Volodymyr Pavlov
D.Sc. (Economics), Professor,
National University of Water Management and Nature Resources Use, Ukraine
75 Pryhodko Str., Rivne, 33002, Ukraine
kaf_financy@nuwm.rv.ua

UDC 338.4

Iryna Levytska
External PhD Student, National University of Water Management and Nature Resources Use,
Chief Economist of Tariff Policy Department,
PJSC «Rivneoblenergo», Ukraine
71 Kn.Volodymyr Str., Rivne, 33023, Ukraine
i.levitska@yandex.ru

The Condition, Problems and Development Prospects of the Modern Energy Supply Companies in Ukraine

Abstract
Introduction. The problem of natural monopolies (including energy entities) effective functioning becomes a privileged issue of governmental regulation, reformation and reflation. The search for the solution of a technical inferiority of the electricity branch proves the necessity of further investigation on the way to reforms implementing.
Purpose is to clarify the basic issues of finance and managerial reforms in the energy sector, their impact on the service level of business (legal entity) and household (residents) consumers.
Results. The ability for stable Ukrainian energy provision of economics is limited by a number of the following problems: moral and physical wear out of the main facilities; a huge debt between the energy market entities; «cost plus» method of energy transmission and supply tariffs setting; imperfection of contractual relations system on the wholesale energy market of Ukraine etc. One of the most crucial problems is the households' tariff for the electrical energy which covers only about 25% of economic price for electricity, and this difference is re-financed by so-called subsidies for suppliers. Energy Strategy of Ukraine (was adopted in accordance to obligations of Ukraine under the accession to Energy Community in 2006 year) stipulates the change of government's priorities in energy sector towards the efficient provision of sustainable economic development. Implementation of the Strategy means minimization the governmental interference into the work of energy markets, elimination of the present system of subsidies functioning, the cross-subsidy cancelling.
Conclusion. The current situation demands taking a decision about electrical power tariffs increase for household consumers to the level that would allow covering losses without using subsidies, to guarantee the rate of investment return into improvement of worn out energy generating and transmission facilities. A strong targeted support of the most vulnerable electricity consumers provided by the government is a privileged issue of a balanced social and economic as well as ecologic development. Implementation of the Strategy is aimed at Ukraine's energy sector restructuring from the difficult one, requiring a constant governmental support, into up-to-date, efficient and competitive sector of the national economy.
Keywords: Energy; Energy Market; Reforms; Tariffs; Energy Supply Companies
JEL Classification: Q40; Q43; Q48; L43; D41

Павлов В. І.
доктор економічних наук, професор, завідувач кафедри фінансів і економіки природокористування,
Національний університет водного господарства та природокористування, Рівне, Україна
Левицька І. О.
здобувач кафедри обліку і аудиту, Національний університет водного господарства та природокористування,
провідний економіст відділу тарифної політики ПАТ «Рівнеобленерго», Рівне, Україна
Стан, проблеми та перспективи розвитку сучасних енергопостачальних компаній України
Анотація. У статті визначено актуальні проблеми функціонування електроенергетичного сектору України. Зокрема проаналізовано проблемні питання у сфері тарифоутворення на ринку електроенергії – механізм дотування, тарифну методологію і рівень тарифів для побутових та юридичних споживачів електроенергії. Визначено основні напрями державних реформ в енергетичній галузі. Запропоновано оптимізувати структуру тарифів для всіх груп споживачів електроенергії.
Ключові слова: електроенергетика; ринок електроенергії; реформування; тарифи; енергопостачальні компанії.

Павлов В. И.
доктор экономических наук, профессор, заведующий кафедрой финансов и экономики природопользования,
Национальный университет водного хозяйства и природопользования, Ровно, Украина
Левицкая И. О.
соискатель кафедры учета и аудита, Национальный университет водного хозяйства и природопользования,
ведущий экономист отдела тарифной политики ПАО «Ровнооблэнерго», Ровно, Украина
Состояние, проблемы и перспективы развития современных энергораспределительных компаний Украины
Аннотация. В статье определены актуальные проблемы энергетического сектора Украины. В частности проанализированы проблемные вопросы в сфере тарифообразования – дотационный механизм, тарифную методологию и уровень тарифов для бытовых и юридических потребителей. Определены основные направления государственных реформ в энергетической отрасли. Предложено оптимизировать структуру тарифов для всех групп потребителей электроэнергии.
Ключевые слова: электроэнергетика; рынок электроэнергии; реформирование; тарифы; энергораспределительные компании.

© Institute of Society Transformation, 2015

1. Introduction

Nowadays, the operational value of energy is undeniable. It guarantees functioning of all other branches of economy, improves working and manufacturing conditions. It is considered to be a resource for scientific and technological advance as well as increase of labor productivity and social and economic stability.

Under the generating capacities deficit in the common energy system of Ukraine, problems in power supply and so-called «rolling blackouts» (the later has never occurred for the last ten years), the energy supply of the state has become a burning issue. The problem of the natural monopolies effective functioning (including energy entities) becomes, in its turn, a privileged question of governmental regulation, reformation and reflation.

Domestic economy is the most energy-intensive in the world. To produce one unit of GNP, we spend 3-5 times more energy than other Eastern Europe countries. This energy intensity is caused by a serious technological inferiority of many branches of economy as well as housing and utilities sector, and a high level of capital depreciation.

2. Brief Literature Review

In Ukraine, regulatory control of the energy branch development and modernization in its economic, technical and ecological approaches as well as its practical implementation is described in the works of B. Korobko (2007), O. Onipko (2006), S. Denysiuk, B. Stogniy (2006). Theoretical and practical basics of natural monopolies functioning are represented in the works of G. Bashnianyn (2000), B. Kostiukovskyi (2010), G. Kramarenko, P. Kutsyk (2011), V. Pavliuk etc.

The leading economists and politicians have constantly paid attention to the fact that energy manufacturing is significantly decreasing, which is caused by the psychological and physical wear out of power stations equipment as well as technical inferiority of the branch. Therefore, the search for the solution of a given issue proves the necessity of further investigation on the way to implementing reforms, innovative decisions with the aim of increasing electric power generating efficiency.

Among the foreign scientists who have studied the issue of state regulation of the energy sector, reformation and liberalization of the electricity market are A. Midttun (2001), C. Kirkpatrick, D. Parker, Y.-F. Zhang (2008), T. Jamasb (2005), R. W. Bacon, J. Besant-Jones and M. Pollitt (2005), M. W. White, P. L. Joskow and J. Hausman (1996) and others.

3. Purpose

To clarify the basic issues of finance and managerial reforms in the energy sector, their impact on the service level of business (legal entity) and household (residents) consumers.

4. Result

It should be noted that according to the Program of economical reforms for 2010-2014 which states, «A wealthy society, competitive economics, efficiently managed state», the energy sector of Ukraine possesses unique reserves of electrical power generating [1]. However, the ability for stable energy provision of economics is limited by a number of the following problems:

- moral and physical wear out of the main facilities (approximately 80% of the equipment of heat power plants and 60% of energy saving companies have been worn out completely) resulting from the lack of sufficient state finance as well as becoming unattractive for private investment;
- low efficiency of electricity generation and supply: 35% more energy resources consuming while losses level during supply is twice higher than in Organisation for Economic Cooperation and Development (OECD) member countries;
- critical situation in finance and economy of power generation companies along with energy saving companies;
- a huge debt between the energy market entities etc.

To the above given consistent general problems it should be added an imperfect regulation of energy market entity activity and low efficiency of practical regulation of current household activity.

Other problems are as following:

1) insufficient current electricity fee resulting in unstable financial functioning of energy companies and enterprises of energy sector in connection with the erosion of working capital. In its turn, it doesn't allow to plan and conduct business and operations;

2) imperfection of contractual relations system on the wholesale energy market of Ukraine (WEM). The result of imperfect contractual relations system is the insufficient current electricity fee, household conflicts between the entities of WEM, problems of costing and payment satisfying obligations, work scheduling;

3) the governmental intervention in regulation of cash flow of wholesale energy market. It resulted in financial condition deterioration of energy companies due to which redeployment of funds is conducted for an indefinite term, difficulties for the members of wholesale energy market in long-range business activity, risk identification for potential investors;

4) erosion of working capital resulting from the using of accrual basis of accounting tax obligation for the actual energy sale. Under the current Tax Code of Ukraine, there is a necessity for the payment of tax obligations by the energy supply companies. It should be done in full scale and from the open sum for the energy sold. As a result, financial standing of energy companies is sharply deteriorated and the debt obligation increases;

5) the limited competition among power generators hardly permit any opportunity to set a competitive price of electricity power, it leads to non-optimal price signal for the members of WEM, consumers and potential investors;

6) imperfect system of tariff and price setting:

- inconsistency between the system of tariffs setting for electricity consumers and the system of price setting on WEM;
- incomplete reimbursement of reasonable costs for the entities of WEM;
- imperfect system of bulk and international electrical system tariffs setting.

This problem resulted in forming of economically insufficient reasonable prices for electricity as well as tariffs for WEM consumers' services;

7) limitation of actual demand on WEM (capping system): the current limits, in connection with the demand limitation, decrease profitability of energy supply companies, complicate contractual obligations fulfilment towards electricity consumers;

8) no warranty of today's energy supply reliability and quality can lead either to shortages of electricity supply or to the supply of electricity that does not conform to the governmental standards;

9) high electricity consumption in local power grid which has been increasing. This causes the deterioration of energy supply companies financial standing, their insufficient settlement of payments for the purchased electricity on the wholesale market along with the deterioration of power grid condition (which, in its turn, becomes a reason for further increase of energy engineering spending);

10) cross-subsidizing via wholesale market price for electrical power. The subsidy is used in case of the tariffs regulation for citizens, other consumers (including those who use differential tariffs) as well as certain electrical power suppliers. Cross-subsidy is caused by unreasonable retail tariff levels becoming a means of social protection of particular consumers (i.e. population) on account of price increase for other consumers (i.e. industrial entities).

The negative result of cross-subsidy is excessive price of electrical power for industrial consumers via socially required tariff level maintenance for population; price perversity;

11) insufficient regulation and transparency of export, import and transit of electricity. The above mentioned encourages the loss of economic advantages from export-import activities and transit of electricity;

12) uncertainty in the current legislation stability, impossible reimbursement of invested money and generated profit which significantly constrains investment in energy etc. [2].

Despite the fact that the Concept of Wholesale Energy Market Functioning and Development in Ukraine ceased to be in force in 2014, the above mentioned problems, which were described in the Concept, are still urgent, being not resolved at the moment, which was confirmed by the analysis of regional electricity supply enterprises that we have undertaken.

The most often discussed issues are the continued process of wearing out of energy supply companies' grid equipment, the lack of the necessary capital investment and the lowest tariffs for citizens comparing with the European and post-Soviet countries. The latter covers only about 25% of economically reasonable value, which causes cross-subsidy scheme functioning.

The resolve of energy optimization issues is possible provided the reformation of the governmental policy implementation approach and overall reconstruction of business behaviour.

Energy Strategy of Ukraine (the first edition was adopted in 2006 and it has been renewed and improved several times) stipulates the change of governmental priorities in energy sector towards the efficient provision of sustainable economy development.

We believe that one of the most crucial problems of energy sector is the current methods of energy transmission and supply tariffs setting – the «cost plus» method. The disadvantage of the method is that it does not encourage entities to save resources, but stimulates to increase transaction costs.

Among the uncontrolled and economically irrational approaches of such tariffs setting are the following: the tariff includes sunk costs; a disincentive of energy supply companies to reduction of operating costs; possibility of unreasonable increase of assets cost aiming to maximize such sources of financial capacity as profit and amortization; only spending for maintenance and performance of the present electrical power grids is included; the government regulation authority of energy supply companies is not provided with the sufficient information about the pre-paid expanses of the companies; the regulation procedure demands time and money; there is a risk of increase in expenses provided that additional specialists will be involved in the process of tariff revision; possibility of time lag between reasons for tariff revision appearance and putting new tariffs' services into action, which may be caused by political essence of the process itself.

Only for several companies, who sold their stock of shares to the strategic investors by tender in 2001, the calculation of tariffs for energy transmission and supply is conducted on the basis of investment return rate fixing and tariff's adjustment under the inflation pressure. Having set fixed expenditure elements that were adjusted only under the inflation pressure for 7 years, we managed to implement motivational system in practice. The companies were encouraged to decrease operational costs thus receiving a higher profit. Furthermore, other energy supply companies working under the standard tariff setting methods have their expenditure level and the profit reviewed on their demand.

The necessity of common system of tariffs setting implementation for energy supply companies privatized in 2001 has been stipulated, as well as the withdrawal of NERC (National Energy Regulation Commission) directive from 2nd April, 2001 No. 309. This has been the result of the economical and energy crisis in Ukraine in 2014. This has been conducted in accordance with the unified retail tariffs with the aim of the standardization of tariff regulation as well as the prevention of dramatic increase of tariffs for the energy transmission and supply. In addition to this, the cancelling of profit rate calculation when setting tariffs for energy transmission and supply has been stipulated as well.

Thus, all energy supply companies as of January 1st, 2015 were introduced to a common method «cost plus», which principles stipulate close relation between expenses and tariffs for energy transmission and supply services.

Concerning the tariffs for the electrical energy consumed by business (legal entities) and households (citizens), we should not forget that the government tariff policy encourages its resolve via tariffs' social function differentiation.

The difference between the business and household consumers' tariffs in Ukraine is the biggest among European countries today (Figure 1). In most European countries households' tariffs exceed business tariffs. It can be explained by a higher cost of electrical power transmission for households through a more complex grid, as well as higher administrative cost for public service (Jamasb, Pollitt, 2005; Midttun, 2001).

The analysis of economic and political situation in the country for the last few years enables to make a conclusion that the electricity households' tariff is set on the basis of governmental policy only. As a result, nowadays this tariff is several times smaller than the wholesale market price, i.e. electricity price for households (citizens) is 0,3084 hrn/kWt*h (the cheapest package of services), while the anticipated electricity wholesale market price for January, 2015 was 0,98803 hrn/kWt*h [5], which means it covers only about 25% of economical price.

It is obvious that households' tariff is incapable to cover not only the cost of energy transmission from the generating facility to the consumer but also the cost of generating the electricity itself. Therefore, the difference between the tariff and the price of the wholesale market, the cost of energy transmission is covered by so-called subsidies.

From the above given thorny issue it can be concluded that the present instrument of subsidy for energy supply companies aiming to compensate the expenditures from energy supply to certain categories of consumers is not ideal. By the legal acts of Ukraine, it is stipulated that electricity preferential tariffs for various categories of consumers must be introduced, especially for household consumers, urban electric transport, religious organizations, street lighting of towns and cities. The losses from electrical power supply on the preferential tariffs are carried forward other consumers in the form of subsidy by means of cross-subsidy. As a result, energy tariffs are increased to 12-14% for industrial entities, public facilities and other business consumers. This process impacts the competitiveness of consumers' products on internal as well as external market, which causes a constant increase of prices and tariffs for products (services) of domestic manufacturers (Figure 2).

In October 2014, the Ministry of Mines and Energy made a decision about the urgency of Energy Strategy of Ukraine working out (further called Strategy) [8, 9]. It has been caused by the changes in fuel and energy potential of Ukraine due to the armed aggression of Russian Federation, the urgency of methods coordination of issuing energy policy papers as well as their implementation arrangements in accordance to obligations of Ukraine under the accession to the Contract about establishment of Energy Community and Association Agreement between Ukraine and European Union along with European Atomic Energy Community and their members.

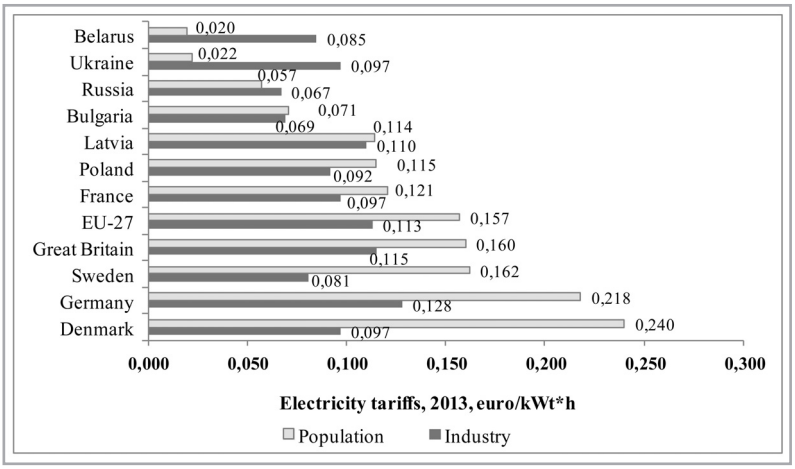

Fig. 1: **Energy tariffs in the countries of Europe and CIS**
Source: EIR Center data [6]

The Strategy stipulates long-term priorities of energy policy of Ukraine as the context of euro integration choice shall require; records the principles of long-term government administration along with its implementation on the basis of prevailing terms of «the third energy package» of EU Resolution.

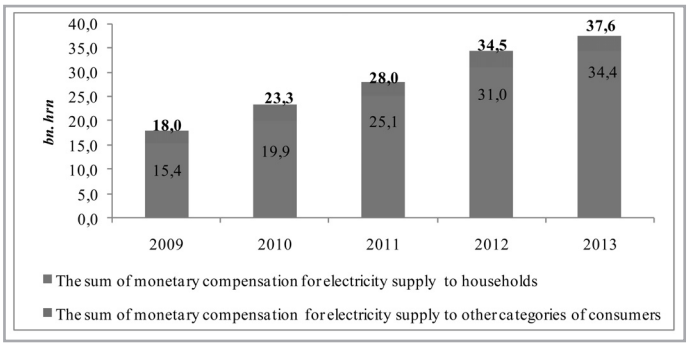

Fig. 2: **Dynamics and framework of subsidies through wholesale market price (from the Report about NERC performance in 2013)**
Source: Resolution of the National Commission for State Energy and Public Utilities Regulation [7]

Currently, the necessity to implement the next stages of the Strategy is obvious. They should be as follows:

1) *in the short term,* the government interference into the work of energy markets should be minimized, the functioning of the present system of subsidy (allocating investment support) should be eliminated, cross-subsidy should be cancelled, a legislation acts should be adopted and administrational decisions should be taken on the coordination of the energy policy with the obligations of Ukraine under Association between Ukraine and European Union;

2) *in the mid-term,* the crucial tasks are a practical authorization of market principles of energy sector regulation and energy market performance; the provision of complete reconstruction of government and market participants relationships; the quality increase of market participants organizational culture;

3) *in the long term,* to guarantee the efficient performance of the energy sector of Ukraine on the internal market and its competitiveness on the European markets.

5. Conclusion

Cash deficiency in the state budget causes insufficient financing of equipment improvement which influences the quality of services of energy generating and transmitting companies. The current situation demands taking a decision about electrical power tariffs increase for household consumers to the level that would allow to cover losses without using subsidies, to guarantee the rate of return of investment into improvement of worn out energy generating and transmission facilities.

A strong targeted support of the most vulnerable electricity consumers provided by the government is still a privileged issue of a balanced social and economic as well as ecologic development. Implementation of the Strategy aimed at restructuring of energy sector of Ukraine from the difficult one, requiring a constant government support, into up-to-date, efficient and competitive sector of national economy. It is an essential and prompt action of the government administration under the regional integration on European energy markets.

References

1. President of Ukraine (2010). *A wealthy society, a competitive economics, an efficiently managed state: The Program of Economical Reforms for 2010-2014.* Retrieved from http://www.president.gov.ua/docs/Programa_reform_FINAL_1.pdf (in Ukr.).
2. Cabinet of Ministers of Ukraine (2002, November 16). *On the approval of the concept of wholesale energy market functioning and development in Ukraine* (Resolution, No. 1789). Retrieved from http://zakon4.rada.gov.ua/laws/show/1789-2002-%D0%BF (in Ukr.).
3. Jamasb, T., & Pollitt, M. (2005). Electricity Market Reform in the European Union: Review of Progress toward Liberalization & Integration. *The Energy Journal, 26* (Special Issue: European Electricity Liberalisation), 11-41.
4. Midttun, A. (2001). *European Energy Industry Business Strategies.* Oxford: Elsevier Science.
5. Energy Industry Research Centre *(Official website).* Retrieved from http://eircenter.com/ (in Ukr.).
6. National Commission for State Energy and Public Utilities Regulation (2014, December 24). *On the approval of the expected wholesale market price for January, 2015* (Resolution, No. 916). Retrieved from http://www.nerc.gov.ua/?id=12922 (in Ukr.).
7. National Commission for State Energy and Public Utilities Regulation (2014, March 27). *On approval of the Report about NERC activity for 2013* (Resolution, No. 348). Retrieved from http://www3.nerc.gov.ua/?id=11196 (in Ukr.).
8. Cabinet of Ministers of Ukraine (2013, July 24). *On approval of Energy Strategy of Ukraine for the period until 2030* (Resolution, No. 1071). Retrieved from http://zakon4.rada.gov.ua/laws/show/1071-2013-%D1%80 (in Ukr.).
9. Ministry of Mines and Energy *(Official website).* Retrieved from http://mpe.kmu.gov.ua/ (in Ukr.).
10. Zhang, Y.-F., Parker, D., & Kirkpatrick, C. (2008). Electricity sector reform in developing countries: an econometric assessment of the effects of privatization, competition and regulation. *Journal of Regulatory Economics, 33*(2), 159-178.

Received 20.12.2014

References (in language original)

1. Заможне суспільство, конкурентоспроможна економіка, ефективна держава : Програма економічних реформ 2010–2014 [Електронний ресурс]. – 2010. – Режим доступу : http://www.president.gov.ua/docs/Programa_reform_FINAL_1.pdf
2. Про схвалення Концепції функціонування та розвитку оптового ринку електричної енергії України : Постанова Кабінету Міністрів України від 16.11.2002 № 1789 [Електронний ресурс]. – Режим доступу : http://zakon4.rada.gov.ua/laws/show/1789-2002-%D0%BF
3. Jamasb T. Electricity Market Reform in the European Union : Review of Progress toward Liberalization & Integration / T. Jamasb, M. Pollitt // The Energy Journal. Special Issue: European Electricity Liberalisation. – 2005. – Vol. 26. – P. 11–41.
4. Midttun A. European Energy Industry Business Strategies / A. Midttun. – Oxford : Elsevier Science, 2001. – 448 p.
5. Аналітичний центр досліджень енергетики / Офіційний сайт. – Режим доступу : http://eircenter.com/
6. Про затвердження прогнозованої оптової ринкової ціни на січень 2015 року : Постанова Національної комісії, що здійснює державне регулювання у сферах енергетики та комунальних послуг від 24.12.2014 № 916 [Електронний ресурс]. – Режим доступу : http://www.nerc.gov.ua/ ? id=12922
7. Про затвердження Звіту про результати діяльності НКРЕ за 2013 рік : Постанова Національної комісії, що здійснює державне регулювання у сфері енергетики від 27.03.2014 № 348 [Електронний ресурс]. – Режим доступу : http://www3.nerc.gov.ua/?id=11196
8. Про схвалення Енергетичної стратегії України на період до 2030 року : Розпорядження Кабінету Міністрів України від 24.07.2013 № 1071 [Електронний ресурс]. – Режим доступу : http://zakon4.rada.gov.ua/laws/show/1071-2013-%D1%80
9. Міністерство енергетики та вугільної промисловості / Офіційний сайт. – Режим доступу : http://mpe.kmu.gov.ua/
10. Zhang Y.-F. Electricity sector reform in developing countries: an econometric assessment of the effects of privatization, competition and regulation / Y.-F. Zhang, D. Parker, C. Kirkpatrick // Journal of Regulatory Economics. – 2008. – Vol. 33. – Issue 2. – P. 159–178.

Стаття надійшла до редакції 20.12.2014

Dear international Colleagues!

It is important to note that **Economic Annals-XXI**
is included into seven international indexation databases.

Detailed information about the Journal and Requirements to the research articles you could find at our web-site:

http://soskin.info/en/material/1/about-journal.html (in English)
http://soskin.info/en/material/1/ea_pol.html (in Polish)
http://soskin.info/ea/about_RUS.html (in Russian)