (6) Under analysis of information received regarding the state aid for the coal sector and the rules of the EU, we can conclude that about 86% of the aid measures, notified to the AMCU, contain elements of programs or specific measures of aid to business entities in coal mining sector.
- (7) In this case, 100% aid measures that contain elements of programs or specific measures of assistance to business entities, do not meet the requirements of the EU legislation and should be brought into line by amendments or termination.
- (8) At the same time, the regulations that implement and regulate state aid to business entities in Ukraine, often do not set transparent criteria for selecting recipients of such support, and the majority of state aid to is provided to state-owned enterprises or enterprises with state corporate rights.
- (9) The measures of state aid of the coal industry, notified to the AMCU, include, as follows:
  1. Restructuring and liquidation of economic entities within the budget program "The restructuring of coal and turf industry".
  2. State aid for coal mining companies to partially cover the cost of the final cost of commodity coal.
  3. Measures of safety and improvement of safety at mining enterprises, such as the latest equipment control devices for the mine atmosphere parameters and equipment for degassing control.
  4. State aid of construction of carbon and turf mining enterprises, technical re-equipment of these companies.
  5. Retail electricity tariff for individual coal mines.
- (10) The experts of the EU project ""Harmonization of the State Procurement System in Ukraine with the EU standards", according to the analysis of these programs of state aid, made the following conclusions:
  1. Regarding the restructuring and liquidation of economic entities within the budget program "The restructuring of coal and turf industry" (budget program code KPKV 1101070) - this state aid program does not comply with the EU law, applicable to state aid to facilitate the shutdown of uncompetitive coal mines and therefore should be reviewed and necessary amendments should be made.
  2. In the context of shutdown of uncompetitive mines, support to coal industry, in particular, to cover the loss of production, may be regarded as compatible with the competition rules, if with the following requirements are met:
    - Operation of units should form part of mine shutdown plan, the completion term of which does not exceed the term stipulated by the Agreement and the Law of Ukraine "On state support to business entities" with regards to bringing into line with existing state aid programs;
    - Respective units of the state aid recipient should definitely be shutdown as planned;
    - The notified aid shall not exceed the difference between the cost and income under coal year. Actually paid aid should be subject to annual adjustment based on actual revenues and expenditures, the latest at the end of the coal extraction year following the year in which the aid was provided;
    - The amount of aid equivalent to ton of coal, shall not cause decrease in coal prices in Ukraine below cost of the same quality with the Member States;

- Public authorities should develop plan of appropriate measures, for example in the field of energy efficiency, renewable energy or reducing the level and underground storage of carbon dioxide;
- State aid related to covering the cost of mine shutdown and not related to covering current expenses of enterprises, if provided aid does not exceed the costs;
- All the aid received by business entities shall be reflected in the debit-credit as a source of income, other than income from main activities. If entities, receiving aid for shutdown, continue to trade or conduct other production following the shutdown of separate or all production units, such entities shall keep separate accounts for each of the unit not related to coal mining. Aid for shutdown shall be used in such manner that there is no possibility to transfer such aid of other mines that are not part of the shutdown plan or other economic activities.

These requirements should be included in the aforementioned program of state aid.

3. As for state aid of coal mining enterprises for partial cover of the cost of finished marketable coal products (budgetary program code KPKV 110111) and as for the measures of safety and safety improvement at mining enterprises, such as the latest equipment control devices for the mine atmosphere parameters and equipment for degassing control (budgetary program code - KPKV 1101160) - programs should be reviewed. Under this program the operating state aid is provided. The purpose of this program is not related to the achievement of certain horizontal objectives (such as research, development, innovation, environmental protection or education). The program is designed to increase salaries to miners. It should be noted that under the EU rules operating aid can be provided in the context of shutdown of uncompetitive mines. Therefore, this issue needs to be reviewed in a broader context of the development strategy of the coal sector in Ukraine (if the Ministry is planning privatization, restructuring or shutdown of coal mines that currently receive aid).

It is recommended to develop new support programs, which aim to provide state support only for shutdown of uncompetitive mines. These new programs schemes should replace the existing state aid programs, which aim to cover the cost of wages to miners.

4. *Regarding state aid of construction of carbon and turf mining enterprises, technical re-equipment of these companies.* (budgetary program Code - KPKV 1101200) - this measure is the investment aid, aimed at the development of coal enterprises, but not their shutdown, which makes it difficult to bring them into line with the Decision of the Council of the EU as of December 10, 2010 with regards to the state aid to facilitate the shutdown of uncompetitive coal mines (2010/787/EU).

As for state aid for coal mining sector in terms of the EU, it can be concluded that this aid program does not meet the requirements set for such aid in the EU. Therefore, it should either be terminated or amended.

As for state aid for the turf industry, investment state aid provided for technical re-equipment of enterprises must comply with regional support rules. Thus, with regard to such benefits, it is recommended to change the existing aid measure to comply with the rules for providing regional state aid. The measure shall be able to provide support to companies operating in all sectors of the economy (according to regional rules exceptions apply). Regional aid, however, cannot be granted to enterprises in difficult position.

Another option is to provide minor aid.

### **5.3. STATE AID TO BUSINESS ENTITIES IN UKRAINE IN THE ELECTRICITY SECTOR IN THE CONTEXT OF THE EU LEGISLATION**

- (1) State aid in the energy sector is provided to ensure reliable energy supplies at reasonable prices for business entities and consumers, but also to implement it with minimal impact on the environment.
- (2) Ukraine has allocated significant amounts of money to support entities that are engaged in the generation, transmission, supply of electricity. Similar situation is in the Member States.
- (3) State aid is an important tool to promote environmental protection and combating climate change, which is also a very important part of the EU energy policy.
- (4) Energy policy in the EU consists of three main elements, as follows:  
internal market, climate change and security of supply.
- (5) Currently, the main current EU regulations on state aid in the energy sector are, as follows:
  - Regulation of the Commission (EU) No. 651/2014 as of June 1, 2014 (unit shutdown);
  - The Guidelines of the Commission on state aid for environmental protection and energy in 2014-2020
  - The Guidelines of the Commission on specific support measures in the schemes on gas emissions after 2012
  - The Notices of the Commission as of July 26, 2001 relating to the methodology for analyzing state aid related to costs arising after the liberalization of the market.
- (6) As for energy efficiency and development of electricity generation from renewable sources, state aid, provided for these purposes, is considered compatible with the common market and is exempt from the obligation of notification if the aid meets the requirements of units shutdown. This applies to the following categories of aid in the energy sector:
  1. Investment aid for energy efficiency measures (aid is not allowed if improvements are made to ensure that enterprises adopted the EU standards, even if they have not yet entered into force. Allowable costs are additional investment costs necessary to achieve higher standards of energy efficiency);
  2. Investment aid for energy efficiency projects in buildings (acceptable is aid for projects related to construction);
  3. Investment aid for high-efficiency cogeneration (investment aid should be provided to only new or renewed capacities. Improvement of existing cogeneration unit or conversion of an existing cogeneration unit as a result in saving energy compared to the initial situation);
  4. Investment aid to encourage the use of energy from renewable sources (such aid can be exempted from the notification requirement only to the extent that the investments are used for the production of biofuel and other biofuel types not produced from food waste (exception applies). Investment aid can be granted only for new units. No aid shall be provided or paid after the units has begun its operation, and aid shall not depend on the result);
  5. Operating aid for the promotion of energy use from renewable sources (aid can be provided on a competitive basis on clear, transparent and non-discriminatory criteria which must be open to all companies that produce electricity from renewable sources without discrimination).
  6. Operating aid to promote the use of renewable energy from small units:
    - Investment aid for energy-efficient heating and cooling (allowable costs for production installations - are additional costs required for the construction, expansion and renovation of single or multiple units to operate in an efficient heating and cooling compared with conventional production plant).
    - Investment aid for energy infrastructure (aid can be provided for energy infrastructure located in areas that received aid).
- (7) In the course of execution of the orders of the Prime Minister of Ukraine as of May 7, 2015 No. 17233/2/1-15, the AMC obtained from the Ministry of Energy and Coal Mining of Ukraine, the NEURC and the Ministry of Economic Development and Trade of Ukraine information on measures of state aid for business entities in energy sector.

- (8) The analysis of state aid measures in the electricity sector was more difficult than in coal mining. In our opinion, this is due to the peculiarities of the electricity market in Ukraine, as mentioned earlier.
- (9) At this time, the AMCU continues to analyze information on the state aid measures in the electricity sector.
- (10) As mentioned above, pursuant to the requirements of the "Third Energy Package of the EU" and in order to bring Ukraine's legislation to the requirements of the Third Energy Package of the EU, in 2015 development of the draft Law of Ukraine "On Electricity Market of Ukraine" began.
- (11) Draft Law of Ukraine "On the Electricity Market of Ukraine" (registered with the Verkhovna Rada of Ukraine at No. 4493 on April 21, 2015) The provisions of this draft law propose to change the current model at present electricity market, and therefore, to change state aid measures to business entities in this sector.
- (12) Draft Law of Ukraine "On Electricity Market" provides several measures of entities state aid, including to producers using renewable energy sources, combined heat and power for their reconstruction and/or modernization, incentives for the construction of new generating capacity and the performance of management measures, which contain elements of state aid.

#### **5.4. CONCLUSIONS REGARDING STATE AID TO BUSINESS ENTITIES OF UKRAINE IN THE ENERGY SECTOR**

- (1) 100% aid measures that contain elements of programs or specific measures of assistance to business entities operating in the coal extraction sector and not notified to the AMCU, do not meet the requirements of the EU legislation and should be brought into line by amendments or termination.
- (2) The regulations implementing and regulate state aid to business entities in Ukraine often do not set clear criteria for selecting recipients of such aid.
- (3) The majority of state aid to is provided to state-owned enterprises or enterprises with state corporate rights.
- (4) The relevant state aid providers shall be obliged to inform the Antimonopoly Committee of Ukraine on existing as of August 2, 2017 programs and activities of individual state aid in order to determine its compatibility with the competition rules. The procedure, forms and requirements for providing to the AMCU of information on existing state aid to business entities is stipulated by the order of the Antimonopoly Committee of Ukraine as of December 28, 2015 No. 43-rp, registered with the Ministry of Justice of Ukraine at No. 140/28270 on January 26, 2016. The current state aid on the date of entry into force of the Law of Ukraine "On state aid to business entities", in the event of its recognition by the decision of the authorized body is inadmissible for competition, must be brought into compliance with the law. It should be noted that in accordance with Article 14 of the Law, one of the consequences of recognition state aid inadmissible for competition, is the obligation to return it in full.

## **5.5. PROPOSALS FOR THE DEVELOPMENT OF EFFECTIVE MONITORING AND CONTROL SYSTEM OF STATE AID TO ECONOMIC ENTITIES OF UKRAINE IN THE FIELD OF ENERGY**

In order to bring the aid support measures in line with the Law of Ukraine "On state aid to business entities", performance of obligations and commitments by Ukraine under the terms of the Treaty establishing the Energy Community and Association Agreement between Ukraine, on the one hand, and European Union, the European Atomic energy Community and their member states, on the other hand, we propose:

### **TO RECOMMEND THAT**

- 1. The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine**  
conduct inventory of existing state aid programs in the energy sector.
- 2. The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine**  
take measures for timely notification of the AMCU on all existing, as of August 2, 2017, state aid programs to determine their compatibility with the competition rules.
- 3. The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine,**  
while developing the draft laws that define the conditions for granting state aid to business entities of Ukraine in the energy sector, take into account provisions of the Law of Ukraine "On state aid to business entities" and Ukraine's obligations under the terms of the Treaty establishing the Energy Community and the Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their member states, on the other hand.

## CONCLUSIONS.

- (1) There is the united Wholesale Electricity Market operating in Ukraine, where demand is formed by end consumers, satisfaction of which is ensured by generators and importers of electricity and other entities acting as intermediaries between the generator and the end consumer, due to special consumer qualities and physical and technical characteristics of such product as "electricity" (simultaneity of generation and consumption, the impossibility of storage, diversion, forwarding).
- (2) The WEM Council of Ukraine is the representative body and provides overall supervision of the Energorynok SE activity, system of functioning of the WEM of Ukraine, the implementation of the Agreement between the members of the WEM of Ukraine and related obligations.  
Voting directors of the WEM Council, who represent certain electricity generators and suppliers, influence the formation of the Rules of the WEM and the distribution of funds at the WEM.  
The WEM Council under AMWEM (paragraph 6.2) consists of 10 voting directors - 5 from generators and 5 from suppliers as well as five non-voting directors, including representative of Energorynok SE and representative of NEC Ukrenerg SE.  
Quorum consists of three voting directors of each class (generators and suppliers classes) (paragraph 6.5.2 AMWEM) and decisions are made by simple majority.  
The WEM Council within 2013, 2014, 2015 included 4 representatives of DTEK Group companies, within 2013, 2014 included 4 representatives of state companies, and in 2015 included three representatives of state companies.
- (3) In the WEM of Ukraine operate, as follows:
  - 1) The national market of electricity, which is acquired by Energorynok SE to conduct the wholesale supply of electricity (generation market)<sup>182</sup>.
  - 2) The national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market).
  - 3) The national market of electricity transmission via trunk and interstate electric networks services, including central control of the UES of Ukraine and provision of supporting measures, purchased by Energorynok SE to conduct the wholesale supply of electricity (electricity transmission services market).
- (4) The single product in the national market of electricity, purchased by the Energorynok SE for the supply (generation market), is electricity, regardless of the type of power generating plants (nuclear, thermal, hydro-electric etc.).

The territory of respective market is the territory of Ukraine<sup>183</sup>.

Time boundaries of this market is the calendar year.

- (5) The value of offers of electricity (generation of electricity) depends proportionally on the demand (consumption), which varies not only in different seasons, but also during the day.

Source content of basic part of daily schedules of production / consumption of electricity in UES of Ukraine mainly is supplied by NPP, partly by renewable energy, CHPP, imports, large TPP and HPP.

<sup>182</sup> This approach is sustainable European practice for the definition of boundaries of the wholesale electricity market, which includes import and generation of electricity for resale (see judgments in cases COMP/39.388 and COMP/39.389. Also in the Case No IV/M.1346 - EDF / LONDON ELECTRICITY (paragraph 12), the Commission noted that the relevant electricity markets include, based on market entities activities generation market (electricity generation at power plants), transmission (transmission via high voltage networks), distribution (transmission via low voltage networks) and supply market (electricity supply to end consumers). However, the differences should be taken into consideration between electricity market model and features of its operations in Europe and in Ukraine, which has "single buyer" market model who acts as an intermediary between generators and suppliers of electricity and consumers.

<sup>183</sup> Regarding the geographical boundaries of the wholesale electricity market (generation and sale of electricity by generating companies) - The Commission came to the conclusion that they cannot be larger than the state. For example, the case M.1346 (paragraph 12) determined that the relevant geographic generation market boundaries cannot be wider than boundaries of England and Wales. As the argument, in support of this conclusion, the following aspects are indicated:

(v) Electricity generating companies can sell it only through a special wholesale mechanism called "Pool" and limited to the England and Wales;

(vi) Relations between England and Wales and neighboring countries, including Scotland and France, has a limited capacity which is less than 6% of total capacity.

There is a similar situation in the market, under the study - all the electricity generated and imported, can only be purchased by Energorynok SE and only in Ukraine, while import capacity is only about 10.5% of total power generation

(for example, the Decision of the Commission in cases COMP/39.388 and COMP/39.389, in which the geographic boundaries of the wholesale electricity market defined by state boundaries - Germany).

TPP operate both in the basic part of daily schedule, and its variable part and are included under marginal (residual) principle.

HPP and HPSPP operate in variable (peak) part schedule, however, such power plants have priority for inclusion in operation due to high capacity of respective power plants to regulate load and relatively low working cost of production of electricity.

The electricity is the single commodity that is characterized by uniformity and interchangeability regardless of the method of generation (NPP, HPP or TPP) and conditions of sale and consumption.

- (6) In the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity (generation market), in 2013, 2014 and the first half of 2015:
  - 1) Herfindahl-Hirschman index increased during the study period from 2903.95 in 2013 to 3718.04 in the first quarter of 2015 (by 28%) - indicating the high level of market concentration.
  - 2) The share of NAEK Energoatom SE in the market during respective period increased from 44.37 percent in 2013, up to 50.14 percent in 2014 and up to 55.56 percent in I half of 2015.
  - 3) The share of the DTEK Group (DTEK Skhidenergo PJSC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC) in the market during respective period decreased from 30.09 percent in 2013, down to 28.79 percent in 2014 and down to 24.77 percent in I half of 2015.
  - 4) The share of the Centerenergo PJSC in the market during respective period decreased from 7.14 percent in 2013, down to 6.84 percent in 2014 and down to 4.46 percent in I half of 2015.
  - 5) The share of Ukrhydroenergo PJSC in the market during respective period decreased from 7.71 percent in 2013, down to 5.15 percent in 2014 and down to 4.80 percent in I half of 2015.
  - 6) The share of Donbasenergo PJSC in the market during respective period decreased from 5.11 percent in 2013, down to 3.83 percent in 2014 and down to 3.27 percent in I half of 2015.
- (7) Total joint share of 3 business entities, namely: SE "National Nuclear Power Generating Company "Energoatom", DTEK Group (PJSC "DTEK Skhidenergo", PJSC "DTEK Zakhidenergo" and PJSC "DTEK Dniproenergo", LLC "Wind Power", PJSC "Donetskoblenergo" (Myronivska TPP), PJSC "Kyivenergo") and PJSC "Ukrhydroenergo" in the national market of electricity, purchased by the SE "Energorynok" for the purposes of supply the electricity, was:
  - 1) in 2013 - 82.17 %;
  - 2) in 2014 - 84.08 %;
  - 3) in I quarter 2015 - 85.13 %.
- (8) In the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity (generation market), in 2013, 2014 and the first half of 2015, relevant shares, the size of which can be considered as a structural feature of monopoly (dominant) position, were held by:
  - 1) the buyer - Energorynok SE;
  - 2) the sellers: NAEK Energoatom SE, Ukrhydroenergo PJSC and business entity consisting of DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, DTEK Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC (which form a single entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition")<sup>184</sup>.

<sup>184</sup> Under the COMP/39.388 and COMP/39.389 cases, each of the major energy generating companies within the same market had a chance to individually hold dominant position even with a limited presence in the market, including to behave to the certain extent independently from competitors, their customers and end consumers.

This approach was based on:

- (vi) the structure of the wholesale electricity market of Germany - the market is very concentrated, shares of three key players were 20-30%, 30-40% and 10-20% respectively - total average of about 70% - aggregate share of generating companies. Large capacity of main market participants, allowing them to act independently of each other - the other participants do not have sufficient capacity. Dominant business entities were vertically integrated companies with large market shares at the market (retail supply of electricity to end consumers) and actually had access to cheap electricity (nuclear, hydro and lignite);
- (vii) the features of the specified market: Electricity is a standardized commodity, the price of electricity is transparent and all participants have access to relevant information; the market is not characterized by a significant increase;
- (viii) the largest generators of electricity have been linked with a number of generation contracts and wholesale supply of electricity (paragraph 4.1 (18), could adopt a common policy on price increases, reacting accordingly on the increase or decrease of generation and effecting prices (paragraph 4.1 (20) ); and



- (9) Notwithstanding the above mentioned size of market shares, market power of the above entities who hold the largest share in the national market of electricity, purchased by Energorynok SE to conduct wholesale supply of electricity (generation market), in 2013, 2014 and the first half of 2015, is constrained by administrative factors.

The pricing in the market is conducted by the National Energy and Utilities Regulatory Commission.

Resource filling (content) of the market is regulated by:

long-term and mid-term planning by the Ministry of Energy and Coal Mining of Ukraine, which is the approval of the forecast balance of electricity of Ukraine of the UES of Ukraine and the forecast balance of electricity, fuel and the cost of generating companies TPP (annual / quarterly / monthly); short-term planning is performed by Energorynok SE by compiling load schedule under the Rules of the Wholesale Electricity Market.

NEC Ukrenergo SE performs the functions of centralized dispatching management and control of the UES of Ukraine, and therefore has impact on the sales of electricity in the WEM of Ukraine by generators of electricity.

- (10) Electricity import in Ukraine:

- 1) May be conducted through the state border of Ukraine with Romania, Hungary, Slovakia, Belarus, Russia and Moldova.
- 2) Is technically limited by maximum available installed capacity of interstate electric networks, which equals to 5750 MW per hour, which is a technical barrier for importers to entry into the WEM of Ukraine.
- 3) Is possible only in the event of obtaining by the importer, under results of auction held by NEC Ukrenergo SE, of access to installed capacity of interstate electric networks.

- (11) Cost of fuel (coal, gas, fuel oil) used by thermal power generation companies for the generation of electricity:

- 1) Is one of the decisive factors for inclusion of TPP units to the load schedule, compiled by Energorynok SE (lower fuel cost increases the probability of inclusion in the load schedule and electricity supply increase).
- 2) Significantly influences the tariff for electricity sold in the WEM of Ukraine for the relevant generator working through bidding.

- (12) There are 14 TPP operating in Ukraine, designed to use one of two coal types:

1. High volatile coal G, DG, D is consumed by:
  - Vuglegirska TPP (Centrenergo PJSC);
  - Zaporizka TPP (DTEK Dniproenergo PJSC);
  - Zuivska TPP (DTEK Skhidenergo LLC);
  - Kurakhivska TPP (DTEK Skhidenergo LLC);
  - Ladyzhynska TPP (DTEK Zakhidenergo PJSC);
  - Dobrotvirska TPP (DTEK Zakhidenergo PJSC);
  - Burshtynska TPP (DTEK Zakhidenergo PJSC);
2. Low volatile coal A, P is consumed by:
  - Trypilska TPP (Centrenergo PJSC);

(ix) business entities that were recognized as holding dominant position, were able to use identical behavior with regard to pricing and increase of power capacity and scope of supply; and

(x) high barriers to market access, including a small proportion of imports that does not cause substantial competitive pressure on market participants  
This dominant business entities were able to keep stable position in the wholesale electricity market. However, it should be taken into account that the Commission did not issue formal opinion on the presence of collective dominant position. Furthermore, it is necessary to take into consideration the differences between the model and features of the market functioning in Germany and Ukraine, as well as differences in the position and activities of Ukrainian generators caused by the peculiarities of Ukrainian market, lack of possibility to effect pricing and to determine the generation volumes.

Zmiivska TPP (Centrenerg PJSC);  
 Prydniprovsk TPP (DTEK Dniproenergo PJSC);  
 Starobeshivska TPP (Donbasenergo PJSC);  
 Slovianska TPP (Donbasenergo PJSC);  
 Luganska TPP (DTEK Skhidenergo LLC);  
 Kryvorizka TPP (DTEK Dniproenergo PJSC);

- (13) The highly volatile coal types (G, DG, D) and low volatile marks (A, P) are not interchangeable, given the physical characteristics and essentially different conditions of explosion of pulverized-coal systems, fire, and burning in boilers of TPP.
- (14) Within 7 months of 2015 in Ukraine coal mining enterprises produced, in the territory controlled by Ukrainian authorities, gas thermal coal in the amount of 16.5 million tons. The state coal mining enterprises that are managed by the Ministry of Energy and Coal Mining of Ukraine produced 3.3 million tons - 19.9% of total gas coal. At the same time, enterprises of DTEK Group produced 12.6 million tons - 76.5% of total gas coal.
- (15) Significant proportion of thermal coal was sold in Ukraine within business entities linked by relations of control, namely:
  - 1) DTEK Dniproenergo PJSC and DTEK Skhidenergo LLC during 2013 - the first half of 2015 purchased from DTEK Trading LLC and coal companies that are part of the vertically integrated company DTEK, about 97% of low volatile coal types (A, P). 92.5% of low volatile coal types (A, P), which was sold by DTEK Trading LLC during the first half of 2015 for electricity generation by DTEK Dniproenergo PJSC and DTEK Skhidenergo LLC, was purchased from coal extraction entities that are part of the vertically integrated company DTEK.
  - 2) Donbasenergo PJSC purchased from Energoinvest Trading LLC in 2014 and the first half of 2015 about 42% of low volatile coal types (A, P).
  - 3) Centrenerg PJSC during 2013 - the first half of 2015 purchased from Vugillya Ukraine SE and entities under management of the Ministry of Energy and Coal Mining of Ukraine, about 70 % of low volatile coal types (A, P). Vugillya Ukraine SE purchased respective coal from coal extraction entities under management of the Ministry of Energy and Coal Mining of Ukraine.
- (16) The absence of coal market and coal shortage leads to reduction of the indicator of the utilization of the installed capacity of TPP generating companies.
- (17) Factors that prevent the development of competition in the national market of electricity, purchased by the SE "Energorynok" for the purposes of supply the electricity in the WEM of Ukraine (generation market), and that provide grounds for violations of economic competition protection legislation, are, as follows:
  1. The lack of price competition between electricity generators.
  2. Significant level of debts for payments for electricity that is constantly growing, including debts for previous periods.
  3. Inconsistency of contract terms to business practices, in particular, the lack of contracts for the provision of ancillary services, their cost etc.
  4. Problems of the coal sector, including:
    - 1) Significant amount of state aid for state coal extracting enterprises;
    - 2) Absence of thermal coal market.
  5. Delay in the unbundling of the natural monopolies from activity in the potentially competitive markets.
  6. Failure to apply incentive regulation for natural monopolies.
  7. Incomplete regulations governing connection to electric networks, including:

- 1) Inconsistency of standard connection terms, stipulated by law with terms provided for by the law in the field of urban planning and land management;
  - 2) Lack of connection services customers, connection of which complies with the standard connection, right to refuse from the standard connection services and choose the non-standard connection service.
  - 3) Unsettled issue of payment for providing technical conditions for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 4) Absence of obligation of electricity transmission organizations to choose the executor of construction works on external electricity supply units for the customer on a competitive basis.
8. Inequality of opportunities for access to electricity networks of suppliers at regulated tariff and at unregulated tariff.
  9. Inequality of opportunities for resource filling of the electricity market, in particular, due to the existence of preferences and priorities for certain types of generation capacities in the course of inclusion to the power generation load schedule.
  10. Incomplete legislation regulating the liability for electricity debts.
  11. Significant amount of cross-subsidies in the electricity sector.
  12. Lack of transparency, selectivity of advance and additional payments to generators working through bidding, due to:
    - 1) The lack of transparent and non-discriminatory procedure and/or methods of calculation of advance payments for electricity generators;
    - 3) The practice of charging additional payments to generators working through bidding, pursuant to legislation and government decisions, repayment of bad debts.
  13. The growing imbalance in tariffs for electricity generators, in particular:
    - 1) The significant gap between the lowest tariff in the market (for electricity generated at NPP) and the highest tariff on the market (for electricity generated using renewable energy sources);
    - 2) The significant gap between the tariffs for TPP and CHPP despite the use of the same primary energy sources for generation of electricity.
  14. The imbalance of payments to electricity generators for actually supplied goods in the absence of 100-percent payment.
  15. Different liability of generators working through bidding and generators not working through bidding, for disruption and failure to comply with terms of major, mid-term and current repairs.
  16. Lack of transparent SMP, due to the lack of procedure and/or method of calculation and/or the formation by the NEURC, limitation of SMP.
  17. Lack of transparent formation of electricity forecast balance of the UES of Ukraine and the forecast balance of electricity, fuel and the cost of generating companies TPP (annual / quarterly / monthly) due to the lack of transparent and non-discriminatory procedure for formation by the Ministry of Energy and Coal Mining of Ukraine.
  18. Technical and technological limitations due to the peculiarities of equipment (generating capacity and networks), including:
    - 1) Limitations to produce electricity by installed capacity of electrical units, technical condition of generating equipment, transfer capacity of electrical networks connected to respective electrical unit, availability of and access to primary energy sources (coal stocks in warehouses, sufficient water level at HPP, etc.);
    - 2) Limited ability to import electricity by installed capacity of interstate electric networks;
    - 3) Different possibilities of generating units to change the load and flexibility.
  19. The high level of deterioration of power generating facilities and electric networks.
  20. The political constraints, namely:
    - 1) Concentration of generating companies in the area of anti-terrorist operations;

- 2) Concentration of coal enterprises engaged in coal mining of low volatile coal types (A, P) in the area of anti-terrorist operations
  - 3) Illegal production of coal types A, P;
  - 4) Unstable investment climate and regulatory policy.
- (18) During 2013, 2014 and the first half of 2015 Energorynok SE had share in the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity in the WEM of Ukraine (electricity wholesale market), which can be considered as a structural feature of monopoly (dominant) position.
  - (19) The market power of Energorynok SE during 2013, 2014 and the first half of 2015 in the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity (electricity wholesale market), was constrained by administrative factors limiting the ability to determine or significantly influence the terms of the turnover of goods on the market.
  - (20) In the national market of electricity, which is sold by Energorynok SE to conduct the wholesale supply of electricity (wholesale market), cross-subsidization through the wholesale market price for individual electricity consumers was carried out, creating additional financial burden for consumers who do not have appropriate preferences, which reduces the competitiveness of domestic producers on the relevant product markets.
  - (21) There is a significant level of indebtedness of electricity suppliers at regulated tariffs before Energorynok SE for consumed electricity.
  - (22) During 2013, 2014 and the first half of 2015, in the national market of electricity transmission via trunk and interstate electric networks, including central control of the UES of Ukraine and providing supporting measures, purchased by Energorynok SE to conduct wholesale supply of electricity (transmission market), relevant shares, which can be considered as a structural feature of monopoly (dominant) position, were held by:
    - 1) NEC Ukrenergo SE (the seller).
    - 2) Energorynok SE (the buyer).
  - (23) Failure of NPC Ukrenergo SE to apply incentive regulation and the formation of respective "cost plus" tariffs discourages NPC Ukrenergo SE to reduce costs of products, improve quality and increase the number of services provided.
  - (24) Share of electricity, purchased by suppliers in the WEM at unregulated tariff in 2015 decreased by 6.87% compared to 2014 and amounted to 7.33%.
  - (25) Share of electricity suppliers at regulated tariff in 2015 increased by 5.95% compared to 2014 and amounted to 84.74%.
  - (26) Combination within one entity of activity on distribution of electricity (electricity transmission) via local electric systems and activities on electricity supply at regulated tariff, creates conditions for such entities (power companies) for violations of the legislation on economic competition protection.
  - (27) The grounds for committing violations of the legislation on economic competition protection by electricity transmission companies, such as obstructing suppliers of electricity at unregulated tariff access to the relevant markets, in particular, are unsettled relations between suppliers of electricity at unregulated tariff and electricity transmission company in the course of acceptance, disagreement, review of notices and certificates of electricity suppliers at unregulated tariff by electricity transmission companies.
  - (28) Connection to electric networks can be provided exclusively by ETC.

- (29) Incomplete regulations governing the connection to electric networks creates new barriers for access by new electricity consumers in the relevant market and leads to elimination of competition in markets for goods (works, services) related to the connection to electric networks.
- (30) 100% aid measures, that contain elements of programs or specific measures of aid to business entities operating in the coal extraction sector and not notified to the AMCU, do not meet the requirements of the EU legislation and should be brought into line by amendments or termination.
- (31) The regulations implementing and regulate state aid to business entities in Ukraine often do not set clear criteria for selecting recipients of such aid.
- (32) The majority of state aid to is provided to state-owned enterprises or enterprises with state corporate rights.
- (33) The relevant state aid providers shall be obliged to inform the Antimonopoly Committee of Ukraine on existing as of August 2, 2017 programs and activities of individual state aid in order to determine its compatibility with the competition rules. The procedure, forms and requirements for providing to the AMCU of information on existing state aid to business entities is stipulated by the order of the Antimonopoly Committee of Ukraine as of December 28, 2015 No. 43-rp, registered with the Ministry of Justice of Ukraine at No. 140/28270 on January 26, 2016. The current state aid on the date of entry into force of the Law of Ukraine "On state aid to business entities", in the event of its recognition by the decision of the authorized body is inadmissible for competition, must be brought into compliance with the law. It should be noted that in accordance with Article 14 of the Law, one of the consequences of recognition state aid inadmissible for competition, is the obligation to return it in full.

## PROPOSALS

In order to promote competition in the electricity market of Ukraine and eliminate the grounds for possible violations of the legislation on economic competition protection in the respective markets, we propose:

### I. TO RECOMMEND THAT

1. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
ensure the adoption of regulatory act aimed at determining the procedure for and/or the method of calculation and/or the formation by the National Energy and Utilities Regulatory Commission, of system marginal price limitation.
2. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures to introduce price competition between electricity generators and importers.
3. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
develop and adopt regulatory act, which would define transparent and non-discriminatory procedure for and/or methods of calculation of advance payments for electricity generators, including payments at the account of loans.
4. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
introduce ancillary services sale mechanisms (procedure for ancillary services purchase and relevant agreements).
5. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures for cancellation (decrease) of additional payments to generators working through bidding.
6. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures to improve the settlements at the WEM of Ukraine between:  
    electricity generators and Energorynok SE, Energorynok SE and electricity suppliers at regulated tariff,  
    electricity suppliers at regulated tariff and consumers.
7. **The Ministry of Energy and Coal Mining of Ukraine, and the Council of the Wholesale Electricity Market of Ukraine**  
take measures for creation of equal conditions for electricity generators and importers in terms of ensuring the resource content of the market.
8. **The Ministry of Energy and Coal Mining of Ukraine**  
develop and adopt regulations for establishing transparent and non-discriminatory formation procedure of:
  - 1) The electricity forecast physical balance of the UES of Ukraine (annual / quarterly / monthly).
  - 2) The forecast balance of electricity, fuel and the cost of generating companies TPP.
9. **The Ministry of Energy and Coal Mining of Ukraine**  
take measures for introduction of the thermal coal market in Ukraine.

10. **The Ministry of Energy and Coal Mining of Ukraine**  
take measures for bringing the state aid of state coal enterprises to a level which shall not result in distortions of competition in the thermal coal market of Ukraine in accordance with Article 18 of the Treaty establishing the Energy Community.
11. **The National Energy and Utilities Regulatory Commission, the and Council of the Wholesale Electricity Market of Ukraine**  
take measures to stop (decrease) cross-subsidization of certain categories of consumers through the wholesale market price for electricity.
12. **The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
take measures to increase the capacity of trunk and interstate electric networks and full integration of the UES of Ukraine to the ENTSO-E.
13. **The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
ensure transparent conditions for access to capacity of interstate networks, in particular by:
  - 1) Ensuring auctions for access to installed capacity of interstate networks to import electricity.
  - 2) Ensuring increase of transparency and competition during the auction for allocation of installed capacity of interstate electric networks by introducing electronic auctions and daily auctions.
14. **The Ministry of Energy and Coal Mining of Ukraine, and the National Energy and Utilities Regulatory Commission, NEC Ukrenergo SE**  
take measures for the unbundling of NEC Ukrenergo SE activity on electricity transmission via trunk and interstate electric networks from activities of central dispatching (operational) control of the UES of Ukraine.
15. **The National Energy and Utilities Regulatory Commission**  
take exhaustive measures aimed at transition of natural monopolies in the electricity sector to stimulating (incentive) regulation.
16. **The National Energy and Utilities Regulatory Commission**  
take measures aimed at introducing the mechanism of purchase of electricity by electricity transmission and electricity distribution companies in order to compensate for the technological electricity losses during its transmission and distribution.
17. **The National Energy and Utilities Regulatory Commission**  
develop a regulatory act or amend the Procedure for electricity suppliers at unregulated rates access to local electric networks approved by the resolution of the NERC No. 1421 as of October 29, 2010, in terms of preventing rejection, disagreement or delaying the review of communications and notices of electricity suppliers at unregulated tariff by electricity transmission companies.
18. **The National Energy and Utilities Regulatory Commission, and the Council of the Wholesale Electricity Market of Ukraine,**  
through development and adoption of relevant regulatory acts:
  - 1) Bring terms of provision of connection services in line with the terms prescribed by other regulatory acts, necessary for performance of works, providing (obtaining) services related to connection to electric networks;

- 2) Provide to customers of connection services, connection of which complies with the standard connection, the right to refuse from the standard connection services and choose the non-standard connection service.
  - 3) Settle the issue of payment (or non-payment) for providing technical specifications for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
  - 4) Implement the obligation for ETC to choose the executor of construction works of external electricity supply units for the customer on a competitive basis.
19. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine**  
conduct inventory of existing state aid programs in the energy sector.
20. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine**  
take measures for timely notification of the AMCU on all existing, as of August 2, 2017, state aid programs to determine their compatibility with the competition rules, including the activity of electricity generation from alternative sources.
21. **The Ministry of Energy and Coal Mining of Ukraine, the National Energy and Utilities Regulatory Commission, the Ministry of Economic Development and Trade of Ukraine, and the Ministry of Finance of Ukraine,**  
while developing the draft laws that define the conditions for granting state aid to business entities of Ukraine in the energy sector, take into account provisions of the Law of Ukraine "On state aid to business entities" and Ukraine's obligations under the terms of the Treaty establishing the Energy Community and the Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic energy Community and their member states, on the other hand.

## II. FILE WITH THE PROPOSAL WITH

1. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On Electricity Market" (registered with the Verkhovna Rada of Ukraine at No. 4493 on April 21, 2016) by:
  - 1) Amendment on the need for approval by the Antimonopoly Committee of Ukraine of all draft legislation and decisions that may effect competition (Article 2 of the draft Law).
  - 2) Exclude regulations providing for benefits (priorities) to individual electricity generators as compared to competitors in the course of resource filling of the market and pricing, namely:
    - i) part 5 of Article 44 of the draft Law (with regards to providing priorities to generation capacities that use primary energy sources produced in Ukraine);
    - ii) Article 92 provided for by amendments to the Law of Ukraine "On Alternative Energy Sources" under subparagraph 5 of paragraph 23 of Final and transitional provisions of the draft law (with regards to defining surcharge to the "green" tariff under condition of the requirement of use of Ukrainian generation equipment).
2. **The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**  
with regards to finalization of the draft Law of Ukraine "On Electricity Market" (registered with the Verkhovna Rada of Ukraine under No. 4493 on April 21, 2016) and/or draft Law of Ukraine "On Amendments to the Laws of Ukraine (regarding improvements to the electric network connection)"



(registered with the Verkhovna Rada of Ukraine under No. 4310-1 on March 28, 2016) and/or draft Law of Ukraine "On Amendments to the Laws of Ukraine with regards to simplified procedure for connection to electric networks" and/or other draft laws, aimed at solving issues related to connection and electricity supply by:

- 1) Amendment on providing connection services to customers, connection of which complies with the standard connection, the right to refuse from the standard connection services and choose the non-standard connection service.
- 2) Amendment on settlement of the issue of payment for providing technical specifications for connection contracts and evaluation of connection project documentation, developed by the customer for compliance with provided specifications.
- 3) Amendment on implementation of obligation to choose the executor of works on construction of external electricity supply units for the customer on a competitive basis.

**3. The Chairman of the Verkhovna Rada of Ukraine, the Committee of the Verkhovna Rada of Ukraine on Fuel and Energy Complex, Nuclear Policy and Nuclear Safety, the Cabinet of Ministers of Ukraine**

with regards to finalization of the draft Law of Ukraine "On the National Energy and Utilities Regulatory Commission" (registered with the Verkhovna Rada of Ukraine at No. 2966-d on February 19, 2016) by:

- 1) Excluding part two of Article 5 of the draft law (which provides for the possibility of not fulfillment by Commission the decisions (recommendations) of the Antimonopoly Committee of Ukraine, which can lead to the prevention, elimination or distortion of competition).
- 2) Providing an exhaustive list of decisions (in accordance with the scope of the decision), implementation of which may be suspended in connection with the appeal against relevant decisions in court.
- 3) Settlement of the issue of independent, non-discriminatory and transparent funding of the Commission.

**4. The Cabinet of Ministers of Ukraine**

with regards to development and introduction to the Verkhovna Rada of Ukraine of draft laws implementing the procedure for and specifics of settlement of debts for electricity, which were formed on the wholesale electricity market.

**5. The Cabinet of Ministers of Ukraine**

to take measures to prevent the adoption of decisions aimed at providing benefits and preferences to specific entities with regards to repayment of bad debts, charging additional fees, provision of other benefits and advantages which may result in prevention, elimination or restriction of competition.

**ABBREVIATIONS**

1	NPP	Nuclear Power Plant
2	AMCU	Antimonopoly Committee of Ukraine
3	WVER	Water-Water Energetic Reactor
4	RES	Renewable energy sources
5	WPP	Wind Power Plant
6	VRU	Verkhovna Rada (Parliament) of Ukraine
7	HPSP	Hydroelectric Pumped Storage Power Plant
8	HPP	Hydro Power Plant
9	DTEK Group	Business entity consisting of DTEK Skhidenergo LLC, DTEK Zakhidenergo PJSC and DTEK Dniproenergo PJSC, Wind Power LLC, DTEK Donetskoblenergo PJSC (Myronivska TPP), Kyivenergo PJSC (which form a single business entity in accordance with Article 1 of the Law of Ukraine "On protection of economic competition")
10	SMP	System marginal price
11	SE	State enterprise
12	AMWEM	Agreement between the Members of the Wholesale Electricity Market
13	ETC	Electricity transmission company
14	EU	European Union
15	CMU	Cabinet of Ministers of Ukraine
16	Kneurc	System marginal price limitation
17	PL	Power line
18	MECM	Ministry of Energy and Coal Mining of Ukraine
19	NERC	National Energy Regulatory Commission, state collegial body that carried out the state regulation of natural monopolies from March 1995 to August 2014. The Commission was liquidated by the Decree of the President dated August 27, 2014. Under the Decree of the President of Ukraine No. 694/2014 dated August 28, 2014 the National Energy and Utilities Regulatory Commission was created.
20	NEURC	National Energy and Utilities Regulatory Commission
21	UES	United Energy System
22	WES	Wholesale electricity supplier (Energorynok SE)
23	WEM	Wholesale electricity market
24	WMP	Wholesale market price
25	ETTIN	Electricity transmission via trunk and interstate electric networks
26	SUT	Electricity supplier at unregulated tariff
27	WEM Rules	Annex 2 to the Agreement between the Members of the Wholesale Electricity Market
28	SRT	Electricity supplier at regulated tariff

29	SS	Electric substation
30	APS	Administrator of payments system of the Wholesale Electricity Market of Ukraine (Energorynok SE)
31	SPP	Solar power plant
32	TPP	Thermal power plant
33	CHPP	Combined heat and power plant
34	CDC	Central dispatching (operational) control